



ALUMINUM ELECTROLYTIC CAPACITORS

2026/2027



ENGINEERED SOLUTIONS

JIANGHAI EUROPE
Electronic Components GmbH

Capacitors from Jianghai

JIANGHAI EUROPE ELECTRONIC COMPONENTS GMBH IS THE EUROPEAN SALES ORGANIZATION OF NANTONG JIANGHAI CAPACITOR CO., LTD., NANTONG (CHINA). SINCE 2003, SALES, MARKETING, TECHNICAL SUPPORT, CUSTOMER SERVICE TEAM AND WAREHOUSE OF JIANGHAI EUROPE ELECTRONIC COMPONENTS GMBH ARE LOCATED IN KREFELD AND KEMPEN (GERMANY).

» ELECTROLYTIC CAPACITORS

Jianghai has grown since its foundation in 1958 to become the largest Chinese manufacturer of aluminum capacitors generating revenues of 1,35 billion USD in 2025. While Jianghai started in the beginning with the production of specialty chemicals (e.g., electrolyte solutions), it entered the production of aluminum electrolytic capacitors already in 1970.



» INTEGRATION OF PREMATERIAL

More recently, Jianghai extended its production range by integrating high and low voltage anode foil etching and forming facilities. All factories are located in mainland China and Japan: the most important ones are in Nantong (north to Shanghai), in Inner Mongolia, and in Xi'An area. Jianghai is well prepared for further expansion due to its successful entrance to the stock market in summer 2010.

» FILM CAPACITORS

In 2012, the product portfolio was complemented by a range of power film capacitors. For this new business unit, Jianghai also follows the strategy of vertical integration and thus the production comprises the metallization and slitting of the plastic film as well as the assembly of the finished goods. Highly automated production facilities ensure the efficient mass production of film capacitor modules. Driven by the thriving electric vehicle market in China, Jianghai has attained a leading position for the supply of these customer specific components.



» POLYMER CAPACITORS

The year 2013 was marked by a major breakthrough in R&D for polymer aluminum electrolytic capacitors: the voltage proof for these ultra-low ESR products was pushed out to as much as 200V, enabling the utilization of these advanced capacitors in more applications, e.g. in white goods, industrial automation, telecom infrastructure, power supplies, and LED ballasts. Hybrid and Stacked (Chip) Polymer Capacitors were added into the product portfolio in the year 2019.



» ENERGY CAPACITORS

For energy storage applications, Jianghai has developed a range of Lithium Ion-Capacitors (Li-C) based on the well-known EDLC technology. Li-C combine the advantage of many hundred thousand charge and discharge cycles and high energy density, allowing for a wide range of applications in energy storage and recuperation. Jianghai offers EDLC as well as Li-C in various form factors, e.g. in radial, snap-in, pouch or module shape.



» CAPACITOR COMPETENCE CENTER

Global presence of experienced sales and technical marketing experts at offices in Europe, Asia and the Americas ensure the local support of our customers based on sound know-how in all project phases. In 2014 Jianghai Europe has established an additional service for its customers in Europe: Experts for capacitors are awaiting telephone calls or emails at the CCcenter as a kind of hotline for all kind of technical requests.

» CUSTOMIZED PRODUCTS

Jianghai's particular strength as a volume manufacturer is to offer customized products. Jianghai focuses on the demanding professional industrial segment with many power electronics applications. Research and development in collaboration with several specialized university institutes as well as the access to all vital pre-materials enable Jianghai to create engineered, customized solutions to fit smoothly into a specific application. Jianghai is continuously improving processes, thereby enhancing the quality of its products and services. The list of certificates awarded to Jianghai reflects its level of achievement. In the year 2013, the Jianghai Europe sales office has become certified according to ISO9001 and ISO14001.

» CONTACT

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SMT

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SERIES SMT	CODE	TYPE	TEMPERATURE	VOLTAGE	LIFETIME	INFO	
CD VT1 UPDATED	VT1	SMT	105°C	6,3-50V	1 000h	Low ESR	18
CD VTD UPDATED	VTD	SMT	105°C	6,3-100V	2 000h	Low ESR	20
CD VZ2 UPDATED	VZ2	SMT	105°C	6,3-100V	2 000h	High Current	22
CD VZL UPDATED	VZL	SMT	105°C	6,3-100V	5 000h	Long Life	25
CD VZS UPDATED	VZS	SMT	105°C	6,3-50V	2 000h	Miniaturized	28
OTHER SMT WITH HIGHER TEMPERATURE ON REQUEST.							30

RADIAL

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SERIES RADIAL	CODE	TYPE	TEMPERATURE	VOLTAGE	LIFETIME	INFO	
CD 110	PT	Radial	85°C	6,3-500V	4 000h	Standard	36
CD 11GL	GL	Radial	125°C	160-450V	6 000h	High Temperature, High Voltage	39
CD 261L	DE	Radial	105°C	160-450V	14 000h	Miniaturized, Longest Life	41
CD 261X	QX	Radial	105°C	160-550V	12 000h	High Voltage, Highest Currents	44
CD 263	BK	Radial	105°C	6,3-500V	3 000h	Standard	46
CD 264	KH	Radial	105°C	160-500V	6 000h	Oversize Dimension	50
CD 266	FK	Radial	105°C	160-500V	10 000h	Oversize Dimension, Longer Life	53
CD 26H	XH	Radial	105°C	200-500V	10 000h	Slim Line	56
CD 269L	HL	Radial	125°C	10-100V	10 000h	High Temperature, Long Life	58
CD 281	LL	Radial	105°C	6,3-100V	12 000h	Low ESR, Long Life	60
CD 281L	LH	Radial	105°C	6,3-100V	12 000h	Low ESR, Long Life	66
CD 282L	YL	Radial	105°C	6,3-100V	12 000h	High Current, Ultra Low ESR	72
CD 282X	EQ	Radial	105°C	6,3-100V	12 000h	High Current, Miniaturized	77
CD 284	XY	Radial	105°C	6,3-100V	10 000h	High Current, Ultra Low ESR	81
CD 284L	LY	Radial	105°C	6,3-100V	12 000h	Miniaturized	85
CD 285	HY	Radial	105°C	6,3-100V	12 000h	Highest Current	89
CD 287	GC	Radial	105°C	6,3-100V	10 000h	Low ESR	93
CD 28L	QL	Radial	105°C	6,3-63V	14 000h	Low ESR, Miniaturized, Longest Life	98

■ SNAP-IN

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SERIES SNAP-IN	CODE	TYPE	TEMPERATURE	VOLTAGE	LIFETIME	INFO	
CD 293	BZ	Snap-In	85°C	10~500V	4 000h	Standard	108
CD 294	BW	Snap-In	105°C	16~550V	4 000h	Standard	111
CD 295	BC	Snap-In	85°C	10~500V	6 000h	Long Life	115
CD 296	KC	Snap-In	105°C	16~550V	5 000h	Long Life	120
CD 296L	FL	Snap-In	105°C	350~500V	6 000h	Large Size 105°C	122
CD 297	BB	Snap-In	105°C	10~500V	7000h	Longer Life, High Current	124
CD 299	PG	Snap-In	105°C	160~500V	9 000h	High Current	127
CD 29C	QC	Snap-In	105°C	200~450V	4 000h	Miniaturized 105°C	129
CD 29CS	DS	Snap-In	105°C	400~450V	4 000h	Ultra Mini	131
CD 29H	QH	Snap-In	105°C	160~450V	5 000h	Long Life, Highest Currents	133
CD 29HD	QF	Snap-In	105°C	200~450V	8 000h	Outstanding Ripple Current	135
CD 29L	QL	Snap-In	85°C	16~500V	7 000h	Long Life, Large Size	137
CD 29UH	UT	Snap-In	105°C	575V,600V	6 000h	575V,600V at 105°C	139
CD 840	ZQ	Snap-In	85°C	200~450V	10 000h	10 000h High Current	141
CD 892	ZL	Snap-In	105°C	400~500V	5 000h	Miniaturized, Long Life	143
CD 895	ZK	Snap-In	85°C	16~500V	14 000h	Ultra Long Life	145

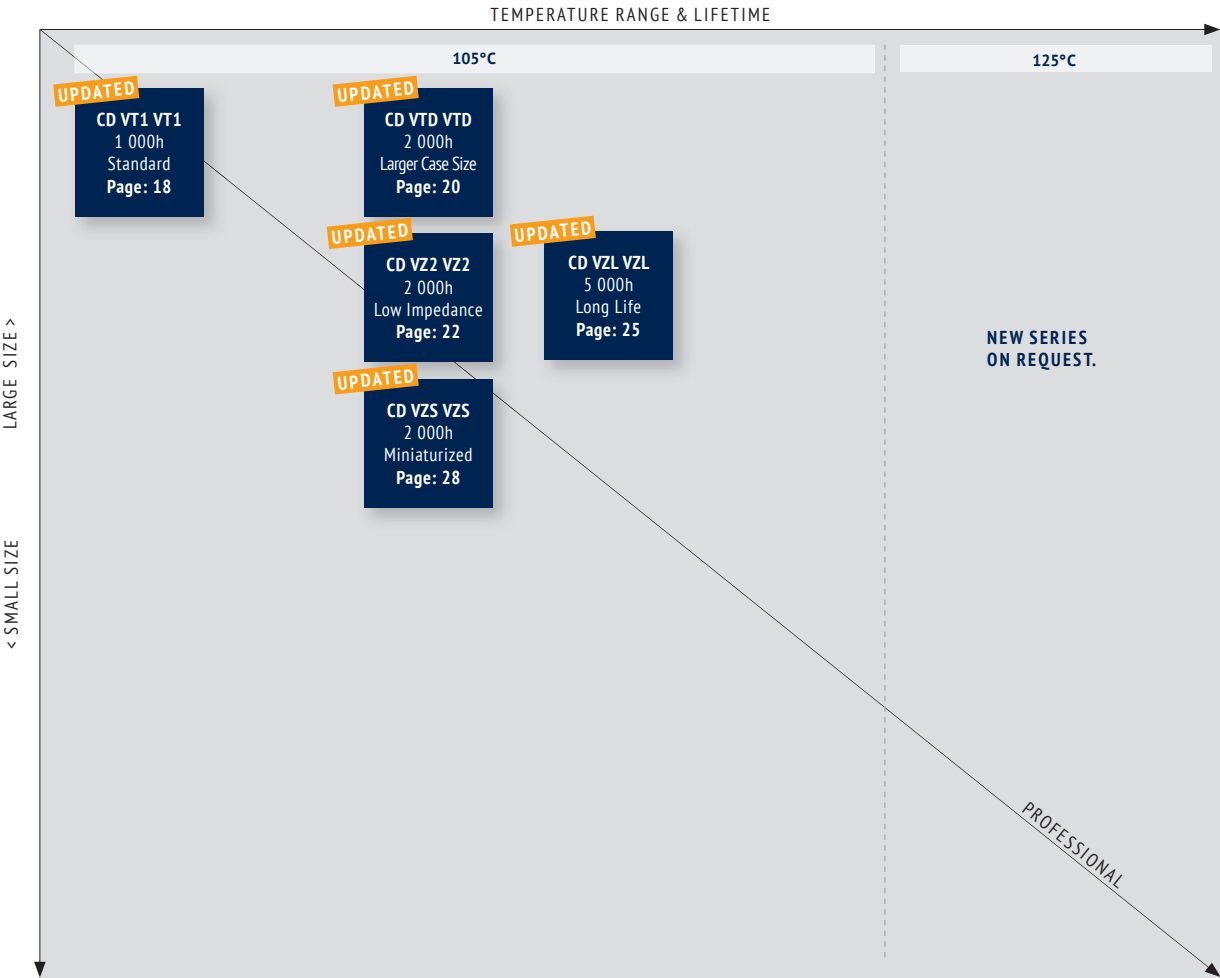
■ SCREW

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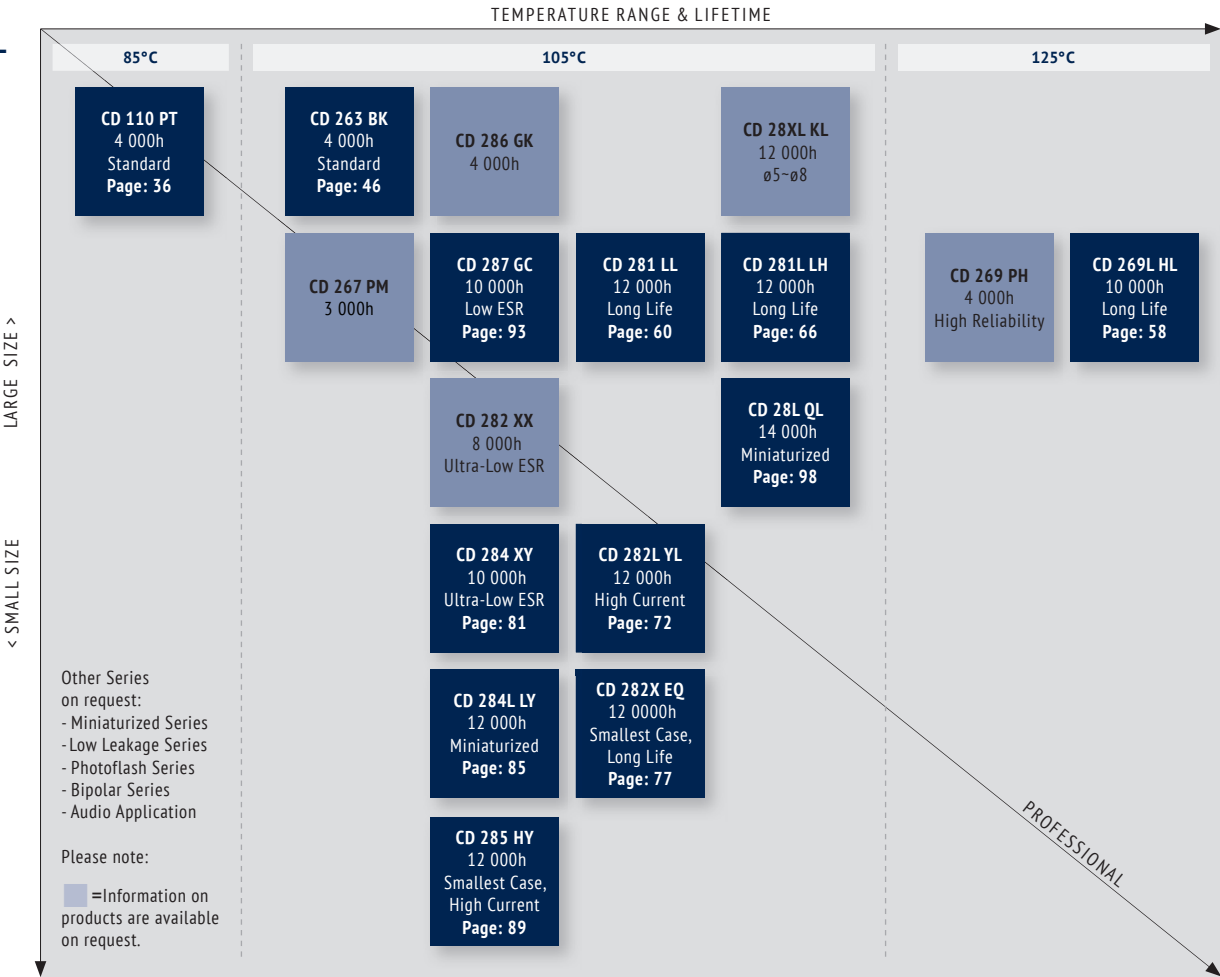
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SERIES SCREW	CODE	TYPE	TEMPERATURE	VOLTAGE	LIFETIME	INFO	
CD 135	BP	Screw	85°C	10~500V	4 000h	Standard	153
CD 136	PK	Screw	105°C	25~450V	4 000h	Standard	156
CD 137	PX	Screw	85°C	400~550V	10 000h	Long Life, High Voltage	158
CD 137S	PR	Screw	85°C	350~500V	12 000h	Miniaturized, Prolonged Lifetime	160
CD 137U	UP	Screw	85°C	400~450V	10 000h	Ultra Small	162
CD 138	PC	Screw	85°C	350~450V	10 000h	Long Life, High Current	164
CD 138S	WP	Screw	85°C	350~500V	15 000h	Longest Life, Highest Currents	166
CD 139	BL	Screw	105°C	350~450V	9 000h	Long Life	168
CD 139S	HC	Screw	105°C	350~450V	9 000h	Higher Current	170
CD 13H	BH	Screw	85°C	600~650V	4 000h	600V, 650V	172
CD 838	ZT	Screw	85°C	350~450V	10 000h	Miniaturized, Long Life	174

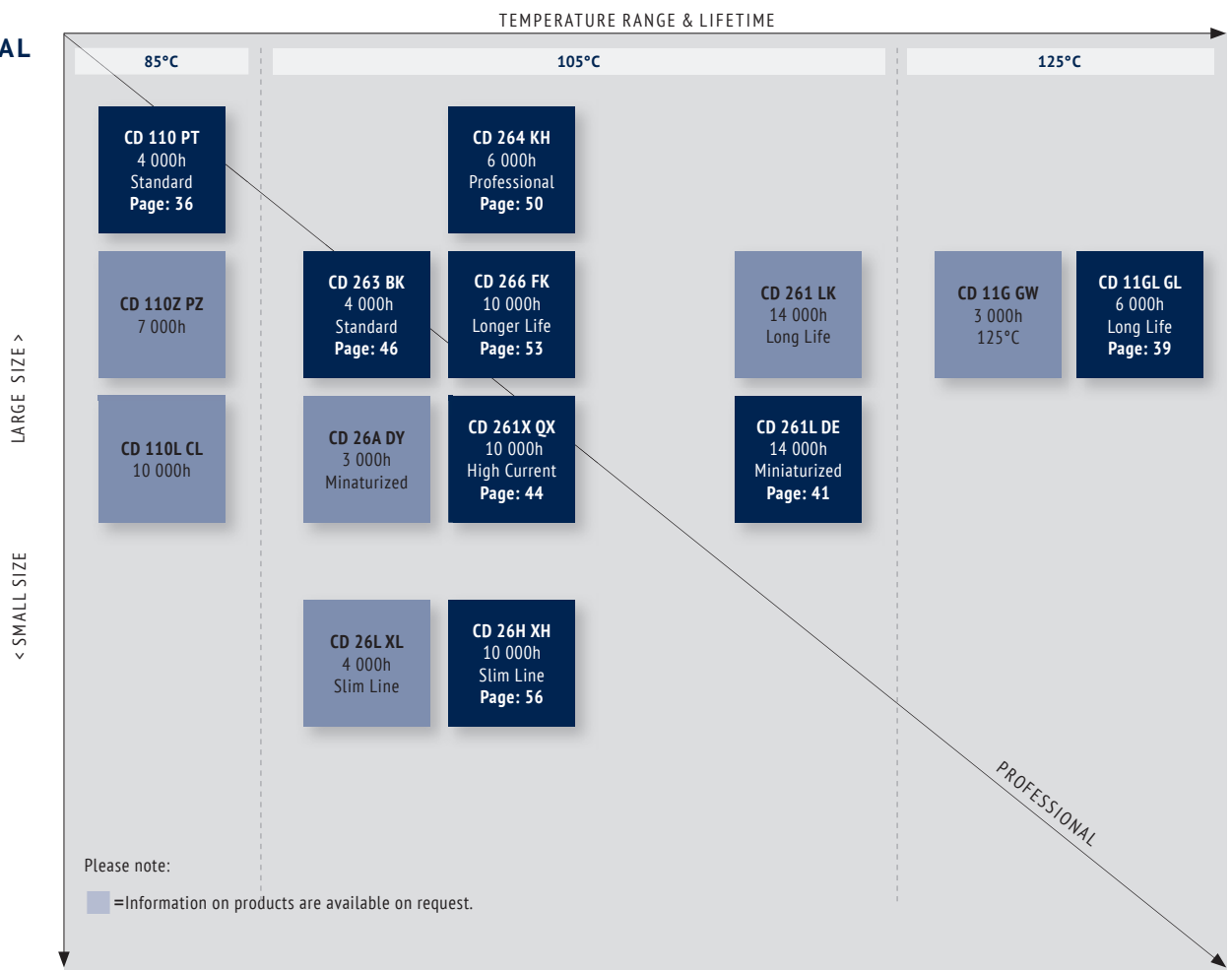
SMT



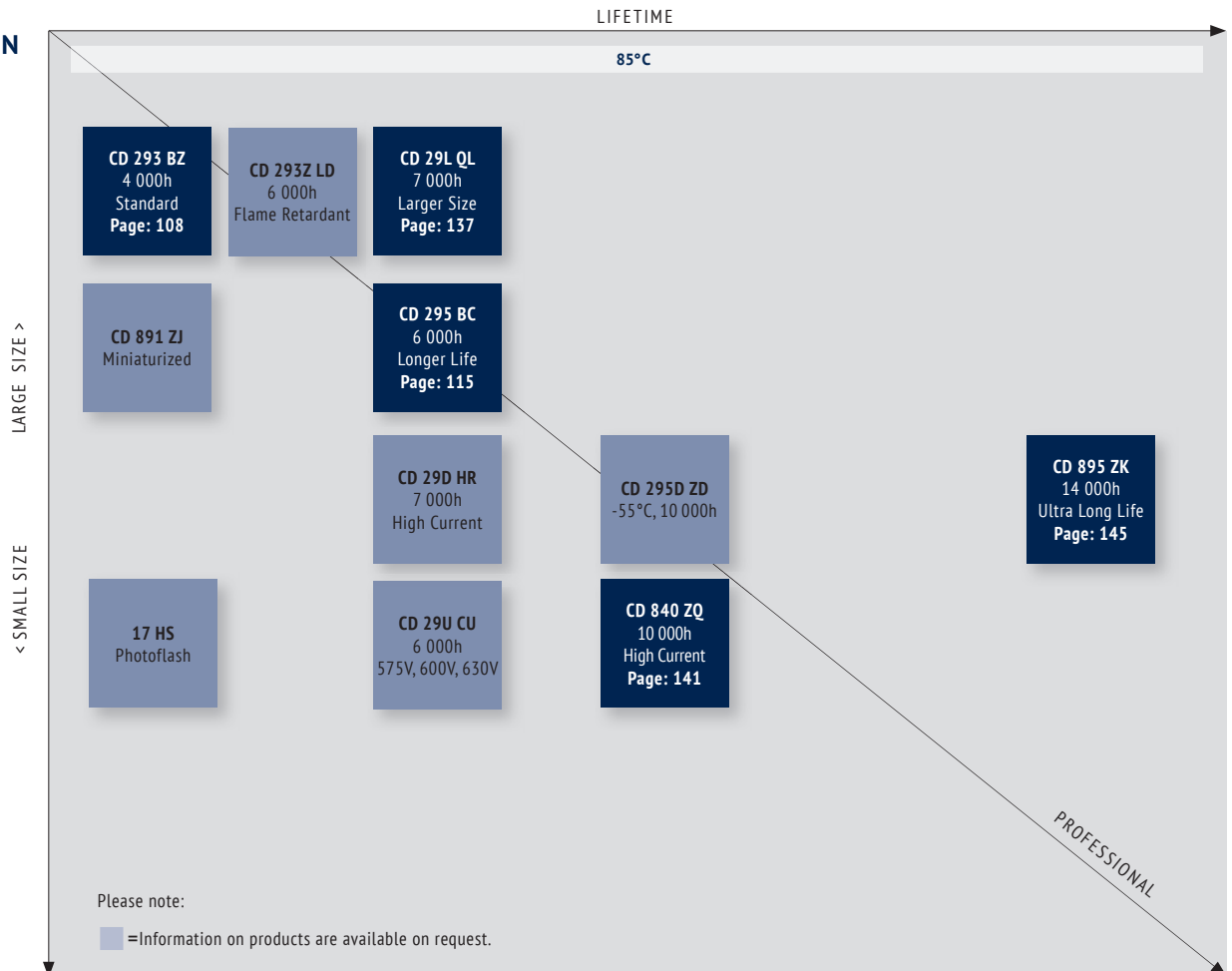
RADIAL
6,3V
~
100V

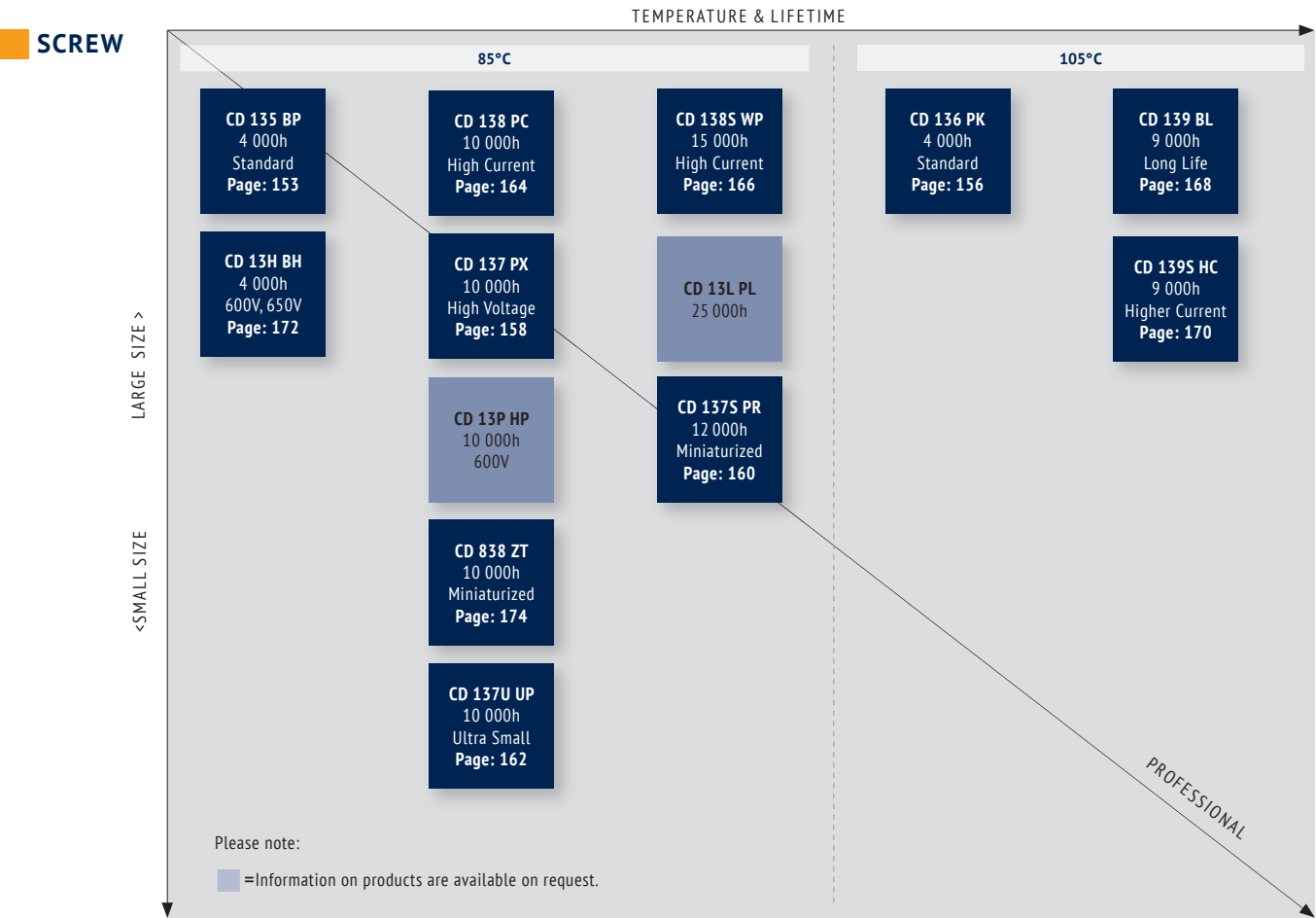
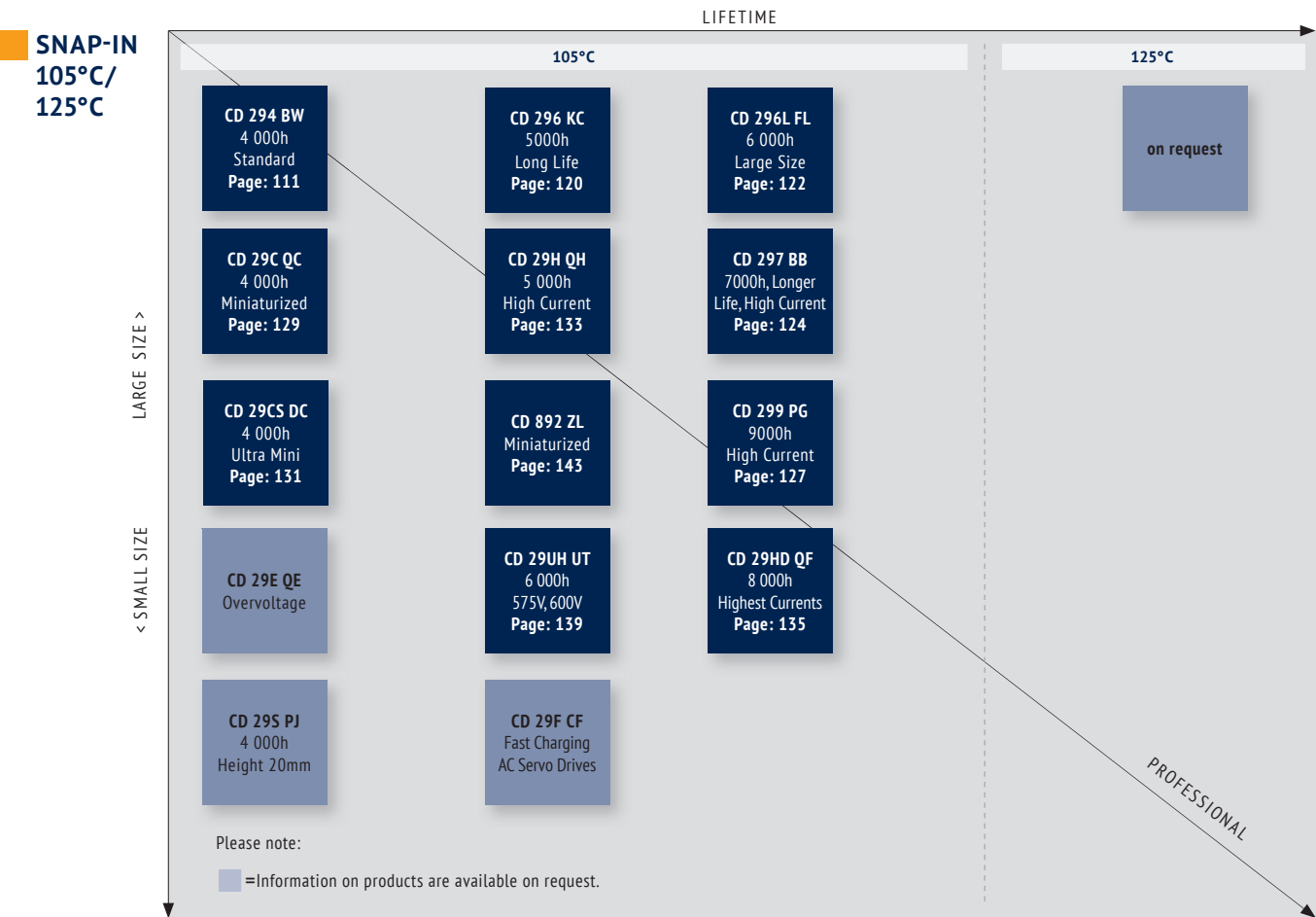


RADIAL 160V ~ 550V



SNAP-IN 85°C





LIFETIME ESTIMATION OF ALUMINUM ELECTROLYTIC CAPACITORS FROM JIANGHAI

To estimate the Lifetime of a non-solid Aluminum Electrolytic Capacitor from Jianghai, the following formulas can be utilized. The Lifetime depends mainly on the ambient temperature, the ripple current and, within certain limits, the operating voltage applied. Other parameters may also affect the Lifetime. Moreover, L_0 can be interpreted in many different ways, which has a fundamental influence on the numerical result. Jianghai offers a high transparency by publishing the different typical definitions of Lifetimes in each datasheet. Lifetime estimations are approximations by nature. Please let JIANGHAI EUROPE confirm any result before using it. The formulas given here do not constitute part of a contract nor of a specification. The formulas do not cover additional aging effects of certain electrolytic systems or other chemical effects. Also the dimensions of the components may have an effect. Forced cooling or other additional cooling-methods have a strong impact on the Lifetime and are not covered by the formulas as defined. For the estimation and interpretation of Lifetime, a close collaboration with JIANGHAI EUROPE is strongly advised.

STRUCTURAL FORMULA

$$L = L_0 \cdot K_T \cdot K_R \cdot K_V$$

WHERE:

- L Total Lifetime
- L_0 Lifetime under Nominal Load at Upper Category Temperature (see catalogue)
- K_T Temperature Factor
- K_R Ripple Current Factor
- K_V Voltage Factor

K_T TEMPERATURE FACTOR

Aluminum Electrolytic Capacitors follow roughly the 10 K rule of Arrhenius. It is possible to estimate the Lifetime by rule of thumb: When the operational temperature is reduced by 10 K, the Lifetime will double. The formula for K_T in detail is:

$$K_T = 2^{\frac{T_0 - T_A}{10K}}$$

WHERE:

- T_0 Rated Temperature
- T_A Ambient Temperature

K_R RIPPLE CURRENT FACTOR

To estimate the influence of ripple current on lifetime, Jianghai uses a safety factor K_i . Under certain conditions this value can be set to $K_i=2$, which is prolonging the lifetime. Please contact Jianghai Europe for details and approval.

$$K_R = K_i^{A \frac{\Delta T_0}{10K}}$$

WITH:

$$A = 1 - \left(\frac{I_A}{I_R} \right)^2$$

WHERE:

- I_A Actual Rated Ripple Current
- I_R Ripple Current at Upper Category Temperature (databook value)
- ΔT_0 Core Temperature Rise of the capacitor
(typically 3,5 ~ 5 K for $T_0 = 105^\circ\text{C}$
and 3,5 ~ 10K for $T_0 = 85^\circ\text{C}$, see databook value)
- K_i Basis, typically defined as

$T_0 = 105^\circ\text{C}$	$I_A > I_R$:	$K_i = 4$
	$I_A \leq I_R$:	$K_i = 2$
$T_0 = 85^\circ\text{C}$		$K_i = 2$



Remark: Safety Factor K_i may be set as $K_i=2$ under certain defined conditions. Please contact Jianghai Europe for approval.

K_V VOLTAGE FACTOR

For Radial and SMT Electrolytic Capacitors, this part of the formula has no impact ($K_V = 1$). But for some bigger capacitors like Snap-In and Screw-Terminal types with rated voltages above 160V, the operating voltage will affect their Lifetime. It is expressed as follows:

FOR:

$$0,6 \leq \frac{U_A}{U_R} \leq 1$$

$$K_V = \left(\frac{U_A}{U_R} \right)^{-2,5}$$

WHERE:

- U_A Actual Operating Voltage
- U_R Rated Voltage

FOR:

$$0 < \frac{U_A}{U_R} < 0,6$$

$$K_V = 3,59$$

FOR:

$$\frac{U_A}{U_R} > 1 \text{ not allowed}$$

FOR: Radial and SMT Capacitors or $U_R \leq 160V$

$$K_V = 1$$

FREQUENCY CORRECTION FACTORS:

If the actual Ripple Currents are not given at the same frequency like I_0 , correction factors need to be applied.

$$I_A = \sqrt{\left(\frac{I_{f1}}{F_{f1}}\right)^2 + \left(\frac{I_{f2}}{F_{f2}}\right)^2 + \dots + \left(\frac{I_{fn}}{F_{fn}}\right)^2}$$

JIANGHAI ELECTROLYTIC CAPACITOR LIFETIME**ESTIMATION FORMULA (incl. Safety Factors):**

$$L = L_0 \cdot 2^{\frac{T_0 - T_A}{10K}} \cdot K_i \left[1 - \left(\frac{I_A}{I_R} \right)^2 \right]^{\frac{\Delta T_0}{10K}} \cdot \underbrace{\left(\frac{U_A}{U_R} \right)^{-n}}_{K_V}$$

WITH TYPICAL VALUES:

$$T_0 = 105^\circ C \quad I_A > I_R : K_i = 4$$

$$I_A \leq I_R : K_i = 2$$

$$T_0 = 85^\circ C \quad K_i = 2$$

ΔT_0 = depending on the series: 3,5~10K,
see databook value

$$0,6 \leq \frac{U_A}{U_R} \leq 1 \rightarrow K_V = \left(\frac{U_A}{U_R} \right)^{-2,5}$$

$$0 < \frac{U_A}{U_R} < 0,6 \rightarrow K_V = 3,59$$

For $U_R \leq 160V$, Radial and SMT

$$K_V = 1$$

HANDLING PRECAUTIONS FOR ALUMINUM ELECTROLYTIC CAPACITORS FROM JIANGHAI**WARNING**

JIANGHAI is not liable for any extent of possible injuries or damages to persons or things, of any kind, caused by the improper application of and/or operating conditions harmful to electrolytic capacitors. Misapplications which may cause failures include, but are not limited to: ripple current or peak current or voltage above specification, operating voltage above surge voltage specified, temperature exposure outside the specified operating temperature range. Examples of harmful operating conditions comprise, but are not limited to: unusual storage or transport temperatures, excessive and/or rapid changes of ambient temperature or humidity, heavy mechanical shock or vibration, corrosive and abrasive particles in the ambient (cooling) air, conducting dust in the ambient (cooling) air, oil or water vapor or corrosive substances, explosive gas or dust, operation under extremely high or low ambient pressure conditions (below or above sea level), superimposed radio frequency voltages, radioactivity. In case of doubt about the impact of operating conditions on capacitor performance, please contact JIANGHAI.

PERSONAL SAFETY

Electrical or mechanical misapplication of electrolytic capacitors may be hazardous. Personal injury or property damage may result from explosion of a capacitor or from the expulsion of electrolyte due to mechanical disruption or the release of a safety vent of a capacitor. In case of injury or skin or eye exposure to electrolyte, immediately seek professional medical advice. Before using electrolytic capacitors in any application, please read these Handling Precautions, familiarizing thoroughly with the information contained herein. Please check before using any of our electrolytic capacitors if these components fulfill the requirements of your application and that warnings and instructions for use are followed.

WARRANTY

The information contained in this catalogue does not form part of any quotation or contract, is believed to be accurate, reliable and up to date. Quality data are based on the statistical evaluations of a large quantity of parts and do not constitute a guarantee in a legal sense. However, agreement on these specifications does mean that the customer may claim for replacement of individual defective capacitors within the terms of delivery. We will not assume any liability beyond the replacement of defective components. This applies in particular to any consequential damage caused by component failure. Furthermore it must be taken into consideration that the figures stated for lifetime, failure rates and outlier percentages refer to the average production status and are therefore to be understood as mean values (statistic expectations) for a large number of delivery lots of identical capacitors. These figures are based on application experience and data obtained from preceding tests under normal conditions, or – for purpose of accelerated aging – more severe conditions. JIANGHAI reserves the right to change these specifications without prior notice. Any application information given is advisory and does not form part of any specification. The products are not primarily designed for use in life support applications, devices or systems where malfunction of these products can reasonably be expected to result in personal injury. JIANGHAI customers using or selling these products for use in such applications without prior written consent of JIANGHAI do so at their own risk and agree fully to indemnify JIANGHAI for any damage resulting from such improper use or sale. This version of the catalogue supersedes all previous versions. Latest versions of datasheets can be found on our homepage: www.jianghai-europe.com. For more details on precautions and guidelines for aluminum electrolytic capacitors, please refer to IEC TR 63362-1:2022, "Application of fixed capacitors in electronic equipment - Part 1: Aluminium electrolytic capacitors".

POLARITY

Electrolytic capacitors are polar and shall never be used with incorrect polarity, as there is a possible danger of shorting or destruction.

RATED VOLTAGE U_R

The rated voltage is marked on the capacitor and defined in the datasheets as U_R . This voltage should never be exceeded and is the maximum peak voltage including any ripple voltages allowed to avoid a shortening of the lifetime or damage of the capacitor. When a ripple current is applied to the capacitor, the sum of the peak ripple voltage and bias DC voltage shall never exceed the rated voltage. It might be necessary to lower the maximum allowed bias DC voltage, when certain ripple currents are applied to the capacitor.

SURGE VOLTAGE

Maximum voltage, which may be applied to the capacitor for short periods of time: max. 1000 cycles of 30 sec. per 6 min., max. 5 pulses per hour. Capacitance drift +/- 15% max.

REVERSE VOLTAGE

Reverse voltages or voltages < 0V are not allowed.

RECOVERY VOLTAGE

Electric potential between the positive and negative terminal may exist as a result of dielectric absorption. Please take action that this load does not damage other devices or scare workers during the production process (sparks possible). If needed please discharge the capacitor through a 1kΩ resistor.

TEMPERATURE RANGE

Use electrolytic capacitors only within the specified operating temperature range.

OVER-CURRENT

Currents exceeding the rated ripple currents should be avoided.

RIPPLE CURRENT/VOLTAGE

The combined value of DC voltage and peak AC voltage (due to ripple current) shall not exceed the rated voltage and shall never be < 0V. Use of aluminum electrolytic capacitors under ripple current with wide amplitudes is equivalent to rapid charge-discharge operation. Never exceed a ripple voltage of 70V_{peak-peak} without additional approval of Jianghai.

RAPID CHARGING/DISCHARGING

Rapid charging/discharging generates severe heat and gas may be emitted which may lead to explosion. Consult JIANGHAI about specially designed capacitors suitable for such kind of applications. Example: Servo Drive Application

BALANCING RESISTORS

Balancing resistors should be utilized if capacitors are used in serial connection. Please choose low-tolerance resistors to limit voltage drift.

CHARGE-DISCHARGE PROOF

JIANGHAI capacitors are charge-discharge proof, which means that 10⁶ switching cycles will cause capacitance reduction of less than 10%.

LIFETIME

There are many different lifetime definitions known without any true standard definition. Take special care when capacitors are compared that the capacitors fulfill the needed requirements. JIANGHAI publishes all conditions to be as transparent as possible. In the case of lifetime tests with additional ripple currents, the bias DC voltage must be reduced, so that the sum of bias DC voltage and the peak of the ripple voltage does not exceed the Rated Voltage U_R.

Load life: Period of time, during which the technical parameters of all capacitors stay within the given limits. JIANGHAI defines this without allowing for outliers.

Useful life: Defined like load life, but with a larger range of parameter change.

Endurance test: IEC 60384-4 defines the acceptable drift criteria of electrical parameters after the endurance tests (continuous voltage test).

Shelf Life: Definition of time with acceptable drift of capacitor parameters after storage at upper category temperature without load.

VIBRATION AND MECHANICAL STRESS

Capacitors are sensitive to vibration and mechanical forces applied on the leads. Do not use capacitors, which have been dropped onto a rigid surface.

INSULATION

If any defect of the sleeve is visible, the component should not be used – the same holds for any kind of visible damage. A capacitor should be electrically isolated from the following parts: aluminum case, cathode lead wire, anode lead wire and circuit pattern, and auxiliary terminal of snap-in type. The sleeve is not recognized as an isolator and therefore the standard capacitor should not be used in a place where insulation function is needed. Please contact JIANGHAI if a higher grade of insulation is required.

ENVIRONMENTAL CONDITIONS

Avoid direct contact with water, salt solution, oil, dewing conditions. Halogens generally, especially fumigation treatment with bromides and flame retardant agents containing halogens must be avoided. Avoid exposing to direct sunshine, ozone, ultraviolet rays and x-ray radiation. Air Pressure: Max. 150kPa, min. 8kPa. For usage >2000m altitude above sea level current deratings might be necessary. No heavy air pressure changes are allowed. Do not use or store in an environment containing any hazardous gas (e.g., hydrogen sulphide, sulphurous acid, nitrous acid, chlorine, ammonia, bromine, methyl bromide, other halogens) or acidic or alkaline solutions.

STORAGE

Temperature 5 to 35°C, relative humidity below 75%. Electrolytic capacitors may accumulate charge naturally during storage. In this case discharge through a 1kΩ resistor before use (Recovery voltage). Leakage current may be increased after long storage time. In this case the capacitor should be subjected to the rated voltage treatment

through a 1kΩ resistor before use for 1 hour, then it should be discharged through a resistor of about 1 Ohm/Volt. Storage times above 1 year should be avoided or rated voltage treatment may be necessary. In accordance to IEC 60384-4 electrolytic capacitors are subject to a reforming process before acceptance testing. Rated voltage is applied via a series resistance (100Ω: U_R ≤ 100VDC, 1kΩ: U_R > 100VDC).

SOLDERING

Soldering conditions (temperature, times) should be within specified conditions, especially for SMD components. Avoid high soldering temperatures as this may reduce lifetime or damage the capacitor. Do never dip the capacitor body into molten solder. Flux should not be adhered to the capacitor's body but only to its terminals. For details and different methods please contact us.

GLUEING, CLEANING AND COATING

Do not use fixing agents or cleaning substances containing halogens. Do not use coating and moulding components that completely seal the capacitor from the environment. Also, never use solvents containing: halogenated hydrocarbons, alkali, petroleum, trichloroethylene/-ethane, xylene, acetones, trichlorotrifluoroethane, tetrachloroethylene, methylenechloride, chloroform, acetates, ketones, esters, chlorides and bromides.

MOUNTING

Other devices, which are mounted near the capacitor, should not touch the capacitor. Additional heat coming from other components near the capacitor may reduce the lifetime of the capacitor. Do never bend or twist the capacitor after soldering to avoid stress on the leads. Radial capacitors are not protected against mechanical forces on the leads. Forces on the pins might damage the capacitor. No printed circuit board tracks are allowed between the lead pads of the capacitor. Screw Terminal capacitors should only be mounted in an upright position.

TRANSPORT

Avoid fumigation and spraying insecticides (especially with bromides) in the import or export procedures which can cause corrosion. This applies also to the finished devices.

MAINTENANCE

Periodical inspection should be carried out for the capacitor: visual inspection to check pressure relief open or leakage of electrolyte, electrical characteristics as leakage current, capacitance, and dissipation factor.

ELECTROLYTE AND SEPARATOR PAPER

Electrolyte and separator paper used in aluminum capacitors may be flammable. Also, electrolyte is electrically conductive. Therefore, in case electrolyte gets in contact with PC board it may cause corrosion of circuit pattern or cause short circuit between patterns, and may lead to smoke generation or ignition in worst case.

CAUTION DURING USE OF CAPACITORS

Do not touch the terminals of capacitors. Keep the capacitor free from conductive solution, such as acids, alkali and so on. Ensure that the operating environment of the equipment into which the capacitor has been built is within the specified conditions mentioned in the catalogue or specification sheets.

SAFETY VENT

The safety vent needs some free space to open properly. Allow for free headroom of at least 2mm for diameter ≤16mm, more than 3mm for diameter 18-35mm, more than 5mm for case diameter 40mm and larger.

EMERGENCY ACTIONS

When the pressure relief vent is open and some gas blows out from the capacitor, please turn the main switch of the equipment off or pull out the plug from the power outlet immediately. During safety vent operation, extremely hot gas (>100°C) may blow out of the capacitors. Do not stand close to the capacitors. In case of eye contact, rinse the open eye(s) with clean water immediately. In case of ingestion, gargle with water immediately, do not swallow. Do not touch electrolyte but wash skin with soap and water in case of skin contact.

DEFINITION OF ELECTRICAL PARAMETERS

Separate documents as application notes, equivalent circuit diagrams and so on are available on request.

PACKAGING

Please refer to the data book for details. Further information is available on request.

DISPOSAL

Scrapped capacitors are classified as scrapped metal. For disposal they are handled as controllable industrial waste because of the nature of the contents (electrolyte). Most of the material is aluminum and cannot be completely burned.

Jianghai Europe Electronic Components GmbH

VERSION 7/2026

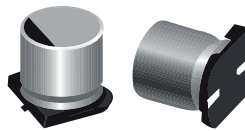
GOOD TO KNOW:

Not in the mood for paper?

In that case, feel free to use the
product search on our website!



<https://jianghai-europe.com/productsearch>



ELECTROLYTIC CAPACITORS

SMT Type

SMT

■ OVERVIEW SMT 13

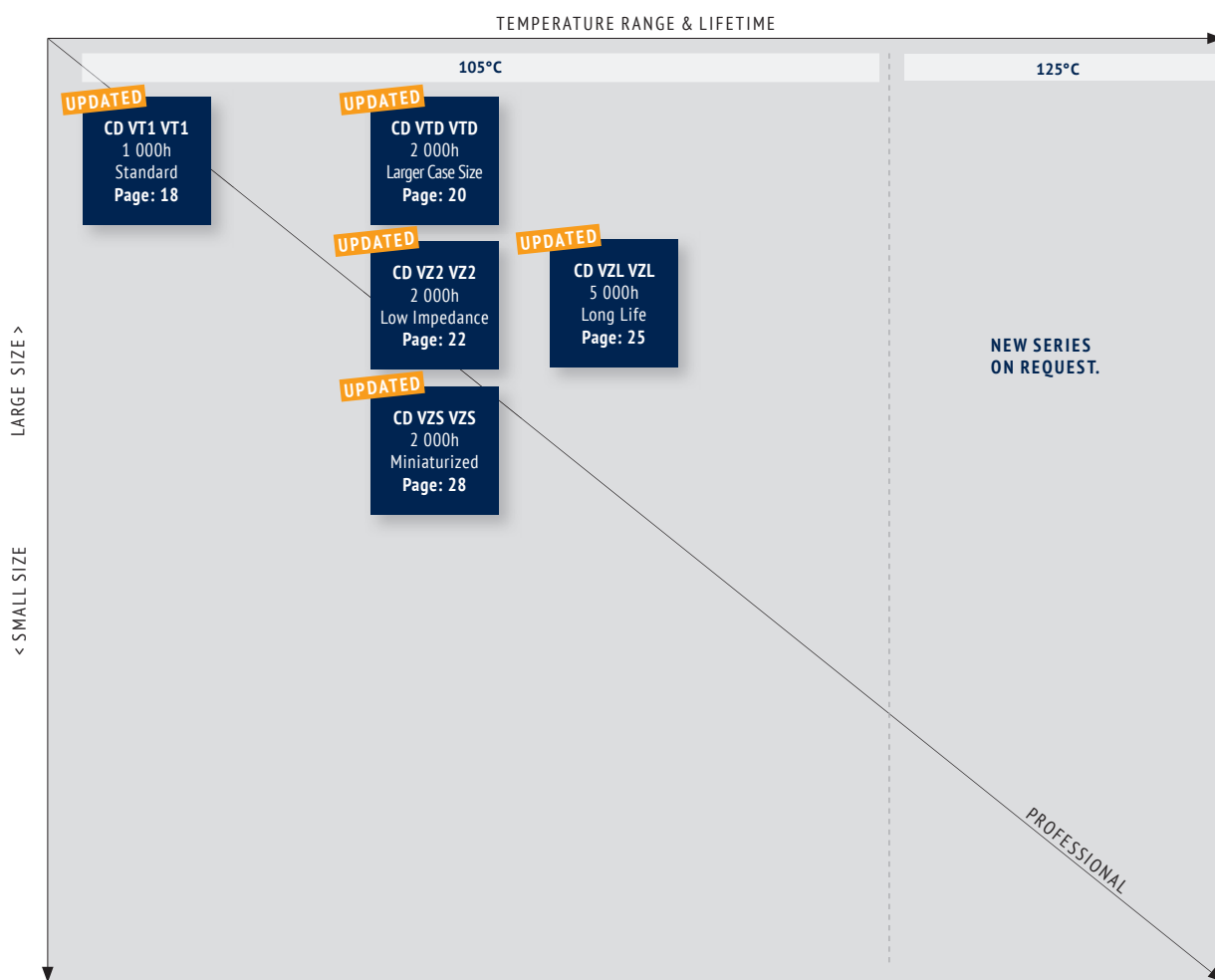
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SERIES SMT	CODE	TYPE	TEMPERATURE	VOLTAGE	LIFETIME	INFO	
CD VT1 UPDATED	VT1	SMT	105°C	6,3-50V	1 000h	Low ESR	18
CD VTD UPDATED	VTD	SMT	105°C	6,3-100V	2 000h	Low ESR	20
CD VZ2 UPDATED	VZ2	SMT	105°C	6,3-100V	2 000h	High Current	22
CD VZL UPDATED	VZL	SMT	105°C	6,3-100V	5 000h	Long Life	25
CD VZS UPDATED	VZS	SMT	105°C	6,3-50V	2 000h	Miniaturized	28
OTHER SMT WITH HIGHER TEMPERATURE ON REQUEST.							30

SMT

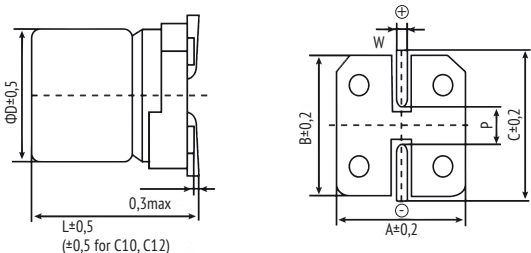


SMT

ORDER CODE FOR SMT CAPACITORS

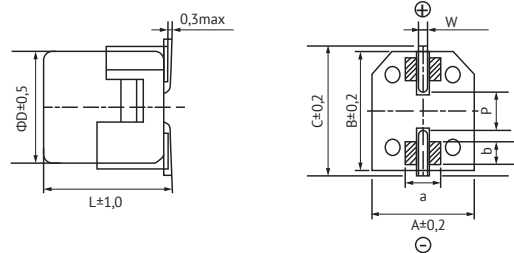
EC	V		1V		VT1		101		M		0607		V1		X		E3	JExxxxx
Techno- logy	Terminal Type		Rated Voltage Code		Series Code		Capa- cittance Code (µF)		Capacitance Tolerance		Size Code (ΦDxL)		Lead Form		Pitch		for internal use	for Specials only
EC = Electrolytic Capacitor	SMT	V	6,3	0J	CD VT1	VT1	0,1	OR1	±20%	M	0405	4,0 x 5,4	Standard	V1	Standard	X		
			10	1A	CD VZ2	VZ2	0,22	R22	±10%	K	0506	5,0 x 6,0			Vibration	G		
			16	1C	CD VTD	VTD	0,47	R47	+30/-10%	Q	0605	6,3 x 5,4						
			25	1E	CD VZL	VZL	1	010	preferred	0606	6,3 x 6,0							
			35	1V	CD VZS	VZ5	2,2	2R2		0607	6,3 x 7,7							
			50	1H			3,3	3R3		0806	8,0 x 6,2							
			63	1J			4,7	4R7		0810	8,0 x 10,2							
			80	1K			10	100		1010	10 x 10,2							
			100	2A			22	220		1012	10 x 12,5							
							33	330		1213	12,5 x 13,5							
							47	470		1216	12,5 x 16,0							
							68	680		1616	16,0 x 16,5							
							82	820		1621	16,0 x 21,5							
							100	101		1816	18,0 x 16,5							
							120	121		1821	18,0 x 21,5							
							150	151										
							180	181										
							220	221										
							330	331										
							470	471										
							560	561										
							680	681										
							820	821										
							1 000	102										
							1 500	152										
							2 200	222										
							4 700	472										
							5 600	562										
				6 800	682													
				10 000	103													
				22 000	223													
				33 000	333													
				68 000	683													

DIMENSIONS FOR SMT TYPE STANDARD



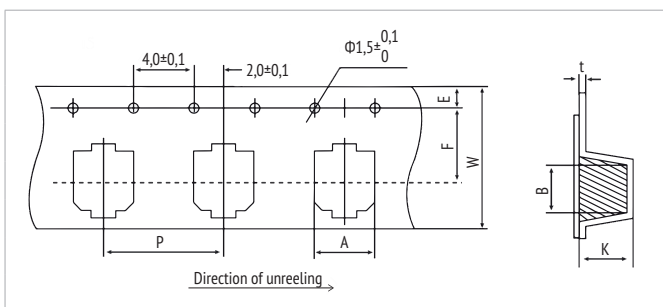
Size Code	ØD	L	A	B	C	W	P ± 0,2
0405	4,0	5,4	4,3	4,3	5,0	0,5-0,9	1,0
0505	5,0	5,4	5,3	5,3	6,0	0,5-0,9	1,3
0506	5,0	6,0	5,3	5,3	6,0	0,5-0,9	1,3
0605	6,3	5,4	6,6	6,6	7,2	0,5-0,9	2,2
0606	6,3	6,0	6,6	6,6	7,2	0,5-0,9	2,2
0607	6,3	7,7	6,6	6,6	7,2	0,5-0,9	2,2
0806	8,0	6,2	8,3	8,3	9,0	0,8-1,1	3,1
0810	8,0	10,2	8,3	8,3	9,0	0,8-1,1	3,1
1010	10,0	10,2	10,3	10,3	11,0	0,8-1,1	4,5
1012	10,0	12,5	10,3	10,3	11,0	0,8-1,1	4,5
1213	12,5	13,5	13,0	13,0	13,8	1,1-1,4	5,2
1216	12,5	16,5	13,0	13,0	13,8	1,1-1,4	5,2
1616	16,0	16,5	17,0	17,0	18,0	1,1-1,4	6,5
1621	16,0	21,5	17,0	17,0	18,0	1,1-1,4	6,5
1816	18,0	16,5	19,0	19,0	20,0	1,1-1,4	6,5
1821	18,0	21,5	19,0	19,0	20,0	1,1-1,4	6,5

VIBRATION IMPROVED DESIGN



Size Code	ØD	L	A	B	C	W	P ± 0,2	a	b
0810	8,0	10,2	8,3	8,3	9,0	0,7-1,1	3,1	4,2	1,45
1010	10,0	10,2	10,3	10,3	11,0	0,7-1,1	4,5	4,2	1,8
1012	10,0	12,5	10,3	10,3	11,0	0,7-1,1	4,5	4,2	1,8
1213	12,5	13,5	13,0	13,0	14,3	0,7-1,4	5,2	4,4	2,5
1216	12,5	16,0	13,0	13,0	14,3	1,0-1,4	5,2	4,4	2,5
1616	16,0	16,5	17,0	17,0	18,0	1,0-1,4	6,5	6,0	2,5
1621	16,0	21,5	17,0	17,0	18,0	1,0-1,4	6,5	6,0	2,5
1816	18,0	16,5	19,0	19,0	20,0	1,0-1,4	6,5	6,0	4,0
1821	18,0	21,5	19,0	19,0	20,0	1,0-1,4	6,5	6,0	4,0

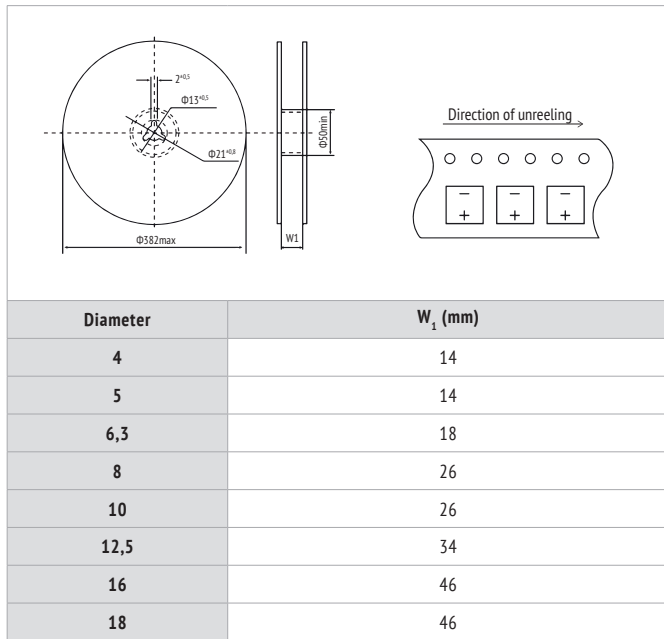
DIMENSIONS FOR TAPING



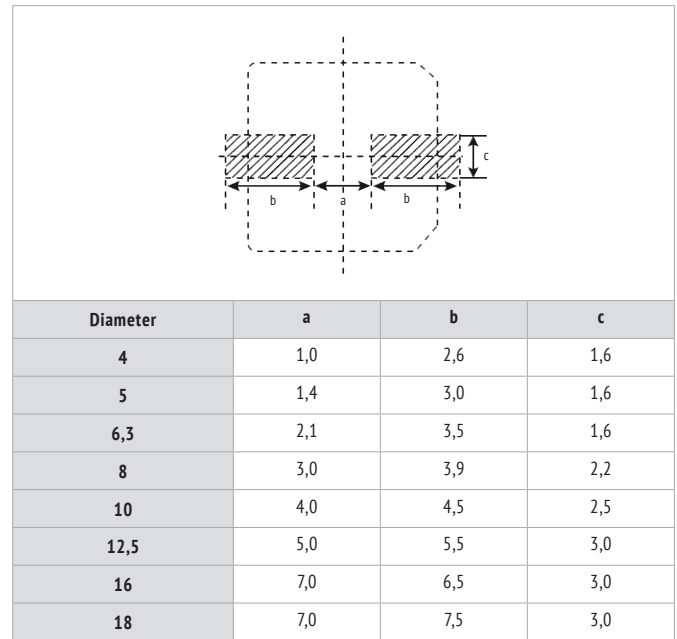
E = 1,75 ± 0,1 mm; t = 0,4 ± 0,1 mm

Size Code	A ±0,2	B ±0,2	W ±0,3	F ±0,1	P ±0,1	K ±0,2
0405	4,7	4,7	12,0	5,5	8	5,8
0505	6,0	6,0	12,0	5,5	12,0	5,8
0506	6,0	6,0	12,0	5,5	12,0	5,8
0605	7,0	7,0	16,0	7,5	12,0	5,8
0606	7,0	7,0	16,0	7,5	12,0	6,7
0607	7,0	7,0	16,0	7,5	12,0	8,0
0806	8,7	8,7	16,0	7,5	12,0	8,8
0810	8,7	8,7	24,0	11,5	16,0	11,0
1010	10,7	10,7	24,0	11,5	16,0	11,0
1012	10,7	10,7	24,0	11,5	16,0	13,0
1213	13,4	13,4	32,0	14,2	24,0	14,5
1216	13,4	13,4	32,0	14,2	24,0	17,0
1616	14,5	14,5	44,0	20,2	28,0	17,0
1621	17,5	17,5	44,0	20,2	28,0	22,4
1816	19,5	19,5	44,0	20,2	32,0	17,0
1821	19,5	19,5	44,0	20,2	32,0	22,4

REEL DIMENSIONS

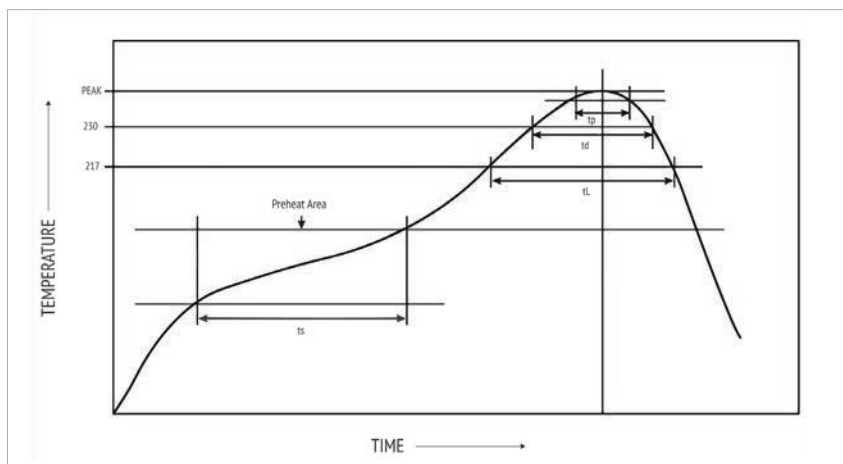


RECOMMENDED SOLDERING PAD DIMENSIONS



in mm

RECOMMENDED SOLDERING PROFILE SMT



Only 1 reflow soldering cycle allowed. All temperatures are measured on the topside of the AL-can.

Product Diameter (mm)	Preheat (t _s)	Time maintained above 217°C (t _L)	Time maintained above 230°C (t _D)	Peak (t _P)	Number Soldering
≤6,3	150~180°C t _s = 60~120s	t _L < 50s	t _D < 40s	250°C max. t _P < 10s	max. 1x
≥8	150~180°C t _s = 60~120s	t _L < 50s	t _D < 40s	260°C max. t _P < 10s	max. 1x
	150~180°C t _s = 60~120s	t _L < 50s	t _D < 40s	245°C max. t _P < 10s	max. 2x

**2 000h
at 105°C**

- SMT
- Low ESR
- High Vibration (optional)

UPDATED**CD VT1 VT1**
1 000h, 105°C
StandardLonger Life
Larger Case**CD VZS VZS**
2 000h, 105°C
Miniaturized

smaller

CD VTD VTD
2 000h, 105°C
Larger Case SizesHigher
Current**CD VZ2 VZ2**
2 000h, 105°C
Low Impedance**CD VZL VZL**
5 000h, 105°C
Long Life

ITEM CHARACTERISTICS STABILITY AT LOW TEMPERATURE (IMPEDANCE RATIO AT 120HZ)

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 50
Capacitance Range (μF)	10 ~ 220
Capacitance Tolerance (20°C, 120Hz)	± 20%
Dissipation Factor	at 20°C, 120Hz, see table
Leakage Current (μA)	at 20°C after 2 minutes

Rated Voltage	6,3	10	16	25	35	50
Z _{-25°C/+20°C}	4	3	2	2	2	2
Z _{-40°C/+20°C}	8	6	4	4	3	3
Z _{-55°C/+20°C}	12	8	6	4	3	3

ITEM	LOAD LIFETIME L ₀	SHELF LIFE	RESISTANCE TO SOLDERING HEAT SMT
Lifetime	2 000h	1 000h	30sec, Hot Plate
Leakage Current	≤ the specified value	≤200% the specified value	≤ the specified value
Capacitance Change	Within ± 25% of initial value	Within ± 20% of initial value	Within ± 10% of initial value
Dissipation Factor	≤ 200% of specified value	≤ 200% of specified value	≤ specified value
Condition	105°C U _R I _R = 0 Before measurement: 16h resuming	105°C U _R = 0 I _R = 0 Before measurement: 16h resuming	250°C Before measurement: Restore to 25°C

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

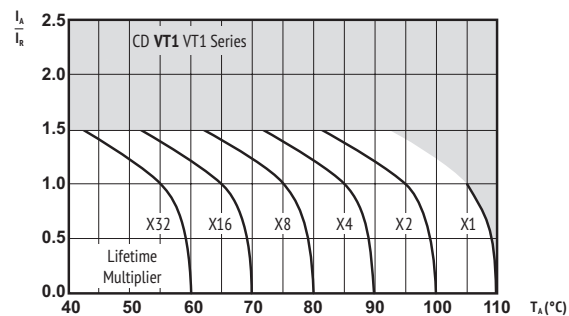
Frequency Rated Voltage	50Hz	120Hz	1kHz	≥10kHz
6,3~50V	0,8	1	1,05	1,08

Multipliers for typical operating conditions.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)

I_A = actual ripple current at 120Hz,I_R = rated ripple current at 120Hz, 105°C

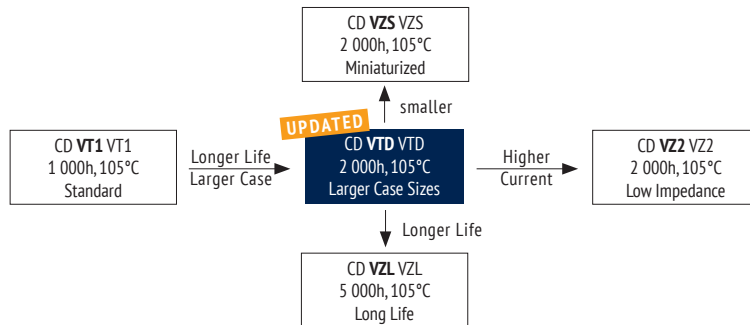
Multiplier of Useful Life as a function of ambient temperature & ripple current load



U _{RDC} Rated Voltage (Surge Voltage) Code (V)	C _R Rated Capacitance 20°C (µF)	ESR _{max} Equivalent Series Resistance 20°C 120Hz (Ω)	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current 20°C 2min (µA)	I _{max,105°C} Rated Ripple Current 105°C 120Hz (mA _{RMS})	Size øD x L (mm)	ORDER CODE Details: Page 15
6,3 (7,3) 0J	100	5,3	0,40	6,3	71	6,3 x 5,4	ECV0JVT1101M0605V1XE3
	220	2,5	0,40	12,6	116	6,3 x 5,4	ECV0JVT1221M0605V1XE3
10 (11,5) 1A	47	9,9	0,35	4,7	74	6,3 x 5,4	ECV1AVT1470M0605V1XE3
	100	4,7	0,35	10,0	95	6,3 x 5,4	ECV1AVT1101M0605V1XE3
	220	2,2	0,35	22,0	121	6,3 x 5,4	ECV1AVT1221M0605V1XE3
16 (18,4) 1C	33	11,3	0,28	5,3	55	6,3 x 5,4	ECV1CVT1330M0605V1XE3
	47	7,9	0,28	7,6	70	6,3 x 5,4	ECV1CVT1470M0605V1XE3
	100	3,8	0,28	16,0	105	6,3 x 5,4	ECV1CVT1101M0605V1XE3
25 (29) 1E	22	14,5	0,24	5,5	53	6,3 x 5,4	ECV1EVT1220M0605V1XE3
	33	9,7	0,24	8,3	65	6,3 x 5,4	ECV1EVT1330M0605V1XE3
	47	6,8	0,24	11,8	80	6,3 x 5,4	ECV1EVT1470M0605V1XE3
35 (40) 1V	22	13,3	0,22	7,7	55	6,3 x 5,4	ECV1VVT1220M0605V1XE3
	33	8,9	0,22	11,6	72	6,3 x 5,4	ECV1VVT1330M0605V1XE3
	47	6,3	0,22	16,5	86	6,3 x 5,4	ECV1VVT1470M0605V1XE3

**2 000h
at 105°C**

- SMT
- Low ESR
- High Vibration (optional)



ITEM CHARACTERISTICS STABILITY AT LOW TEMPERATURE (IMPEDANCE RATIO AT 120HZ)

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (μF)	4,7 ~ 8 200
Capacitance Tolerance (20°C, 120Hz)	± 20%
Dissipation Factor	at 20°C, 120Hz, see table
Leakage Current (μA)	at 20°C after 2 minutes

Rated Voltage	6,3	10	16	25	35	50	63	100
Z _{-25°C/+20°C}	4	3	2	2	2	2	2	2
Z _{-40°C/+20°C} Ø ≤ 10	8	6	4	4	3	3	3	3
Z _{-40°C/+20°C} Ø > 10	10	8	6	5	4	3	3	3
Z _{-55°C/+20°C} Ø ≤ 10	12	8	6	4	3	3	3	3
Z _{-55°C/+20°C} Ø > 10	10	8	6	5	4	3	3	3

ITEM	LOAD LIFETIME L ₀	SHELF LIFE	RESISTANCE TO SOLDERING HEAT SMT
Lifetime	2 000h	1 000h	30sec, Hot Plate
Leakage Current	≤ the specified value	≤ 200% the specified value	≤ the specified value
Capacitance Change	Within ± 25% of initial value	Within ± 20% of initial value	Within ± 10% of initial value
Dissipation Factor	≤ 200% of specified value	≤ 200% of specified value	≤ specified value
Condition	105°C U _R = 0 I _R = 0 Before measurement: 16h resuming	105°C U _R = 0 I _R = 0 Before measurement: 16h resuming	250°C Before measurement: Restore to 25°C

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

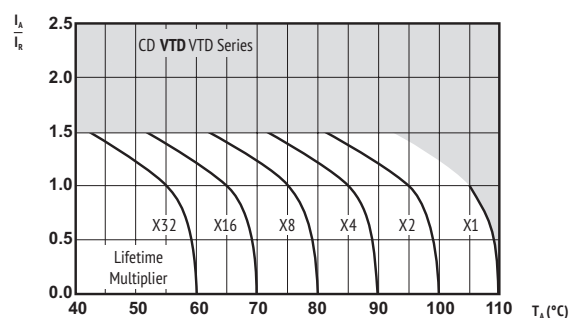
Frequency Capacitance (μF)	50Hz	120Hz	1kHz	≥10kHz
Ø ≤ 10	0,8	1	1,05	1,08
<1 000 Ø > 10	0,8	1	1,25	1,40
1 000~4 700 Ø > 10	0,8	1	1,15	1,25
>4 700 Ø > 10	0,7	1	1,05	1,08

Multipliers for typical operating conditions.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load



U _{RDC} Rated Voltage (Surge Voltage) Code (V)	C _R Rated Capacitance 20°C (μF)	ESR _{max} Equivalent Series Resistance 20°C 120Hz (Ω)	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current 20°C 2min (μA)	I _{max} 105°C 120Hz (mA)	Size øD x L (mm)	ORDER CODE Δ = Vibration Type Details: Page 15
6,3 (7,3) 0J	220	2,5	0,40	13,9	135	6,3 x 7,7	ECV0JVTD221M0607V1XE3
	330	1,7	0,40	20,8	163	6,3 x 7,7	ECV0JVTD331M0607V1XE3
		1,7	0,40	20,8	290	8 x 10,2	ECV0JVTD331M0810V1ΔE3
		1,7	0,40	20,8	290	8 x 10,2	ECV0JVTD331M1010V1ΔE3
	470	1,2	0,40	29,7	320	8 x 10,2	ECV0JVTD471M0810V1ΔE3
	680	0,8	0,40	42,9	340	8 x 10,2	ECV0JVTD681M0810V1ΔE3
	1000	0,6	0,40	63,0	370	8 x 10,2	ECV0JVTD102M0810V1ΔE3
		0,6	0,40	63,0	495	10 x 10,2	ECV0JVTD102M1010V1ΔE3
	1500	0,4	0,40	94,5	550	10 x 10,2	ECV0JVTD152M1010V1ΔE3
	2200	0,3	0,38	139	735	12,5 x 13,5	ECV0JVTD222M1213V1ΔE3
		0,3	0,38	139	910	16 x 16,5	ECV0JVTD222M1616V1ΔE3
	3300	0,2	0,40	208	920	12,5 x 16,0	ECV0JVTD332M1213V1ΔE3
	4700	0,2	0,42	296	1080	16 x 16,5	ECV0JVTD472M1616V1ΔE3
		0,2	0,42	296	1300	16 x 21,5	ECV0JVTD472M1621V1ΔE3
		0,2	0,42	296	1300	18 x 16,5	ECV0JVTD472M1816V1ΔE3
		0,1	0,46	428	1460	16 x 21,5	ECV0JVTD682M1621V1ΔE3
	6800	0,1	0,46	428	1395	18 x 16,5	ECV0JVTD682M1816V1ΔE3
		0,1	0,46	428	1460	18 x 21,5	ECV0JVTD682M1821V1ΔE3
	8200	0,1	0,50	517	1566	18 x 21,5	ECV0JVTD822M1821V1ΔE3

10 (11,5) 1A	220	2,2	0,35	22,0	156	6,3 x 7,7	ECV1AVTD221M0607V1XE3
	330	1,5	0,35	33,0	296	8 x 10,2	ECV1AVTD331M0810V1ΔE3
	470	1,0	0,35	47,0	326	8 x 10,2	ECV1AVTD471M0810V1ΔE3
	680	0,7	0,35	68,0	440	10 x 10,2	ECV1AVTD681M1010V1ΔE3
	1000	0,5	0,35	100	500	10 x 10,2	ECV1AVTD102M1010V1ΔE3
	2200	0,3	0,34	220	735	12,5 x 13,5	ECV1AVTD222M1213V1ΔE3
		0,3	0,34	220	810	12,5 x 16,0	ECV1AVTD222M1216V1ΔE3
		0,3	0,34	220	920	16 x 16,5	ECV1AVTD222M1616V1ΔE3
	3300	0,2	0,36	330	1080	16 x 16,5	ECV1AVTD332M1616V1ΔE3
		0,2	0,36	330	1180	18 x 16,5	ECV1AVTD332M1816V1ΔE3
	4700	0,2	0,38	470	1090	16 x 16,5	ECV1AVTD472M1616V1ΔE3
		0,2	0,38	470	1405	16 x 21,5	ECV1AVTD472M1621V1ΔE3
		0,2	0,38	470	1460	18 x 21,5	ECV1AVTD472M1821V1ΔE3
		0,1	0,42	680	1460	16 x 21,5	ECV1AVTD682M1621V1ΔE3
	6800	0,1	0,42	680	1395	18 x 16,5	ECV1AVTD682M1816V1ΔE3
		0,1	0,42	680	1395	18 x 16,5	ECV1AVTD682M1816V1ΔE3
	8200	0,1	0,46	820	1565	18 x 21,5	ECV1AVTD822M1821V1ΔE3

16 (18,4) 1C	150	2,5	0,28	24,0	157	6,3 x 7,7	ECV1CVTD151M0607V1XE3
	220	1,7	0,28	35,2	157	6,3 x 7,7	ECV1CVTD221M0607V1XE3
	330	1,2	0,28	52,8	296	8 x 10,2	ECV1CVTD331M0810V1ΔE3
	470	0,8	0,28	75,2	348	8 x 10,2	ECV1CVTD471M0810V1ΔE3
	680	0,6	0,28	109	484	10 x 10,2	ECV1CVTD681M1010V1ΔE3
	1000	0,4	0,28	160	540	10 x 10,2	ECV1CVTD102M1010V1ΔE3
		0,4	0,28	160	595	12,5 x 13,5	ECV1CVTD102M1213V1ΔE3
		0,4	0,28	160	700	16 x 16,5	ECV1CVTD102M1616V1ΔE3
	2200	0,2	0,30	352	1030	16 x 16,5	ECV1CVTD222M1616V1ΔE3
		0,2	0,30	352	1080	18 x 16,5	ECV1CVTD222M1816V1ΔE3
	3300	0,2	0,32	528	1300	16 x 16,5	ECV1CVTD332M1616V1ΔE3
		0,2	0,32	528	1300	16 x 21,5	ECV1CVTD332M1621V1ΔE3
	4700	0,1	0,34	752	1350	18 x 16,5	ECV1CVTD472M1816V1ΔE3

25 (29) 1E	100	3,2	0,24	25,0	132	6,3 x 7,7	ECV1EVTD101M0607V1XE3
	150	2,2	0,24	37,5	320	8 x 10,2	ECV1EVTD151M0810V1ΔE3
	220	1,5	0,24	55,0	320	8 x 10,2	ECV1EVTD221M0810V1ΔE3
	330	1,0	0,24	82,5	320	8 x 10,2	ECV1EVTD331M0810V1ΔE3
		1,0	0,24	82,5	450	10 x 10,2	ECV1EVTD331M1010V1ΔE3
	470	0,7	0,24	118	490	10 x 10,2	ECV1EVTD471M1010V1ΔE3
	1000	0,4	0,24	250	700	12,5 x 13,5	ECV1EVTD102M1213V1ΔE3
		0,4	0,24	250	755	12,5 x 16,0	ECV1EVTD102M1216V1ΔE3
		0,4	0,24	250	885	16 x 16,5	ECV1EVTD102M1616V1ΔE3
		0,4	0,24	250	950	18 x 16,5	ECV1EVTD102M1816V1ΔE3
		0,2	0,26	550	975	16 x 16,5	ECV1EVTD222M1616V1ΔE3
	2200	0,2	0,26	550	1405	18 x 21,5	ECV1EVTD222M1821V1ΔE3
		0,2	0,26	550	1405	18 x 21,5	ECV1EVTD222M1821V1ΔE3
	3300	0,2	0,28	825	1460	18 x 16,5	ECV1EVTD332M1816V1ΔE3
	4700	0,1	0,30	1175	1490	18 x 21,5	ECV1EVTD472M1821V1ΔE3

U _{RDC} Rated Voltage (Surge Voltage) Code (V)	C _R Rated Capacitance 20°C (μF)	ESR _{max} Equivalent Series Resistance 20°C 120Hz (Ω)	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current 20°C 2min (μA)	I _{max} 105°C 120Hz (mA)	Size øD x L (mm)	ORDER CODE Δ = Vibration Type Details: Page 15
35 (40) 1V	22	13,3	0,22	7,7	85	6,3 x 7,7	ECV1VWTD220M0607V1XE3
	47	6,3	0,22	16,5	85	6,3 x 7,7	ECV1VWTD470M0607V1XE3
	100	3,0	0,22	35,0	142	6,3 x 7,7	ECV1VWTD101M0607V1XE3
		3,0	0,22	35,0	283	8 x 10,2	ECV1VWTD101M0810V1ΔE3
	150	2,0	0,22	52,5	293	8 x 10,2	ECV1VWTD151M0810V1ΔE3
	220	1,4	0,22	77,0	302	8 x 10,2	ECV1VWTD221M0810V1ΔE3
		1,4	0,22	77,0	450	10 x 10,2	ECV1VWTD221M1010V1ΔE3
	330	0,9	0,22	116	450	10 x 10,2	ECV1VWTD331M1010V1ΔE3
	470	0,7	0,22	165	460	10 x 10,2	ECV1VWTD471M1010V1ΔE3
		0,7	0,22	165	500	10 x 12,5	ECV1VWTD471M1010V1ΔE3
		0,7	0,22	165	560	12,5 x 13,5	ECV1VWTD471M1213V1ΔE3
		0,7	0,22	165	700	16 x 16,5	ECV1VWTD471M1616V1ΔE3
	680	0,5	0,22	238	656	12,5 x 13,5	ECV1VWTD681M1213V1ΔE3
	1000	0,3	0,22	350	700	12,5 x 16,0	ECV1VWTD102M1216V1ΔE3
		0,3	0,22	350	865	16 x 16,5	ECV1VWTD102M1616V1ΔE3
		0,3	0,22	350	1080	18 x 16,5	ECV1VWTD102M1816V1ΔE3

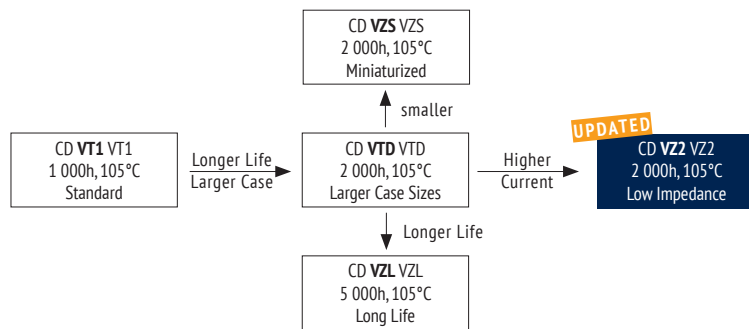
50 (58) 1H	33	7,3	0,18	16,5	82	6,3 x 7,7	ECV1HVTD330M0607V1XE3
	47	5,1	0,18	23,5	97	6,3 x 7,7	ECV1HVTD470M0607V1XE3
	100	2,4	0,18	50,0	230	8 x 10,2	ECV1HVTD101M0810V1ΔE3
		2,4	0,18	50,0	262	10 x 10,2	ECV1HVTD101M1010V1ΔE3
	150	1,6	0,18	75,0	300	10 x 10,2	ECV1HVTD151M1010V1ΔE3
	220	1,1	0,18	110	375	10 x 10,2	ECV1HVTD221M1010V1ΔE3
	330	0,8	0,18	165	540	12,5 x 13,5	ECV1HVTD331M1213V1ΔE3
		0,8	0,18	165	650	16 x 16,5	ECV1HVTD331M1616V1ΔE3
	470	0,6	0,18	235	540	12,5 x 13,5	ECV1HVTD471M1213V1ΔE3
		0,6	0,18	235	595	12,5 x 16,0	ECV1HVTD471M1216V1ΔE3
		0,6	0,18	235	755	16 x 16,5	ECV1HVTD471M1616V1ΔE3
		0,6	0,18	235	810	18 x 16,5	ECV1HVTD471M1816V1ΔE3
	680	0,4	0,18	340	900	16 x 16,5	ECV1HVTD681M1616V1ΔE3
	1000	0,3	0,18	500	1070	18 x 16,5	ECV1HVTD102M1816V1ΔE3
		0,3	0,18	500	1300	18 x 21,5	ECV1HVTD102M1821V1ΔE3

63 (73) 1J	10	18,6	0,14	6,3	47	6,3 x 7,7	ECV1JVTD100M0607V1XE3
	22	8,5	0,14	13,9	58	6,3 x 7,7	ECV1JVTD220M0607V1XE3
	33	5,7	0,14	20,8	140	8 x 10,2	ECV1JVTD330M0810V1ΔE3
	47	4,0	0,14	29,7	170	8 x 10,2	ECV1JVTD470M0810V1ΔE3
	100	1,9	0,14	63,0	310	10 x 10,2	ECV1JVTD101M1010V1ΔE3
	220	0,9	0,14	139	510	12,5 x 13,5	ECV1JVTD221M1213V1ΔE3
		0,9	0,14	139	605	16 x 16,5	ECV1JVTD221M1616V1ΔE3
	330	0,6	0,14	208	562	12,5 x 16,0	ECV1JVTD331M1216V1ΔE3
		0,6	0,14	208	755	16 x 16,5	ECV1JVTD331M1616V1ΔE3
		0,6	0,14	208	810	18 x 16,5	ECV1JVTD331M1816V1ΔE3
		0,4	0,14	296	755	16 x 16,5	ECV1JVTD471M1616V1ΔE3
	470	0,4	0,14	296	972	16 x 21,5	ECV1JVTD471M1621V1ΔE3
		0,4	0,14	296	972	18 x 16,5	ECV1JVTD471M1816V1ΔE3
	680	0,3	0,14	428	972	18 x 16,5	ECV1JVTD681M1816V1ΔE3

100 (115) 2A	4,7	33,9	0,12	4,7	35	6,3 x 7,7	ECV2AVTD4R7M0607V1XE3
	10	16,0	0,12	10,0	35	6,3 x 7,7	ECV2AVTD100M0607V1XE3
		16,0	0,12	10,0	77	8 x 10,2	ECV2AVTD100M0810V1AE3
	22	7,3	0,12	22,0	100	8 x 10,2	ECV2AVTD220M0810V1AE3
	33	4,9	0,12	33,0	150	10 x 10,2	ECV2AVTD330M1010V1AE3
	47	3,4	0,12	47,0	270	12,5 x 13,5	ECV2AVTD470M1213V1AE3
	68	2,4	0,12	68,0	325	12,5 x 13,5	ECV2AVTD680M1213V1AE3
	100	1,6	0,12	100	410	12,5 x 13,5	ECV2AVTD101M1213V1AE3
		1,6	0,12	100	490	16 x 16,5	ECV2AVTD101M1616V1AE3
	220	0,8	0,12	220	490	16 x 16,5	ECV2AVTD221M1616V1AE3
		0,8	0,12	220	810	16 x 21,5	ECV2AVTD221M1621V1AE3
	330	0,5	0,12	330	810	18 x 16,5	ECV2AVTD331M1816V1AE3
0,5		0,12	330	1060	18 x 21,5	ECV2AVTD331M1821V1AE3	
470	0,4	0,12	470	1060	18 x 21,5	ECV2AVTD471M1821V1AE3	

**2 000h
at 105°C**

- SMT
- Low ESR
- High Vibration (optional)
- High Current

**ITEM CHARACTERISTICS STABILITY AT LOW TEMPERATURE (IMPEDANCE RATIO AT 120HZ)**

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (μF)	10 ~ 2 700
Capacitance Tolerance (20°C, 120Hz)	± 20%
Dissipation Factor	at 20°C, 120Hz, see table
Leakage Current (μA)	at 20°C after 2 minutes

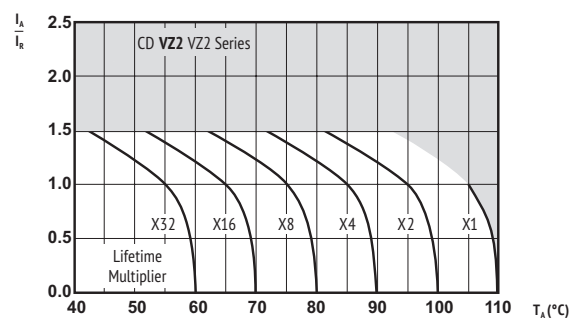
Rated Voltage	6,3	10	16	25	35	50	63	80	100
Z _{-25°C/+20°C}	4	3	2	2	2	2	2	2	2
Z _{-40°C/+20°C}	6	4	3	3	3	3	3	3	3
Z _{-55°C/+20°C}	8	5	4	3	3	3	3	3	3

ITEM	LOAD LIFETIME L ₀	SHELF LIFE	RESISTANCE TO SOLDERING HEAT SMT
Lifetime	2 000h	1 000h	30sec, Hot Plate
Leakage Current	≤ the specified value	≤200% the specified value	≤ the specified value
Capacitance Change	Within ± 25% of initial value	Within ± 20% of initial value	Within ± 10% of initial value
Dissipation Factor	≤ 200% of specified value	≤ 200% of specified value	≤ specified value
Condition	105°C U _R I _R = 0 Before measurement: 16h resuming	105°C U _R = 0 I _R = 0 Before measurement: 16h resuming	250°C Before measurement: Restore to 25°C

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

μF \ Frequency	120Hz	1kHz	10kHz	≥100kHz
1~180	0,4	0,75	0,90	1,0
220~560	0,5	0,85	0,94	1,0
≥680	0,6	0,87	0,95	1,0

Multipliers for typical operating conditions.

ENVIRONMENTALThe products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com**MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)**

I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load



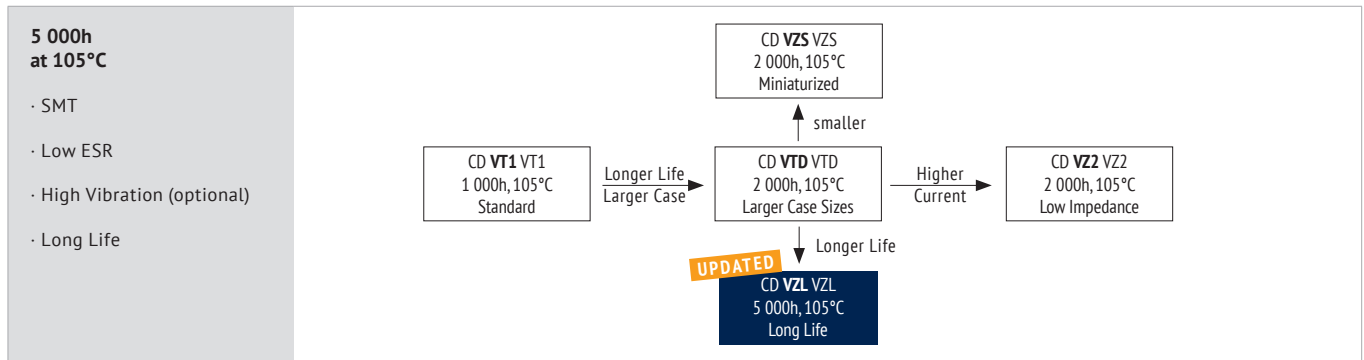
U_{RDC} Rated Voltage (Surge Voltage) Code	C_R Rated Capacitance 20°C	ESR_{max} Equivalent Series Resistance 20°C 120kHz	Z_{max} Max. Impedance 20°C 100kHz	$\tan\delta$ Dissipation Factor 20°C 120kHz	I_{leak} Leakage Current 20°C 2min	I_{max} 105°C 100kHz	Size $\varnothing D \times L$ (mm)	ORDER CODE Δ = Vibration Type
(V)	(μF)	(Ω)	(Ω)		(μA)	(mA)		Details: Page 15
6,3 (7,3) 0J	100	2,92	0,58	0,22	7	250	6,3 x 5,4	ECV0JVZ2101M0605V1XE3
	150	1,95	0,58	0,22	10	250	6,3 x 5,4	ECV0JVZ2151M0605V1XE3
	220	1,33	0,58	0,22	14	250	6,3 x 5,4	ECV0JVZ2221M0605V1XE3
		1,33	0,34	0,22	14	300	6,3 x 7,7	ECV0JVZ2221M0607V1XE3
	330	0,89	0,34	0,22	21	300	6,3 x 7,7	ECV0JVZ2331M0607V1XE3
	470	0,63	0,34	0,22	30	300	6,3 x 7,7	ECV0JVZ2471M0607V1XE3
		0,63	0,17	0,22	30	490	8,0 x 10,2	ECV0JVZ2471M0810V1ΔE3
	1000	0,30	0,17	0,22	63	490	8,0 x 10,2	ECV0JVZ2102M0810V1ΔE3
		0,30	0,10	0,22	63	725	10,0 x 10,2	ECV0JVZ2102M1010V1ΔE3
	1500	0,20	0,10	0,22	95	725	10,0 x 10,2	ECV0JVZ2152M1010V1ΔE3
	2200	0,15	0,07	0,24	139	1190	12,5 x 13,5	ECV0JVZ2222M1213V1ΔE3
	2700	0,12	0,07	0,24	171	1190	12,5 x 13,5	ECV0JVZ2272M1213V1ΔE3
10 (11,5) 1A	47	5,37	0,58	0,19	5	250	6,3 x 5,4	ECV1AVZ2470M0605V1XE3
	100	2,53	0,34	0,19	10	300	6,3 x 7,7	ECV1AVZ2101M0607V1XE3
	150	1,69	0,34	0,19	15	300	6,3 x 7,7	ECV1AVZ2151M0607V1XE3
	220	1,15	0,42	0,19	22	280	6,3 x 6,0	ECV1AVZ2221M0606V1XE3
		1,15	0,34	0,19	22	300	6,3 x 7,7	ECV1AVZ2221M0607V1XE3
	330	0,77	0,17	0,19	33	490	8,0 x 10,2	ECV1AVZ2331M0810V1ΔE3
	470	0,54	0,17	0,19	47	490	8,0 x 10,2	ECV1AVZ2471M0810V1ΔE3
	1000	0,26	0,10	0,19	100	725	10,0 x 10,2	ECV1AVZ2102M1010V1ΔE3
	1500	0,17	0,07	0,19	150	1190	12,5 x 13,5	ECV1AVZ2152M1213V1ΔE3
	2200	0,13	0,07	0,21	220	1190	12,5 x 13,5	ECV1AVZ2222M1213V1ΔE3
16 (18,4) 1C	33	6,44	0,58	0,16	6	250	6,3 x 5,4	ECV1CVZ2330M0605V1XE3
	47	4,52	0,58	0,16	8	250	6,3 x 5,4	ECV1CVZ2470M0605V1XE3
	100	2,13	0,34	0,16	16	250	6,3 x 5,4	ECV1CVZ2101M0605V1XE3
		2,13	0,34	0,16	16	280	6,3 x 6,0	ECV1CVZ2101M0606V1XE3
		2,13	0,42	0,16	16	300	6,3 x 7,7	ECV1CVZ2101M0607V1XE3
	150	1,42	0,34	0,16	24	300	6,3 x 7,7	ECV1CVZ2151M0607V1XE3
		0,97	0,17	0,16	36	410	6,3 x 7,7	ECV1CVZ2221M0607V1XE3
	220	0,97	0,17	0,16	36	490	8,0 x 10,2	ECV1CVZ2221M0810V1ΔE3
		0,65	0,17	0,16	53	490	8,0 x 10,2	ECV1CVZ2331M0810V1ΔE3
	470	0,46	0,17	0,16	76	490	8,0 x 10,2	ECV1CVZ2471M0810V1ΔE3
		0,46	0,10	0,16	76	725	10,0 x 10,2	ECV1CVZ2471M1010V1ΔE3
	1000	0,22	0,10	0,16	160	725	10,0 x 10,2	ECV1CVZ2102M1010V1ΔE3
		0,22	0,10	0,16	160	790	10,0 x 12,5	ECV1CVZ2102M1012V1ΔE3
	1500	0,15	0,07	0,16	240	1190	12,5 x 13,5	ECV1CVZ2152M1213V1ΔE3
25 (29) 1E	22	8,45	0,58	0,14	6	250	6,3 x 5,4	ECV1EVZ2220M0605V1XE3
		8,45	0,42	0,14	6	280	6,3 x 6,0	ECV1EVZ2220M0606V1XE3
	33	5,63	0,58	0,14	9	250	6,3 x 5,4	ECV1EVZ2330M0605V1XE3
	47	3,96	0,58	0,14	12	250	6,3 x 5,4	ECV1EVZ2470M0605V1XE3
		3,96	0,38	0,14	12	280	6,3 x 6,0	ECV1EVZ2470M0606V1XE3
		3,96	0,34	0,14	12	300	6,3 x 7,7	ECV1EVZ2470M0607V1XE3
	100	1,86	0,34	0,14	25	300	6,3 x 7,7	ECV1EVZ2101M0607V1XE3
	150	1,24	0,17	0,14	38	490	8,0 x 10,2	ECV1EVZ2151M0810V1ΔE3
	220	0,85	0,17	0,14	55	490	8,0 x 10,2	ECV1EVZ2221M0810V1ΔE3
	330	0,57	0,10	0,14	83	725	10,0 x 10,2	ECV1EVZ2331M1010V1ΔE3
	470	0,40	0,10	0,14	118	725	10,0 x 10,2	ECV1EVZ2471M1010V1ΔE3
	1000	0,19	0,07	0,14	250	1190	12,5 x 13,5	ECV1EVZ2102M1213V1ΔE3
	2200	0,10	0,05	0,16	550	1350	16,0 x 16,5	ECV1EVZ2222M1616V1ΔE3
35 (40) 1V	22	7,24	0,58	0,12	8	250	6,3 x 5,4	ECV1VVZ2220M0605V1XE3
	33	4,83	0,58	0,12	12	250	6,3 x 5,4	ECV1VVZ2330M0605V1XE3
	47	3,39	0,58	0,12	17	250	6,3 x 5,4	ECV1VVZ2470M0605V1XE3
		3,39	0,42	0,12	17	280	6,3 x 6,0	ECV1VVZ2470M0606V1XE3
		3,39	0,34	0,12	17	300	6,3 x 7,7	ECV1VVZ2470M0606V1XE3

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U_{RDC} Rated Voltage (Surge Voltage) Code	C_R Rated Capacitance 20°C	ESR_{max} Equivalent Series Resistance 20°C 120Hz	Z_{max} Max. Impedance 20°C 100kHz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current 20°C 2min	I_R Rated Ripple Current 105°C 100kHz	Size øD x L (mm)	ORDER CODE Δ = Vibration Type Details: Page 15
35 (40) 1V	100	1,60	0,34	0,12	35	300	6,3 x 7,7	ECV1VVZ2101M0606V1XE3
		1,60	0,17	0,12	35	490	8,0 x 10,2	ECV1VVZ2101M0810V1ΔE3
	150	1,07	0,17	0,12	53	490	8,0 x 10,2	ECV1VVZ2151M0810V1ΔE3
	220	0,73	0,17	0,12	77	635	8,0 x 10,2	ECV1VVZ2221M0810V1ΔE3
		0,73	0,10	0,12	77	725	10,0 x 10,2	ECV1VVZ2221M1010V1ΔE3
	330	0,49	0,10	0,12	116	725	10,0 x 10,2	ECV1VVZ2331M1010V1ΔE3
	470	0,34	0,09	0,12	165	1010	10,0 x 12,5	ECV1VVZ2471M1012V1ΔE3
		0,34	0,07	0,12	165	1190	12,5 x 13,5	ECV1VVZ2471M1213V1ΔE3
50 (58) 1H	10	13,27	1,00	0,10	5	190	6,3 x 6,0	ECV1HVZ2100M0606V1XE3
	22	6,03	1,20	0,10	11	180	6,3 x 5,4	ECV1HVZ2220M0605V1XE3
		6,03	0,68	0,10	11	220	6,3 x 7,7	ECV1HVZ2220M0607V1XE3
	33	4,02	0,68	0,10	17	220	6,3 x 7,7	ECV1HVZ2330M0607V1XE3
	47	2,83	0,68	0,10	24	220	6,3 x 7,7	ECV1HVZ2470M0607V1XE3
		2,83	0,34	0,10	24	325	8,0 x 10,2	ECV1HVZ2470M0810V1ΔE3
	68	1,96	0,34	0,10	34	369	8,0 x 10,2	ECV1HVZ2680M0810V1ΔE3
	100	1,33	0,34	0,10	50	325	8,0 x 10,2	ECV1HVZ2101M0810V1ΔE3
		1,33	0,20	0,10	50	540	10,0 x 10,2	ECV1HVZ2101M1010V1ΔE3
	220	0,61	0,20	0,10	110	725	10,0 x 10,2	ECV1HVZ2221M1010V1ΔE3
	330	0,41	0,12	0,10	165	972	12,5 x 13,5	ECV1HVZ2331M1213V1ΔE3
63 (73) 1J	10	10,62	1,20	0,08	7	130	6,3 x 7,7	ECV1JVZ2100M0607V1XE3
	22	4,83	1,20	0,08	14	130	6,3 x 7,7	ECV1JVZ2220M0607V1XE3
	33	3,22	0,65	0,08	21	270	8,0 x 10,2	ECV1JVZ2330M0810V1ΔE3
	47	2,26	0,65	0,08	30	270	8,0 x 10,2	ECV1JVZ2470M0810V1ΔE3
	68	1,57	0,65	0,08	43	270	8,0 x 10,2	ECV1JVZ2680M0810V1ΔE3
	100	1,07	0,35	0,08	63	432	10,0 x 10,2	ECV1JVZ2101M1010V1ΔE3
		1,07	0,35	0,08	63	470	10,0 x 12,5	ECV1JVZ2101M1012V1ΔE3
	220	0,49	0,16	0,08	139	650	12,5 x 13,5	ECV1JVZ2220M1213V1ΔE3
80 (92) 1K	10	10,62	2,40	0,08	8	65	6,3 x 7,7	ECV1KVZ2100M0607V1XE3
	22	4,83	1,30	0,08	18	140	8,0 x 10,2	ECV1KVZ2220M0810V1ΔE3
	33	3,22	1,30	0,08	27	140	8,0 x 10,2	ECV1KVZ2330M0810V1ΔE3
	47	2,26	0,70	0,08	38	215	10,0 x 10,2	ECV1KVZ2470M1010V1ΔE3
	100	1,07	0,18	0,08	80	595	12,5 x 13,5	ECV1KVZ2101M1213V1ΔE3
100 (115) 2A	10	10,62	2,40	0,08	10	70	6,3 x 7,7	ECV2AVZ2100M0607V1XE3
	22	4,83	1,00	0,08	22	165	8,0 x 10,2	ECV2AVZ2220M0810V1ΔE3
	33	3,22	0,70	0,08	33	220	10,0 x 10,2	ECV2AVZ2330M1010V1ΔE3
	47	2,26	0,70	0,08	47	220	10,0 x 10,2	ECV2AVZ2470M1010V1ΔE3
		2,26	0,70	0,08	47	240	10,0 x 12,5	ECV2AVZ2470M1012V1ΔE3
	100	1,07	0,20	0,08	100	595	12,5 x 13,5	ECV2AVZ2101M1213V1ΔE3
	220	0,49	0,18	0,08	220	760	16,0 x 16,5	ECV2AVZ2221M1616V1ΔE3
	330	0,33	0,15	0,08	330	950	18,0 x 16,5	ECV2AVZ2331M1816V1ΔE3
	470	0,23	0,14	0,08	470	1135	18,0 x 21,5	ECV2AVZ2471M1821V1ΔE3





ITEM

CHARACTERISTICS

STABILITY AT LOW TEMPERATURE (IMPEDANCE RATIO AT 120HZ)

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (μF)	22 ~ 8 200
Capacitance Tolerance (20°C, 120Hz)	± 20%
Dissipation Factor	at 20°C, 120Hz, see table
Leakage Current (μA)	at 20°C after 2 minutes

Rated Voltage	6,3	10	16	25	35	50	63	80	100
Z _{25°C/-20°C}	4	3	2	2	2	2	2	2	2
Z _{40°C/-20°C}	6	4	3	3	3	3	3	3	3
Z _{55°C/-20°C}	8	5	4	3	3	3	3	3	3

ITEM	LOAD LIFETIME L ₀	SHELF LIFE	RESISTANCE TO SOLDERING HEAT SMT
Lifetime	Ø 6,3 L≤6,0: 3 000 L=7,7: 5 000 Ø>6,3 5 000	1 000h	30sec, Hot Plate
Leakage Current	≤ the specified value	≤200% the specified value	≤ the specified value
Capacitance Change	Within ± 30% of initial value	Within ± 20% of initial value	Within ± 10% of initial value
Dissipation Factor	≤ 300% of specified value	≤ 200% of specified value	≤ specified value
Condition	105°C U _R I _R = 0 Before measurement: 16h resuming	105°C U _R = 0 I _R = 0 Before measurement: 16h resuming	250°C Before measurement: Restore to 25°C

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

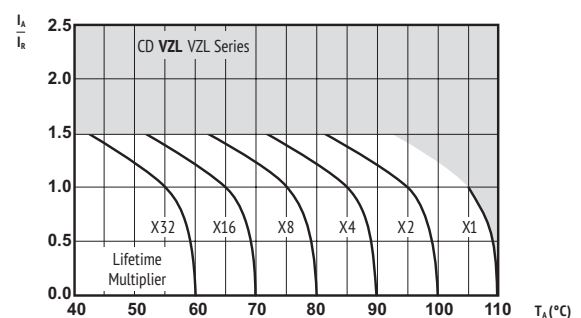
μF \ Frequency	120Hz	1kHz	10kHz	≥100kHz
22~180	0,40	0,75	0,90	1,0
220~560	0,50	0,85	0,94	1,0
≥680	0,60	0,87	0,95	1,0

Multipliers for typical operating conditions.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_a = actual ripple current at 100kHz,
 I_{a0} = rated ripple current at 100kHz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load



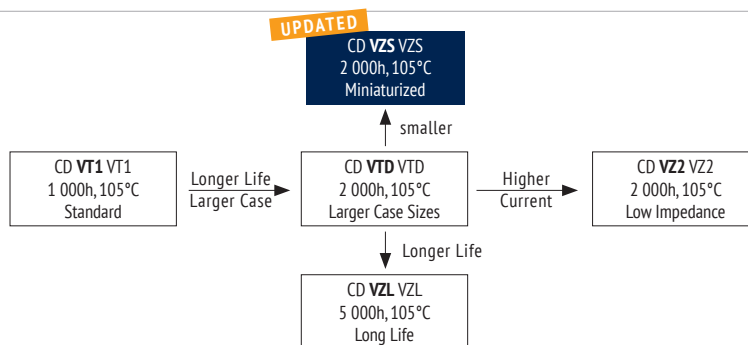
U_{RDC} Rated Voltage (Surge Voltage) Code	C_R Rated Capacitance 20°C	ESR_{max} Equivalent Series Resistance 20°C 120Hz	Z_{max} Max. Impedance 20°C 100kHz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current 20°C 2min	I_{max} 105°C 100kHz	Size øD x L (mm)	ORDER CODE Δ = Vibration Type Details: Page 15
6,3 (7,3) 0J	100	3715	580	0,28	7	250	6,3 x 5,4	ECV0JVZL101M0605V1XE3
	150	2477	580	0,28	10	250	6,3 x 5,4	ECV0JVZL151M0605V1XE3
	220	1689	360	0,28	14	300	6,3 x 7,7	ECV0JVZL221M0607V1XE3
	330	1126	170	0,28	21	470	8 x 10,2	ECV0JVZL331M0810V1ΔE3
	470	791	170	0,28	30	470	8 x 10,2	ECV0JVZL471M0810V1ΔE3
	1000	372	100	0,28	63	725	10 x 10,2	ECV0JVZL102M1010V1ΔE3
	1500	248	100	0,28	95	725	10 x 10,2	ECV0JVZL152M1010V1ΔE3
	2200	181	70	0,30	139	890	12,5 x 13,5	ECV0JVZL222M1213V1ΔE3
	3300	129	60	0,32	208	1030	12,5 x 16	ECV0JVZL332M1216V1ΔE3
	4700	96	54	0,34	297	1360	16 x 16,5	ECV0JVZL472M1616V1ΔE3
	6800	75	48	0,38	429	1620	18 x 16,5	ECV0JVZL682M1816V1ΔE3
		75	38	0,38	429	1760	16 x 21,5	ECV0JVZL682M1621V1ΔE3
	8200	68	38	0,42	517	1760	16 x 21,5	ECV0JVZL822M1621V1ΔE3
		68	48	0,42	517	1620	18 x 16,5	ECV0JVZL822M1816V1ΔE3
10 (11,5) 1A	47	6774	580	0,24	5	250	6,3 x 5,4	ECV1AVZL470M0605V1XE3
	100	3184	580	0,24	10	250	6,3 x 5,4	ECV1AVZL101M0605V1XE3
	150	2123	580	0,24	15	250	6,3 x 5,4	ECV1AVZL151M0605V1XE3
	220	1448	360	0,24	22	300	6,3 x 7,7	ECV1AVZL221M0607V1XE3
	330	965	170	0,24	33	490	8 x 10,2	ECV1AVZL331M0810V1ΔE3
	470	678	170	0,24	47	490	8 x 10,2	ECV1AVZL471M0810V1ΔE3
	1000	319	100	0,24	100	725	10 x 10,2	ECV1AVZL102M1010V1ΔE3
	1500	213	100	0,24	150	725	10 x 10,2	ECV1AVZL152M1010V1ΔE3
	2200	157	60	0,26	220	1030	12,5 x 16	ECV1AVZL222M1216V1ΔE3
	2400	144	60	0,26	240	1190	12,5 x 13,5	ECV1AVZL242M1213V1ΔE3
	3300	113	54	0,28	330	1620	16 x 16,5	ECV1AVZL332M1616V1ΔE3
	4700	85	54	0,30	470	1620	16 x 16,5	ECV1AVZL472M1616V1ΔE3
	5600	76	54	0,32	560	1620	16 x 16,5	ECV1AVZL562M1616V1ΔE3
	6800	67	38	0,34	680	1780	16 x 21,5	ECV1AVZL682M1621V1ΔE3
		67	48	0,34	680	1730	18 x 16,5	ECV1AVZL682M1816V1ΔE3
	8200	62	38	0,38	820	1945	18 x 21,5	ECV1AVZL822M1821V1ΔE3
16 (18,4) 1C	33	8040	580	0,20	6	250	6,3 x 5,4	ECV1CVZL330M0605V1XE3
	47	5645	580	0,20	8	250	6,3 x 5,4	ECV1CVZL470M0605V1XE3
	100	2654	580	0,20	16	250	6,3 x 5,4	ECV1CVZL101M0605V1XE3
	150	1769	360	0,20	24	300	6,3 x 7,7	ECV1CVZL151M0607V1XE3
	220	1206	360	0,20	36	300	6,3 x 7,7	ECV1CVZL221M0607V1XE3
	330	804	170	0,20	53	490	8 x 10,2	ECV1CVZL331M0810V1ΔE3
	470	565	170	0,20	76	490	8 x 10,2	ECV1CVZL471M0810V1ΔE3
		565	100	0,20	76	725	10 x 10,2	ECV1CVZL471M1010V1ΔE3
	1000	266	100	0,20	160	725	10 x 10,2	ECV1CVZL102M1010V1ΔE3
	1500	177	70	0,20	240	1190	12,5 x 13,5	ECV1CVZL152M1213V1ΔE3
	2200	133	54	0,22	352	1620	16 x 16,5	ECV1CVZL222M1616V1ΔE3
	3300	97	54	0,24	528	1620	16 x 16,5	ECV1CVZL332M1616V1ΔE3
		97	38	0,24	528	1780	16 x 21,5	ECV1CVZL332M1621V1ΔE3
	4700	74	38	0,26	752	1780	16 x 21,5	ECV1CVZL472M1621V1ΔE3
		74	48	0,26	752	1730	18 x 16,5	ECV1CVZL472M1816V1ΔE3
25 (29) 1E	33	6432	580	0,16	9	250	6,3 x 5,4	ECV1EVZL330M0605V1XE3
	47	4516	580	0,16	12	250	6,3 x 5,4	ECV1EVZL470M0605V1XE3
	100	2123	360	0,16	25	300	6,3 x 7,7	ECV1EVZL101M0607V1XE3
	150	1415	170	0,16	38	490	8 x 10,2	ECV1EVZL151M0810V1ΔE3
	220	965	170	0,16	55	490	8 x 10,2	ECV1EVZL221M0810V1ΔE3
	330	644	170	0,16	83	490	8 x 10,2	ECV1EVZL331M0810V1ΔE3
	470	452	100	0,16	118	725	10 x 10,2	ECV1EVZL471M1010V1ΔE3
	1000	213	70	0,16	250	1190	12,5 x 13,5	ECV1EVZL102M1213V1ΔE3
	1500	142	60	0,16	375	1265	12,5 x 16	ECV1EVZL152M1216V1ΔE3
	2200	109	54	0,18	550	1620	16 x 16,5	ECV1EVZL222M1616V1ΔE3
	3300	81	38	0,20	825	1730	16 x 21,5	ECV1EVZL332M1621V1ΔE3
		81	45	0,20	825	1730	18 x 16,5	ECV1EVZL332M1816V1ΔE3
		81	38	0,20	825	1945	18 x 21,5	ECV1EVZL332M1821V1ΔE3
	4700	63	38	0,22	1175	1945	18 x 21,5	ECV1EVZL472M1821V1ΔE3
35 (40) 1V	22	7839	580	0,13	8	250	6,3 x 5,4	ECV1VVZL220M0605V1XE3
	33	5226	580	0,13	12	250	6,3 x 5,4	ECV1VVZL330M0605V1XE3
	47	3670	360	0,13	17	300	6,3 x 7,7	ECV1VVZL470M0607V1XE3
	100	1725	170	0,13	35	490	8 x 10,2	ECV1VVZL101M0810V1ΔE3
	150	1150	170	0,13	53	490	8 x 10,2	ECV1VVZL151M0810V1ΔE3



U _{RDC} Rated Voltage (Surge Voltage) Code	C _R Rated Capacitance 20°C	ESR _{max} Equivalent Series Resistance 20°C 120Hz	Z _{max} Max. Impedance 20°C 100kHz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current 20°C 2min	I _R Rated Ripple Current 105°C 100kHz	Size øD x L (mm)	ORDER CODE Δ = Vibration Type Details: Page 15
35 (40) 1V	220	784	170	0,13	77	650	8 x 10,2	ECV1VVZL221M0810V1ΔE3
		784	100	0,13	77	725	10 x 10,2	ECV1VVZL221M1010V1ΔE3
	330	523	100	0,13	116	725	10 x 10,2	ECV1VVZL331M1010V1ΔE3
		367	90	0,13	165	755	10 x 12,5	ECV1VVZL471M1012V1ΔE3
	470	396	70	0,14	165	1190	12,5 x 13,5	ECV1VVZL471M1213V1ΔE3
	680	274	70	0,14	238	1190	12,5 x 13,5	ECV1VVZL681M1213V1ΔE3
		186	60	0,14	350	1265	12,5 x 16	ECV1VVZL102M1216V1ΔE3
	1000	186	54	0,14	350	1620	16 x 16,5	ECV1VVZL102M1616V1ΔE3
		124	54	0,14	525	1620	16 x 16,5	ECV1VVZL152M1616V1ΔE3
	1500	124	48	0,14	525	1730	18 x 16,5	ECV1VVZL152M1816V1ΔE3
		97	45	0,16	770	1730	18 x 16,5	ECV1VVZL222M1816V1ΔE3
	2200	97	38	0,16	770	1945	18 x 21,5	ECV1VVZL222M1821V1ΔE3
	3300	73	38	0,18	1155	1945	18 x 21,5	ECV1VVZL332M1821V1ΔE3
50 (58) 1H	33	4020	680	0,10	17	200	6,3 x 7,7	ECV1HVZL330M0607V1XE3
	47	2823	680	0,10	24	200	6,3 x 7,7	ECV1HVZL470M0607V1XE3
	68	1951	340	0,10	34	400	8 x 10,2	ECV1HVZL680M0810V1ΔE3
		1327	340	0,10	50	400	8 x 10,2	ECV1HVZL101M0810V1ΔE3
	100	1327	180	0,10	50	600	10 x 10,2	ECV1HVZL101M1010V1ΔE3
		603	150	0,10	110	650	10 x 12,5	ECV1HVZL221M1012V1ΔE3
	220	724	120	0,12	110	700	12,5 x 13,5	ECV1HVZL221M1213V1ΔE3
	330	483	120	0,12	165	975	12,5 x 13,5	ECV1HVZL331M1213V1ΔE3
	390	409	120	0,12	195	975	12,5 x 13,5	ECV1HVZL391M1213V1ΔE3
		339	100	0,12	235	1050	12,5 x 16	ECV1HVZL471M1216V1ΔE3
	470	339	73	0,12	235	1300	16 x 16,5	ECV1HVZL471M1616V1ΔE3
	560	285	73	0,12	280	1300	16 x 16,5	ECV1HVZL561M1616V1ΔE3
	680	235	73	0,12	340	1300	16 x 16,5	ECV1HVZL681M1616V1ΔE3
		160	73	0,12	500	1300	16 x 16,5	ECV1HVZL102M1616V1ΔE3
	1000	160	66	0,12	500	1620	18 x 16,5	ECV1HVZL102M1816V1ΔE3
	1500	107	50	0,12	750	1750	18 x 21,5	ECV1HVZL152M1821V1ΔE3
63 (73) 1J	22	4824	900	0,08	14	162	6,3 x 7,7	ECV1JVZL220M0607V1XE3
	33	3216	500	0,08	21	300	8 x 10,2	ECV1JVZL330M0810V1ΔE3
	47	2258	500	0,08	30	300	8 x 10,2	ECV1JVZL470M0810V1ΔE3
	68	1561	250	0,08	43	490	10 x 10,2	ECV1JVZL680M1010V1ΔE3
	100	1062	250	0,08	63	490	10 x 10,2	ECV1JVZL101M1010V1ΔE3
	220	724	160	0,12	139	865	12,5 x 13,5	ECV1JVZL221M1213V1ΔE3
	330	483	82	0,12	208	1190	16 x 16,5	ECV1JVZL331M1616V1ΔE3
	470	339	82	0,12	297	1190	16 x 16,5	ECV1JVZL471M1616V1ΔE3
	680	235	80	0,12	429	1275	18 x 16,5	ECV1JVZL681M1816V1ΔE3
	1000	160	60	0,12	630	1350	18 x 21,5	ECV1JVZL102M1821V1ΔE3
	1200	133	60	0,12	756	1350	18 x 21,5	ECV1JVZL122M1821V1ΔE3
80 (92) 1K	10	10613	2200	0,08	8	100	6,3 x 7,7	ECV1KVZL100M0607V1XE3
	33	3216	1300	0,08	27	140	8 x 10,2	ECV1KVZL330M0810V1ΔE3
	47	2258	700	0,08	38	220	10 x 10,2	ECV1KVZL470M1010V1ΔE3
	68	1561	700	0,08	55	220	10 x 10,2	ECV1KVZL680M1010V1ΔE3
	100	1062	700	0,08	80	220	10 x 10,2	ECV1KVZL101M1010V1ΔE3
	150	885	320	0,10	120	540	12,5 x 13,5	ECV1KVZL151M1213V1ΔE3
		603	260	0,10	176	596	12,5 x 16	ECV1KVZL221M1216V1ΔE3
	220	603	170	0,10	176	855	16 x 16,5	ECV1KVZL221M1616V1ΔE3
	330	402	170	0,10	264	855	16 x 16,5	ECV1KVZL331M1616V1ΔE3
		283	150	0,10	376	975	16 x 21,5	ECV1KVZL471M1621V1ΔE3
	470	283	150	0,10	376	990	18 x 16,5	ECV1KVZL471M1816V1ΔE3
	680	196	150	0,10	544	1030	18 x 21,5	ECV1KVZL681M1821V1ΔE3
100 (115) 2A	10	10613	2200	0,08	10	100	6,3 x 7,7	ECV2AVZL100M0607V1XE3
	22	4824	1300	0,08	22	140	8 x 10,2	ECV2AVZL220M0810V1ΔE3
	33	3216	700	0,08	33	215	10 x 10,2	ECV2AVZL330M1010V1ΔE3
	47	2258	700	0,08	47	215	10 x 10,2	ECV2AVZL470M1010V1ΔE3
	68	1951	320	0,10	68	540	12,5 x 13,5	ECV2AVZL680M1213V1ΔE3
	100	1327	320	0,10	100	540	12,5 x 13,5	ECV2AVZL101M1213V1ΔE3
		603	170	0,10	220	855	16 x 16,5	ECV2AVZL221M1616V1ΔE3
	220	603	150	0,10	220	990	18 x 16,5	ECV2AVZL221M1816V1ΔE3
		402	150	0,10	330	975	16 x 21,5	ECV2AVZL331M1621V1ΔE3
	330	402	150	0,10	330	990	18 x 16,5	ECV2AVZL331M1816V1ΔE3
	470	283	140	0,10	470	1030	18 x 21,5	ECV2AVZL471M1821V1ΔE3

**2 000h
at 105°C**

- SMT
- Low ESR
- High Vibration (optional)
- Miniaturized

**ITEM CHARACTERISTICS STABILITY AT LOW TEMPERATURE (IMPEDANCE RATIO AT 120HZ)**

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 50
Capacitance Range (μF)	10 ~ 2 200
Capacitance Tolerance (20°C, 120Hz)	± 20%
Dissipation Factor	at 20°C, 120Hz, see table
Leakage Current (μA)	at 20°C after 2 minutes

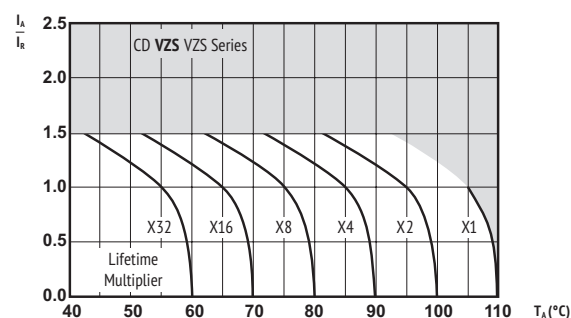
Rated Voltage	6,3	10	16	25	35	50	63	80	100
Z _{-25°C/+20°C}	4	3	2	2	2	2	2	2	2
Z _{-40°C/+20°C}	6	4	3	3	3	3	3	3	3
Z _{-55°C/+20°C}	8	5	4	3	3	3	3	3	3

ITEM	LOAD LIFETIME L ₀	SHELF LIFE	RESISTANCE TO SOLDERING HEAT SMT
Lifetime	2 000h	1 000h	30sec, Hot Plate
Leakage Current	≤ the specified value	≤200% the specified value	≤ the specified value
Capacitance Change	Within ± 30% of initial value	Within ± 30% of initial value	Within ± 10% of initial value
Dissipation Factor	≤ 300% of specified value	≤ 200% of specified value	≤ specified value
Condition	105°C U _R I _R = 0 Before measurement: 16h resuming	105°C U _R = 0 I _R = 0 Before measurement: 16h resuming	250°C Before measurement: Restore to 25°C

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

μF \ Frequency	120Hz	1kHz	10kHz	≥100kHz
10~180	0,40	0,75	0,90	1,00
220~560	0,50	0,85	0,94	1,00
≥680	0,60	0,87	0,95	1,00

Multipliers for typical operating conditions.

ENVIRONMENTALThe products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com**MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)**

I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load



U _{RDC} Rated Voltage (Surge Voltage) Code	C _R Rated Capacitance 20°C	ESR _{max} Equivalent Series Resistance 20°C 120Hz	Z _{max} Max. Impedance 20°C 100kHz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current 20°C 2min	I _R Rated Ripple Current 105°C 100kHz	Size øD x L (mm)	ORDER CODE Δ = Vibration Type Details: Page 15
6,3 (7,3) 0J	330	1046	320	0,26	21	300	6,3 x 6,0	ECV0JVZS331M0606V1XE3
	470	734	240	0,26	30	600	6,3 x 7,7	ECV0JVZS471M0607V1XE3
	560	616	240	0,26	36	600	6,3 x 7,7	ECV0JVZS561M0607V1XE3
	680	508	240	0,26	43	600	6,3 x 7,7	ECV0JVZS681M0607V1XE3
	820	421	240	0,26	52	600	6,3 x 7,7	ECV0JVZS821M0607V1XE3
	1500	230	140	0,26	95	850	8 x 10,2	ECV0JVZS152M0810V1ΔE3
	2200	169	110	0,28	139	1190	10 x 10,2	ECV0JVZS222M1010V1ΔE3
10 (11,5) 1A	220	1146	320	0,19	22	300	6,3 x 6,0	ECV1AVZS221M0606V1XE3
	330	764	240	0,19	33	600	6,3 x 7,7	ECV1AVZS331M0607V1XE3
	470	537	240	0,19	47	600	6,3 x 7,7	ECV1AVZS471M0607V1XE3
	560	451	240	0,19	56	600	6,3 x 7,7	ECV1AVZS561M0607V1XE3
	1000	253	120	0,19	100	850	8 x 10,2	ECV1AVZS102M0810V1ΔE3
	1200	211	120	0,19	120	850	8 x 10,2	ECV1AVZS122M0810V1ΔE3
	1500	169	110	0,19	150	1190	10 x 10,2	ECV1AVZS152M1010V1ΔE3
	2200	127	100	0,21	220	1300	10 x 12,5	ECV1AVZS222M1010V1ΔE3
16 (18,4) 1C	220	965	320	0,16	36	300	6,3 x 6,0	ECV1CVZS221M0606V1XE3
	330	644	240	0,16	53	600	6,3 x 7,7	ECV1CVZS331M0607V1XE3
	470	452	240	0,16	76	600	6,3 x 7,7	ECV1CVZS471M0607V1XE3
	560	380	240	0,16	90	600	6,3 x 7,7	ECV1CVZS561M0607V1XE3
	680	313	140	0,16	109	850	8 x 10,2	ECV1CVZS681M0810V1ΔE3
	820	259	140	0,16	132	850	8 x 10,2	ECV1CVZS821M0810V1ΔE3
	1000	213	110	0,16	160	1190	10 x 10,2	ECV1CVZS102M1010V1ΔE3
	1500	142	110	0,16	240	1190	10 x 10,2	ECV1CVZS152M1010V1ΔE3
25 (29) 1E	100	1858	320	0,14	25	300	6,3 x 6,0	ECV1EVZS101M0606V1XE3
	150	1239	320	0,14	38	300	6,3 x 6,0	ECV1EVZS151M0606V1XE3
	220	845	240	0,14	55	600	6,3 x 7,7	ECV1EVZS221M0607V1XE3
	330	563	240	0,14	83	600	6,3 x 7,7	ECV1EVZS331M0607V1XE3
	470	396	140	0,14	118	850	8 x 10,2	ECV1EVZS471M0810V1ΔE3
	560	332	140	0,14	140	850	8 x 10,2	ECV1EVZS561M0810V1ΔE3
	820	227	110	0,14	205	1190	10 x 10,2	ECV1EVZS821M1010V1ΔE3
	1000	186	110	0,14	250	1190	10 x 10,2	ECV1EVZS102M1010V1ΔE3
35 (40) 1V	68	2341	320	0,12	24	300	6,3 x 6,0	ECV1VVZS680M0606V1XE3
	100	1592	320	0,12	35	300	6,3 x 6,0	ECV1VVZS101M0606V1XE3
	150	1062	320	0,12	53	600	6,3 x 7,7	ECV1VVZS151M0607V1XE3
	220	724	320	0,12	77	600	6,3 x 7,7	ECV1VVZS221M0607V1XE3
	330	483	140	0,12	116	850	8 x 10,2	ECV1VVZS331M0810V1ΔE3
	470	339	120	0,12	165	850	8 x 10,2	ECV1VVZS471M0810V1ΔE3
	560	285	110	0,12	196	1190	10 x 10,2	ECV1VVZS561M1010V1ΔE3
	680	235	110	0,12	238	1190	10 x 10,2	ECV1VVZS681M1010V1ΔE3
50 (58) 1H	47	2823	720	0,10	24	195	6,3 x 6,0	ECV1HVZS470M0606V1XE3
	68	1951	720	0,10	34	195	6,3 x 6,0	ECV1HVZS680M0606V1XE3
	100	1327	720	0,10	50	350	6,3 x 7,7	ECV1HVZS101M0607V1XE3
	220	603	240	0,10	110	670	8 x 10,2	ECV1HVZS221M0810V1ΔE3
	330	402	150	0,10	165	900	10 x 10,2	ECV1HVZS331M1010V1ΔE3
63 (73) 1J	22	4824	890	0,08	14	85	6,3 x 7,7	ECV1JVZS220M0607V1XE3
	33	3216	890	0,08	21	145	6,3 x 7,7	ECV1JVZS330M0607V1XE3
	47	2258	470	0,08	30	300	8 x 10,2	ECV1JVZS470M0810V1ΔE3
	68	1561	470	0,08	43	300	8 x 10,2	ECV1JVZS680M0810V1ΔE3
	100	1062	470	0,08	63	300	8 x 10,2	ECV1JVZS101M0810V1ΔE3
	150	708	320	0,08	95	430	10 x 10,2	ECV1JVZS151M1010V1ΔE3
80 (92) 1K	47	2258	700	0,08	38	150	8 x 10,2	ECV1KVZS470M0810V1ΔE3
	68	1561	470	0,08	55	215	10 x 10,2	ECV1KVZS680M1010V1ΔE3

 CD VUL:

- LARGE DIMENSION
- 5 000h
- 105°C
- 6,3 ~ 100V

 CD VZR:

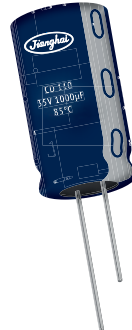
- LARGE DIMENSION
- 10 000h
- 105°C
- 6,3 ~ 63V

 CD VKE:

- LARGE DIMENSION
- 5 000h
- 125°C
- 10 ~ 100V

PLEASE CONTACT:

Jianghai Europe
Electronic Components GmbH
Phone: 00 49 (0) 21 51 65 20 88-0
Email: info@jianghai-europe.com



ELECTROLYTIC CAPACITORS

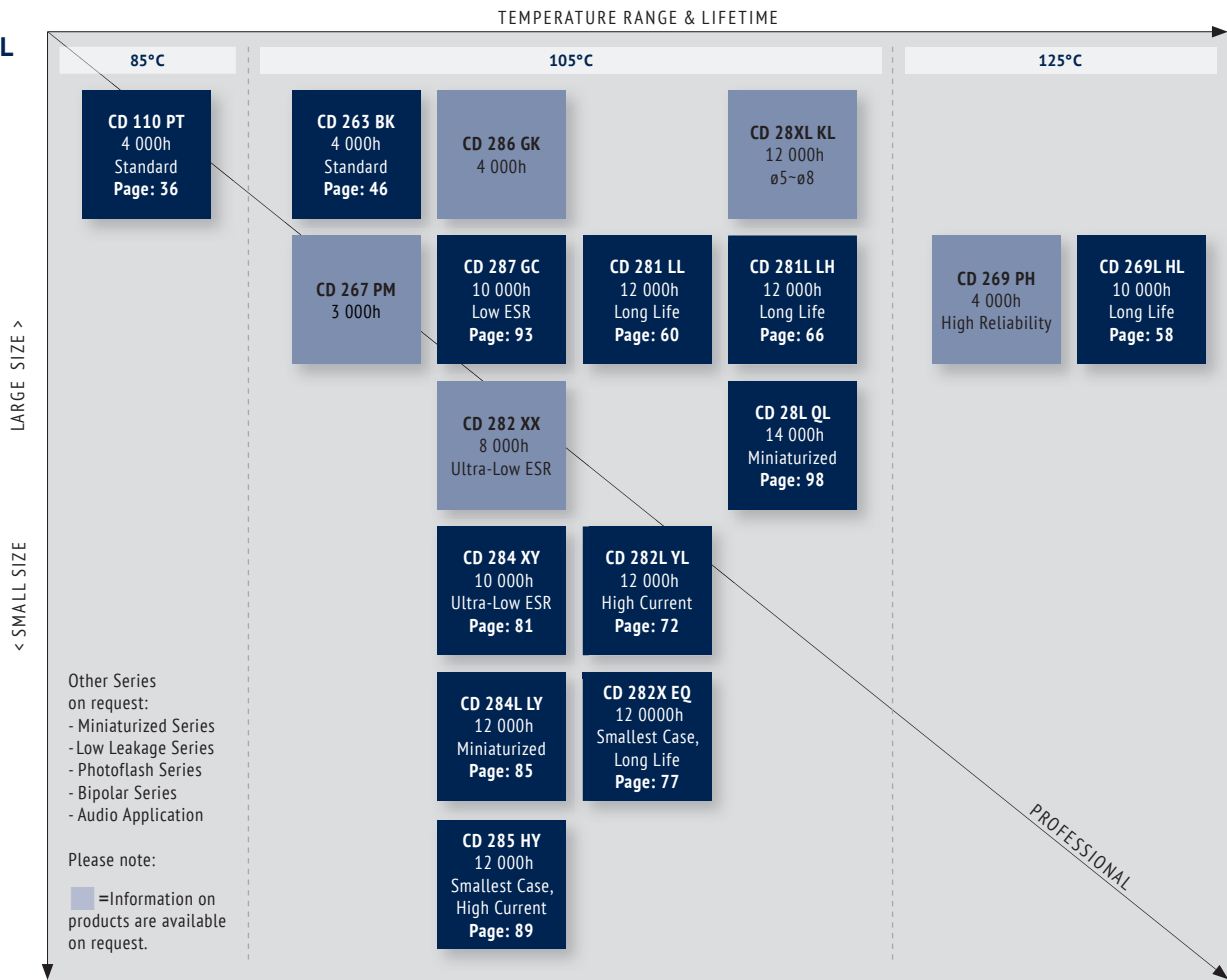
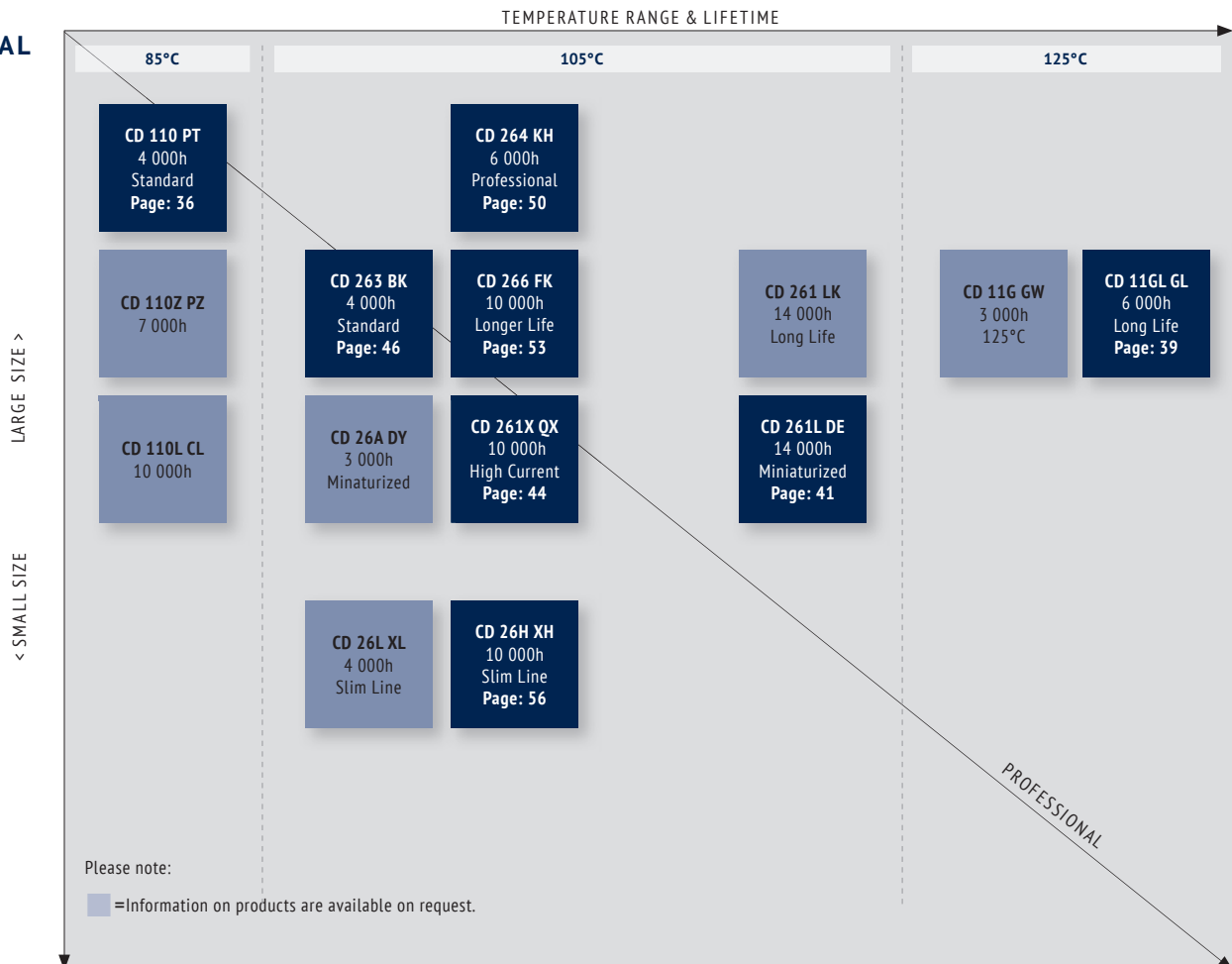
Radial Type

OVERVIEW RADIAL

31

Portfolio: All Radial Type at a glance	32
Order Code	33
Technical Specifications	34

SERIES RADIAL	CODE	TYPE	TEMPERATURE	VOLTAGE	LIFETIME	INFO	
CD 110	PT	Radial	85°C	6,3-500V	4 000h	Standard	36
CD 11GL	GL	Radial	125°C	160-450V	6 000h	High Temperature, High Voltage	39
CD 261L	DE	Radial	105°C	160-450V	14 000h	Miniaturized, Longest Life	41
CD 261X	QX	Radial	105°C	160-550V	12 000h	High Voltage, Highest Currents	44
CD 263	BK	Radial	105°C	6,3-500V	3 000h	Standard	46
CD 264	KH	Radial	105°C	160-500V	6 000h	Oversize Dimension	50
CD 266	FK	Radial	105°C	160-500V	10 000h	Oversize Dimension, Longer Life	53
CD 26H	XH	Radial	105°C	200-500V	10 000h	Slim line	56
CD 269L	HL	Radial	125°C	10-100V	10 000h	High Temperature, Long Life	58
CD 281	LL	Radial	105°C	6,3-100V	12 000h	Low ESR, Long Life	60
CD 281L	LH	Radial	105°C	6,3-100V	12 000h	Low ESR, Long Life	66
CD 282L	YL	Radial	105°C	6,3-100V	12 000h	High Current, Ultra Low ESR	72
CD 282X	EQ	Radial	105°C	6,3-100V	12 000h	High Current, Miniaturized	77
CD 284	XY	Radial	105°C	6,3-100V	10 000h	High Current, Ultra Low ESR	81
CD 284L	LY	Radial	105°C	6,3-100V	12 000h	Miniaturized	85
CD 285	HY	Radial	105°C	6,3-100V	12 000h	Highest Current	89
CD 287	GC	Radial	105°C	6,3-100V	10 000h	Low ESR	93
CD 28L	QL	Radial	105°C	6,3-63V	14 000h	Low ESR, Miniaturized, Longest Life	98

**RADIAL
6,3V
~
100V****RADIAL
160V
~
550V**

ORDER CODE FOR RADIAL CAPACITORS

EC	R	2G	QX	221	M	LL	50	1012	-	-	JExxxxx
Techno-logy	Terminal Type	Rated Voltage Code	Series Code	Capacitance Code	Capacitance Tolerance	Terminal Style	Terminal / Pitch	Dimension (mm)	Material Code	Rubber Type	for Specials only
EC Electrolytic Capacitor	Radial R	6,3V 0J	CD 110 PT	0,1 0R1	±20% M	Taped FF	2,0mm 20	4x7 0407	Standard -	Standard -	
		10V 1A	CD 11GL GL	0,47 R47	±10% K	Long Lead LL	2,5mm 25	5x11,5 0511	PVC V	Flat Rubber F	
		16V 1C	CD 261L DE	1,0 010	+30 / -10% Q	Cut 5,0mm CB	3,5mm 35	10x20 1020	PET E	Stand-Off S	
		20V 1D	CD 261X QX	2,2 2R2	+20 / -0% R	Cut 4,5mm CC	5,0mm 50	12,5x25 1225			
		25V 1E	CD 263 BK	100 101	±15% L	Cut 4,0mm CD	7,5mm 75				
		35V 1V	CD 264 KH	1 000 102	+20 / -10% V	Cut 3,5mm CE	10,0mm 10				
		40V 1G	CD 266 FK	10 000 103	 = preferred	Cut 3,0mm CF	12,5mm 12				
		50V 1H	CD 26H XH								
		63V 1J	CD 269L HL								
		80V 1K	CD 281 LL								
		100V 2A	CD 281L LH								
		125V 2B	CD 282L YL								
		160V 2C	CD 282X EQ								
		180V 2K	CD 284 XY								
		200V 2D	CD 284L LY								
		250V 2E	CD 285 HY								
		350V 2V	CD 287 GC								
		385V 2J	CD 28L QL								
		400V 2G									
		415V 2P									
		420V 2X									
		450V 2W									
		500V 2H									
		550V 2Y									
		575V 2Z									
		600V 2S									
		630V J2									

On request:

Alternative lead forms
(keyed polarity, 90° bended, others)

Packaging:

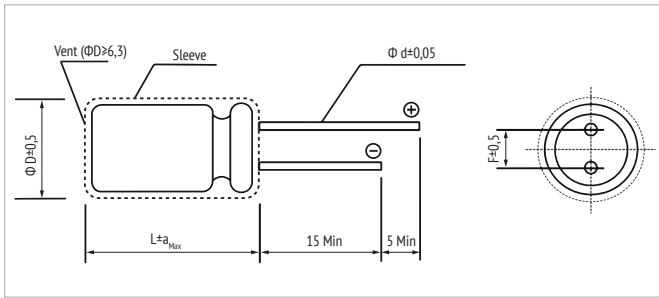
Taped: ammopack

Long lead & cut: bulk



DIMENSIONS FOR LOOSE, LONG-LEAD TYPE (BULK)

· ORDER CODE: LL



L	L ≤ 7					L ≥ 11									
Ø D	3	4	5	6,3	8	5	6,3	8	10	12,5	16	18	20	22	25
F	1,0	1,5	2,0	2,5	3,5	2,0	2,5	3,5	5,0		7,5		10,0	12,5	
Ø d	0,4		0,45			0,5		0,6		0,8			1,0		
a _{Max}		1,0				1,5		2,0		2,5					

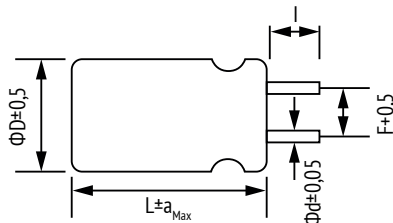
For diameter 20 pitch 7,5 or 10.

in mm

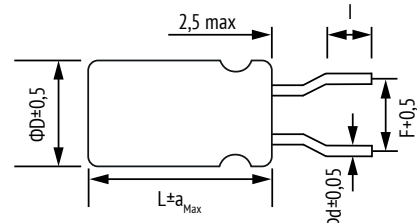
DIMENSIONS FOR LOOSE, SHORT CUT LEADS (BULK)

· ORDER CODE: CC (CB, CD, CE, CF)

STRAIGHT LEAD



BENDED LEAD



Code	CB	CC	CD	CE	CF
I	5,0 ± 0,5	4,5 ± 0,5	4,0 ± 0,5	3,5 ± 0,5	3,0 ± 0,5

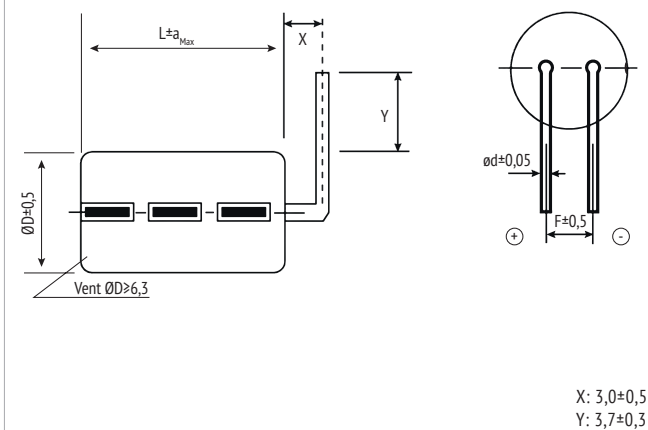
■ = preferred

in mm

EXAMPLE OF ALTERNATIVE BENDINGS

· ORDER CODE: WS

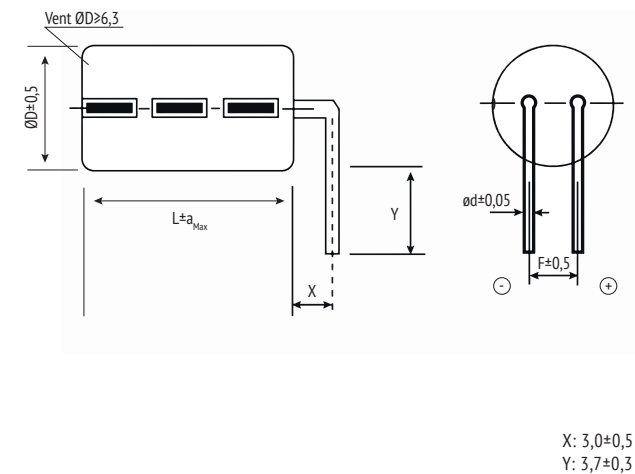
90° LEADS UP
Diameter ≥ 10mm



X: 3,0±0,5
Y: 3,7±0,3

· ORDER CODE: WX

90° LEADS DOWN
Diameter ≥ 10mm



X: 3,0±0,5
Y: 3,7±0,3

DIMENSIONS FOR AMMOPACK TAPING FOR ELECTROLYTIC CAPACITORS

· ORDER CODE: FF (FD)

Fig 1

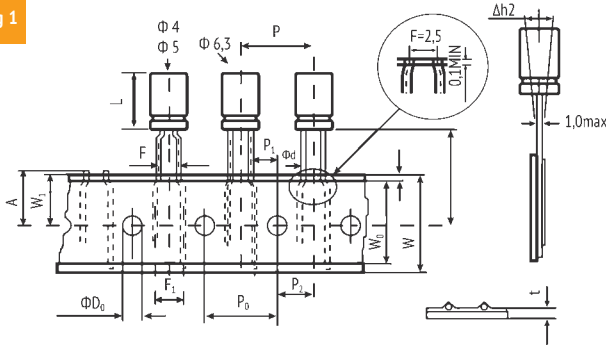


Fig 2

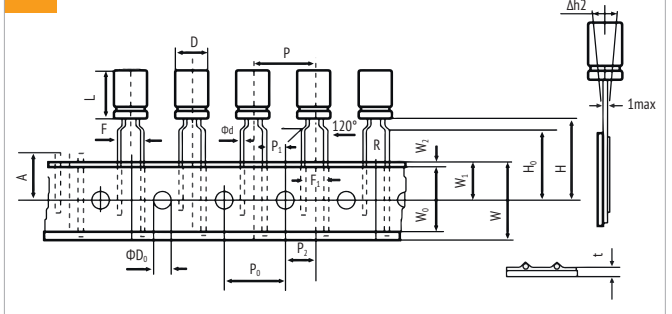


Fig 3a

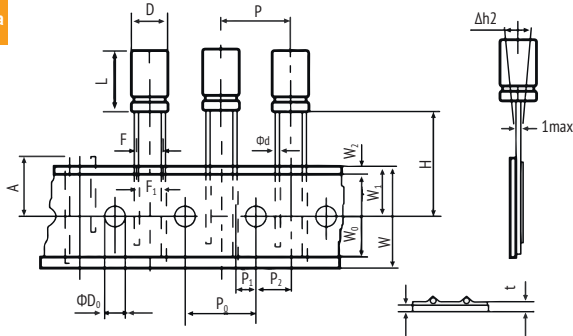


Fig 3b

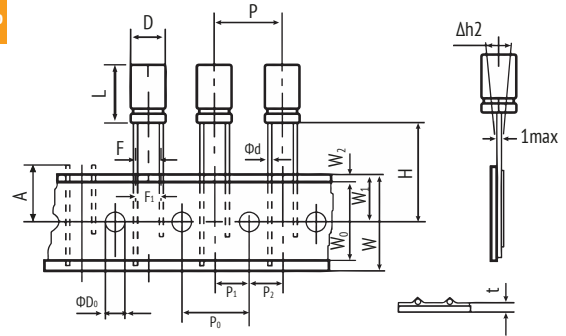
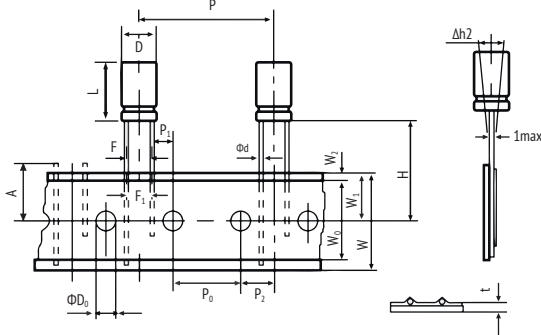


Fig 4



OTHER TAPING STYLES AVAILABLE ON REQUEST.

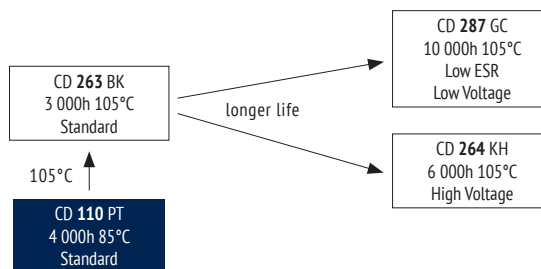
ITEM	D	L	Ød	P	P ₀	P ₁	P ₂	F	F ₁	W	W ₀	W ₁	W ₂	H	H ₀	A	ØD ₀	Δh ₂	t	Fig.	Taping Code
Tol.	± 0,5		± 0,05	± 1,0	± 0,2	± 0,5	± 1,0	+ 0,8 - 0,2	± 1,0	± 0,5	min	± 0,5	max	+ 0,75 - 0,5	± 0,5	max	± 0,5	max	± 0,2		
Nominal	4	7 ±1	0,45	12,7	12,7	5,1 3,85	6,35	2,5 5	3,5 5	18,0	10,0	9,0	1,5	18,5 17,5	- 16,0	11,0	4,0	1,0	0,7	1	FF
																				2	FF
	5	7 ±1	0,45	12,7	12,7	5,1 3,85	6,35	2,5 5	3,5 5	18,0	10,0	9,0	1,5	18,5 17,5	- 16,0	11,0	4,0	1,0	0,7	1	FF
																				2	FF
		11,5-15 ±1,5	0,5	12,7	12,7	5,1 3,85	6,35	2,5 5	3,5 5	18,0	10,0	9,0	1,5	18,5 16,0	- 16,0	11,0	4,0	1,0	0,7	1	FF
																				2	FF
	6,3	7 ±1	0,45	12,7	12,7	5,1 3,85	6,35	2,5 5	3,5 5	18,0	10,0	9,0	1,5	18,5 17,5	- 16,0	11,0	4,0	1,0	0,7	1	FF
																				2	FF
		11,5-15 ±1,5	0,5	12,7	12,7	5,1 3,85	6,35	2,5 5	3,5 5	18,0	10,0	9,0	1,5	18,5 16,0	- 16,0	11,0	4,0	1,0	0,7	1	FF
																				2	FF
	8	11,5-20 ±1,5	0,6	12,7	12,7	4,6 3,85	6,35	3,5 5	3,5 5	18,0	10,0	9,0	1,5	18,5 20,0	- 16,0	11,0	4,0	1,0	0,7	3a	FF
																				2	FF
	10	12,5-36 ±2	0,6	12,7	12,7	3,85	6,35	5	5	18,0	10,0	9,0	1,5	18,5	-	11,0	4,0	1,0	0,7	3b	FF
	12,5	15-36 ±2	0,6	15 25,4	15 12,7	5,0 3,85	7,5 6,35	5	5	18,0	12,0	9,0	1,5	18,5	-	11,0	4,0	1,0	0,7	3b 4	FF FD
	16	15-31,5 ±2	0,8	30	15	3,75	7,5	7,5	7,5	18,0	12,0	9,0	1,5	18,5	-	11,0	4,0	1,0	0,7	4	FD
	18	15-25,5 ±2	0,8	30	15	3,75	7,5	7,5	7,5	18,0	12,0	9,0	1,5	18,5	-	11,0	4,0	1,0	0,7	4	FD

Other taping styles available on request

in mm

3 000-4 000h at 85°C

· Standard 85°C



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85	-25 ~ +85
Voltage Range (V)	6,3 ~ 250	350 ~ 500
Capacitance Range (μF)	0,1 ~ 22 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	Rated Voltage (V)	6,3 ~ 100	160 ~ 500
	$I_{Leakage}$	After 1 minute at 20°C application of rated voltage, leakage current is not more than specified in table.	After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3	10	16	25	35	50	63	100	160	200	250	350	400	450	500
	$Z_{-25°C} / Z_{+20°C}$	4	3		2					3			6			
	$Z_{-40°C} / Z_{+20°C}$	8	6	4		3				8			-			

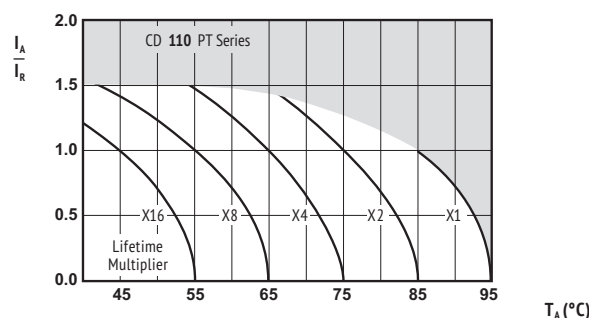
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	$\emptyset \leq 8 : 3\,000h$ $\emptyset \geq 10 : 4\,000h$	$\emptyset \leq 8 : 35\,000h$ $\emptyset \geq 10 : 50\,000h$	2 000h	2 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 50% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 150% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Rated Voltage (V)	Frequency CV (μFV)	50Hz	120Hz	1kHz	10kHz	100kHz
6,3 ~ 16	-	0,80	1,00	1,10	1,20	1,20
25 ~ 35	≤ 1 000	0,80	1,00	1,50	1,70	1,70
	> 1 000	0,80	1,00	1,20	1,30	1,30
50 ~ 100	≤ 1 000	0,80	1,00	1,60	1,90	1,90
	> 1 000	0,80	1,00	1,20	1,30	1,30
160 ~ 500	-	0,80	1,00	1,30	1,50	1,60

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)		(μA)	(mA Arms)	(mm)	
6,3 (7,2) 0J	33	8,9	0,22	3	60	5 x 11,5	ECR0JPT330M◇◇△△0511
	47	6,3	0,22	3	70	5 x 11,5	ECR0JPT470M◇◇△△0511
	100	3,0	0,22	7	100	5 x 11,5	ECR0JPT101M◇◇△△0511
	220	1,4	0,22	14	200	5 x 11,5	ECR0JPT221M◇◇△△0511
	330	0,88	0,22	21	270	6,3 x 11,5	ECR0JPT331M◇◇△△0611
	470	0,62	0,22	30	322	6,3 x 11,5	ECR0JPT471M◇◇△△0611
		0,62	0,22	30	300	8 x 11,5	ECR0JPT471M◇◇△△0811
	1 000	0,29	0,22	63	546	8 x 11,5	ECR0JPT102M◇◇△△0811
		0,29	0,22	63	530	10 x 12,5	ECR0JPT102M◇◇△△1012
	2 200	0,14	0,24	139	1010	10 x 20	ECR0JPT222M◇◇△△1020
	3 300	0,10	0,26	208	1230	10 x 20	ECR0JPT332M◇◇△△1020
	4 700	0,080	0,28	297	1710	12,5 x 20	ECR0JPT472M◇◇△△1220
		0,080	0,28	297	1700	16 x 25	ECR0JPT472M◇◇△△1625
	6 800	0,063	0,32	429	1930	12,5 x 25	ECR0JPT682M◇◇△△1225
		0,063	0,32	429	1900	16 x 25	ECR0JPT682M◇◇△△1625
	10 000	0,054	0,40	630	2450	16 x 25	ECR0JPT103M◇◇△△1625
	15 000	0,045	0,50	945	2860	16 x 35,5	ECR0JPT153M◇◇△△1635
		0,045	0,50	945	2900	18 x 35,5	ECR0JPT153M◇◇△△1835
	22 000	0,040	0,64	1386	3340	18 x 40	ECR0JPT223M◇◇△△1840

10 (13) 1A	33	7,7	0,19	4	65	5 x 11,5	ECR1APT330M◇◇△△0511
	47	5,4	0,19	5	99	5 x 11,5	ECR1APT470M◇◇△△0511
	100	2,6	0,19	10	146	5 x 11,5	ECR1APT101M◇◇△△0511
	220	1,2	0,19	22	240	6,3 x 11,5	ECR1APT221M◇◇△△0611
	330	0,77	0,19	33	290	6,3 x 11,5	ECR1APT331M◇◇△△0611
	330	0,77	0,19	33	270	8 x 11,5	ECR1APT331M◇◇△△0811
	470	0,54	0,19	47	417	8 x 11,5	ECR1APT471M◇◇△△0811
	1 000	0,25	0,19	100	650	10 x 12,5	ECR1APT102M◇◇△△1012
	2 200	0,13	0,21	220	1080	10 x 20	ECR1APT222M◇◇△△1020
	3 300	0,10	0,23	330	1430	12,5 x 20	ECR1APT332M◇◇△△1220
	4 700	0,071	0,25	470	1780	12,5 x 25	ECR1APT472M◇◇△△1225
		0,071	0,25	470	1800	16 x 25	ECR1APT472M◇◇△△1625
	6 800	0,060	0,29	680	2220	16 x 25	ECR1APT682M◇◇△△1625
	10 000	0,050	0,37	1000	2700	16 x 35,5	ECR1APT103M◇◇△△1635
		0,050	0,37	1000	2750	18 x 35,5	ECR1APT103M◇◇△△1835
	15 000	0,042	0,47	1500	3100	18 x 35,5	ECR1APT153M◇◇△△1835

16 (20) 1C	10	21,2	0,16	3	50	5 x 11,5	ECR1CPT100M◇◇△△0511
	22	9,7	0,16	4	75	5 x 11,5	ECR1CPT220M◇◇△△0511
	33	6,5	0,16	6	92	5 x 11,5	ECR1CPT330M◇◇△△0511
	47	4,6	0,16	8	110	5 x 11,5	ECR1CPT470M◇◇△△0511
	100	2,2	0,16	16	160	5 x 11,5	ECR1CPT101M◇◇△△0511
	220	0,97	0,16	36	264	6,3 x 11,5	ECR1CPT221M◇◇△△0611
		0,97	0,16	36	240	8 x 11,5	ECR1CPT221M◇◇△△0811
	330	0,64	0,16	53	383	8 x 11,5	ECR1CPT331M◇◇△△0811
	470	0,45	0,16	76	457	8 x 11,5	ECR1CPT471M◇◇△△0811
	470	0,46	0,16	76	420	10 x 12,5	ECR1CPT471M◇◇△△1012
	1 000	0,21	0,16	160	791	10 x 16	ECR1CPT102M◇◇△△1016
	2 200	0,11	0,18	352	1350	12,5 x 20	ECR1CPT222M◇◇△△1220
	3 300	0,081	0,20	528	1690	12,5 x 25	ECR1CPT332M◇◇△△1225
		0,081	0,20	528	1650	16 x 25	ECR1CPT332M◇◇△△1625
	4 700	0,063	0,22	752	2100	16 x 25	ECR1CPT472M◇◇△△1625
	6 800	0,051	0,26	1088	2580	16 x 35,5	ECR1CPT682M◇◇△△1635
		0,051	0,26	1088	2600	18 x 35,5	ECR1CPT682M◇◇△△1835
	10 000	0,050	0,34	1600	3130	18 x 35,5	ECR1CPT103M◇◇△△1835

25 (32) 1E	4,7	39,5	0,14	3	38	5 x 11,5	ECR1EPT4R7M◇◇△△0511
	10	18,6	0,14	3	55	5 x 11,5	ECR1EPT100M◇◇△△0511
	22	8,5	0,14	6	82	5 x 11,5	ECR1EPT220M◇◇△△0511
	33	5,7	0,14	9	100	5 x 11,5	ECR1EPT330M◇◇△△0511
	47	4,0	0,14	12	118	5 x 11,5	ECR1EPT470M◇◇△△0511
	100	1,9	0,14	25	199	6,3 x 11,5	ECR1EPT101M◇◇△△0611
	220	0,84	0,14	55	349	8 x 11,5	ECR1EPT221M◇◇△△0811
	330	0,56	0,14	83	510	10 x 12,5	ECR1EPT331M◇◇△△1012
	470	0,40	0,14	118	545	10 x 12,5	ECR1EPT471M◇◇△△1012
	1 000	0,19	0,14	250	996	10 x 20	ECR1EPT102M◇◇△△1020
	2 200	0,10	0,16	550	1660	12,5 x 25	ECR1EPT222M◇◇△△1225
		0,10	0,16	550	1500	16 x 25	ECR1EPT222M◇◇△△1625

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)		(μA)	(mA Arms)	(mm)	
25 (32) 1E	3 300	0,070	0,18	825	2030	16 x 25	ECR1EPT332M◇◇△△1625
	4 700	0,060	0,20	1175	2650	16 x 31,5	ECR1EPT472M◇◇△△1631
	6 800	0,050	0,24	1700	3290	18 x 35,5	ECR1EPT682M◇◇△△1835

35 (44) 1V	4,7	33,9	0,12	3	40	5 x 11,5	ECR1VPT4R7M◇◇△△0511
	10	15,9	0,12	4	59	5 x 11,5	ECR1VPT100M◇◇△△0511
	22	7,3	0,12	8	87	5 x 11,5	ECR1VPT220M◇◇△△0511
	33	4,9	0,12	12	107	5 x 11,5	ECR1VPT330M◇◇△△0511
	47	3,4	0,12	17	130	5 x 11,5	ECR1VPT470M◇◇△△0511
	100	1,6	0,12	35	214	6,3 x 11,5	ECR1VPT101M◇◇△△06011
		1,6	0,12	35	190	8 x 11,5	ECR1VPT101M◇◇△△0811
	220	0,72	0,12	77	443	8 x 11,5	ECR1VPT221M◇◇△△0811
		0,72	0,12	77	440	10 x 12,5	ECR1VPT221M◇◇△△1012
	330	0,48	0,12	116	542	10 x 12,5	ECR1VPT331M◇◇△△1012
	470	0,34	0,12	165	664	10 x 16	ECR1VPT471M◇◇△△1016
	1 000	0,16	0,12	350	1210	12,5 x 20	ECR1VPT102M◇◇△△1220
	2 200	0,080	0,14	770	1950	16 x 25	ECR1VPT222M◇◇△△1625
	3 300	0,060	0,16	1155	2510	16 x 35,5	ECR1VPT332M◇◇△△1635
	4 700	0,050	0,18	1645	2990	18 x 35,5	ECR1VPT472M◇◇△△1835

50 (63) 1H	0,10	1327	0,10	3	3	5 x 11,5	ECR1HPT0R1M◇◇△△0511
	0,22	603	0,10	3	6	5 x 11,5	ECR1HPTR22M◇◇△△0511
	0,33	402	0,10	3	9	5 x 11,5	ECR1HPTR33M◇◇△△0511
	0,47	282	0,10	3	13	5 x 11,5	ECR1HPTR47M◇◇△△0511
	1,0	133	0,10	3	21	5 x 11,5	ECR1HPT010M◇◇△△0511
	2,2	60,3	0,10	3	31	5 x 11,5	ECR1HPT2R2M◇◇△△0511
	3,3	40,2	0,10	3	38	5 x 11,5	ECR1HPT3R3M◇◇△△0511
	4,7	28,2	0,10	3	45	5 x 11,5	ECR1HPT4R7M◇◇△△0511
	10	13,3	0,10	5	66	5 x 11,5	ECR1HPT100M◇◇△△0511
	22	6,1	0,10	11	98	5 x 11,5	ECR1HPT220M◇◇△△0511
	33	4,1	0,10	17	126	5 x 11,5	ECR1HPT330M◇◇△△0511
	47	2,9	0,10	24	155	6,3 x 11,5	ECR1HPT470M◇◇△△0611
	100	1,4	0,10	50	260	8 x 11,5	ECR1HPT101M◇◇△△0811
	220	0,60	0,10	110	443	10 x 12,5	ECR1HPT221M◇◇△△1012
	330	0,40	0,10	165	595	10 x 16	ECR1HPT331M◇◇△△1016
	470	0,28	0,10	235	887	12,5 x 20	ECR1HPT471M◇◇△△1220
	1 000	0,13	0,10	500	1400	16 x 25	ECR1HPT102M◇◇△△1625
	2 200	0,070	0,12	1100	2340	16 x 35,5	ECR1HPT222M◇◇△△1635
	3 300	0,060	0,14	1650	2810	18 x 35,5	ECR1HPT332M◇◇△△1835

63 (79) 1J	4,7	25,4	0,09	3	45	5 x 11,5	ECR1JPT4R7M◇◇△△0511
	10	11,9	0,09	7	66	5 x 11,5	ECR1JPT100M◇◇△△0511
	22	5,5	0,09	14	100	5 x 11,5	ECR1JPT220M◇◇△△0511
	33	3,7	0,09	21	140	6,3 x 11,5	ECR1JPT330M◇◇△△0611
	47	2,6	0,09	30	170	6,3 x 11,5	ECR1JPT470M◇◇△△0611
		2,6	0,09	30	150	8 x 11,5	ECR1JPT470M◇◇△△0811
	100	1,2	0,09	63	300	10 x 12,5	ECR1JPT101M◇◇△△1012
	220	0,54	0,09	139	470	10 x 16	ECR1JPT221M◇◇△△1016
	330	0,36	0,09	208	710	10 x 20	ECR1JPT331M◇◇△△1020
	470	0,25	0,09	297	900	12,5 x 20	ECR1JPT471M◇◇△△1220
		0,12	0,09	630	1300	16 x 25	ECR1JPT102M◇◇△△1625
	1 000	0,12	0,09	630	1550	16 x 31,5	ECR1JPT102M◇◇△△1631

100 (125) 2A	0,10	1 062	0,08	3	2,1	5 x 11,5	ECR2APT0R1M◇◇△△0511
	0,22	483	0,08	3	4,7	5 x 11,5	ECR2APTR22M◇◇△△0511
	0,33	322	0,08	3	7	5 x 11,5	ECR2APTR33M◇◇△△0511
	0,47	226	0,08	3	10	5 x 11,5	ECR2APTR47M◇◇△△0511
	1,0	106	0,08	3	21	5 x 11,5	ECR2APT010M◇◇△△0511
	2,2	48,3	0,08	3	30	5 x 11,5	ECR2APT2R2M◇◇△△0511
	3,3	32,2	0,08	4	40	5 x 11,5	ECR2APT3R3M◇◇△△0511
	4,7	22,6	0,08	5	45	5 x 11,5	ECR2APT4R7M◇◇△△0511
	10	10,6	0,08	10	75	6,3 x 11,5	ECR2APT100M◇◇△△0611
	22	4,83	0,08	22	130	6,3 x 11,5	ECR2APT220M◇◇△△0611
		4,83	0,08	22	110	8 x 11,5	ECR2APT220M◇◇△△0811
	33	3,22	0,08	33	180	8 x 11,5	ECR2APT330M◇◇△△0811
		3,22	0,08	33	160	10 x 12,5	ECR2APT330M◇◇△△1012
	47	2,26	0,08	47	230	10 x 12,5	ECR2APT470M◇◇△△1012



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)		(μA)	(mA _{RMS})	(mm)	
100 (125) 2A	100	1,06	0,08	100	370	10 x 20	ECR2APT101M◇◇△△1020
		1,06	0,08	100	380	12,5 x 20	ECR2APT101M◇◇△△1220
	220	0,48	0,08	220	620	12,5 x 25	ECR2APT221M◇◇△△1225
		0,48	0,08	220	720	16 x 25	ECR2APT221M◇◇△△1625
	330	0,32	0,08	330	760	16 x 25	ECR2APT331M◇◇△△1625
		0,23	0,08	470	1000	16 x 25	ECR2APT471M◇◇△△1625
	470	0,23	0,08	470	1150	16 x 31,5	ECR2APT471M◇◇△△1631
		0,11	0,08	1000	1380	18 x 40	ECR2APT102M◇◇△△1840
	1 000	0,11	0,08	1000	1380	18 x 40	

160 (200) 2C	0,47	339	0,12	13	15	6,3 x 11,5	ECR2CPT47M◇◇△△0611
	1,0	159	0,12	15	22	6,3 x 11,5	ECR2CPT010M◇◇△△0611
	2,2	72,4	0,12	21	32	6,3 x 11,5	ECR2CPT2R2M◇◇△△0611
	3,3	48,3	0,12	26	40	6,3 x 11,5	ECR2CPT3R3M◇◇△△0611
		48,3	0,12	26	35	8 x 11,5	ECR2CPT3R3M◇◇△△0811
	4,7	33,9	0,12	33	48	6,3 x 11,5	ECR2CPT4R7M◇◇△△0611
		33,9	0,12	33	40	8 x 11,5	ECR2CPT4R7M◇◇△△0811
	10	15,9	0,12	58	81	8 x 11,5	ECR2CPT100M◇◇△△0811
		15,9	0,12	58	70	10 x 12,5	ECR2CPT100M◇◇△△1012
	22	7,24	0,12	116	151	10 x 16	ECR2CPT220M◇◇△△1016
	33	4,83	0,12	169	202	10 x 20	ECR2CPT330M◇◇△△1020
	47	3,39	0,12	236	266	12,5 x 20	ECR2CPT470M◇◇△△1220
	100	1,59	0,12	490	422	12,5 x 25	ECR2CPT101M◇◇△△1225
		1,59	0,12	490	400	16 x 25	ECR2CPT101M◇◇△△1625
	220	0,72	0,12	1066	783	16 x 31,5	ECR2CPT221M◇◇△△1631
	330	0,48	0,12	1594	1080	18 x 31,5	ECR2CPT331M◇◇△△1831

200 (250) 2D	0,47	339	0,12	13	15	6,3 x 11,5	ECR2DPT47M◇◇△△0611
	1,0	159	0,12	16	22	6,3 x 11,5	ECR2DPT010M◇◇△△0611
	2,2	72,4	0,12	24	32	6,3 x 11,5	ECR2DPT2R2M◇◇△△0611
	3,3	48,3	0,12	30	40	6,3 x 11,5	ECR2DPT3R3M◇◇△△0611
		48,3	0,12	30	35	8 x 11,5	ECR2DPT3R3M◇◇△△0811
	4,7	33,9	0,12	39	56	8 x 11,5	ECR2DPT4R7M◇◇△△0811
		33,9	0,12	39	50	10 x 12,5	ECR2DPT4R7M◇◇△△1012
	10	15,9	0,12	70	94	8 x 11,5	ECR2DPT100M◇◇△△0811
		15,9	0,12	70	94	10 x 12,5	ECR2DPT100M◇◇△△1012
	22	7,24	0,12	142	170	10 x 20	ECR2DPT220M◇◇△△1020
	33	4,83	0,12	208	223	12,5 x 20	ECR2DPT330M◇◇△△1220
	47	3,39	0,12	292	265	12,5 x 20	ECR2DPT470M◇◇△△1220
	100	1,59	0,12	610	483	16 x 25,5	ECR2DPT101M◇◇△△1625
	220	0,72	0,12	1330	882	18 x 36	ECR2DPT221M◇◇△△1836

250 (300) 2E	0,47	423	0,15	14	15	6,3 x 11,5	ECR2EPT47M◇◇△△0611
	1,0	199	0,15	18	22	6,3 x 11,5	ECR2EPT010M◇◇△△0611
	2,2	90,5	0,15	27	32	6,3 x 11,5	ECR2EPT2R2M◇◇△△0611
	3,3	60,3	0,15	35	48	8 x 11,5	ECR2EPT3R3M◇◇△△0811
		60,3	0,15	35	35	10 x 12,5	ECR2EPT3R3M◇◇△△1012
	4,7	42,3	0,15	46	56	8 x 11,5	ECR2EPT4R7M◇◇△△0811
		42,3	0,15	46	40	10 x 12,5	ECR2EPT4R7M◇◇△△1012
	10	19,9	0,15	85	101	10 x 12,5	ECR2EPT100M◇◇△△1012
	22	9,05	0,15	175	182	10 x 20	ECR2EPT220M◇◇△△1020
	33	6,03	0,15	258	243	12,5 x 20	ECR2EPT330M◇◇△△1220
	47	4,23	0,15	363	295	12,5 x 25	ECR2EPT470M◇◇△△1225
		4,23	0,15	363	240	16 x 25,5	ECR2EPT470M◇◇△△1625
	100	1,99	0,15	760	528	16 x 31,5	ECR2EPT101M◇◇△△1631

350 (400) 2V	0,47	424	0,15	15	15	6,3 x 11,5	ECR2VPT47M◇◇△△0611
	1,0	199	0,15	21	22	6,3 x 11,5	ECR2VPT010M◇◇△△0611
		199	0,15	21	15	8 x 11,5	ECR2VPT010M◇◇△△0811
	2,2	90,5	0,15	34	38	6,3 x 11,5	ECR2VPT2R2M◇◇△△0611
		90,5	0,15	34	38	8 x 11,5	ECR2VPT2R2M◇◇△△0811
	3,3	90,5	0,15	34	30	10 x 12,5	ECR2VPT2R2M◇◇△△1012
		60,3	0,15	45	53	8 x 11,5	ECR2VPT3R3M◇◇△△0811
	4,7	60,3	0,15	45	53	10 x 12,5	ECR2VPT3R3M◇◇△△1012
		42,3	0,15	60	65	10 x 12,5	ECR2VPT4R7M◇◇△△1012
	10	19,9	0,15	115	115	10 x 20	ECR2VPT100M◇◇△△1020
	22	9,05	0,15	241	197	12,5 x 20	ECR2VPT220M◇◇△△1220
	33	6,03	0,15	357	277	12,5 x 25	ECR2VPT330M◇◇△△1225
		6,03	0,15	357	277	16 x 25,5	ECR2VPT330M◇◇△△1625
	47	4,23	0,15	504	330	16 x 25,5	ECR2VPT470M◇◇△△1625
	100	1,99	0,15	1060	507	18 x 31,5	ECR2VPT101M◇◇△△1831

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)		(μA)	(mA _{RMS})	(mm)	
400 (250) 2G	0,47	565	0,20	16	15	6,3 x 11,5	ECR2GPT47M◇◇△△0611
	1,0	265	0,20	22	22	6,3 x 11,5	ECR2GPT010M◇◇△△0611
		265	0,20	22	15	8 x 11,5	ECR2GPT010M◇◇△△0811
	2,2	121	0,20	37	38	8 x 11,5	ECR2GPT2R2M◇◇△△0811
		121	0,20	37	20	10 x 12,5	ECR2GPT2R2M◇◇△△1012
	3,3	80,4	0,20	50	54	10 x 12,5	ECR2GPT3R3M◇◇△△1012
	4,7	56,5	0,20	67	71	10 x 12,5	ECR2GPT4R7M◇◇△△1012
	10	26,5	0,20	130	123	10 x 20	ECR2GPT100M◇◇△△1020
	22	12,1	0,20	274	197	12,5 x 25	ECR2GPT220M◇◇△△1225
		12,1	0,20	274	140	16 x 25,5	ECR2GPT220M◇◇△△1625
	33	8,04	0,20	406	277	16 x 25,5	ECR2GPT330M◇◇△△1625
	47	5,65	0,20	574	361	16 x 25,5	ECR2GPT470M◇◇△△1625
	68	3,9	0,20	826	423	18 x 25,5	ECR2GPT680M◇◇△△1825
	82	3,2	0,20	994	509	18 x 31,5	ECR2GPT820M◇◇△△1831
	100	2,7	0,20	1210	595	18 x 36	ECR2GPT101M◇◇△△1836

450 (500) 2W	0,47	649	0,23	17	18	6,3 x 11,5	ECR2WPT47M◇◇△△0611
	1,0	305	0,23	24	25	6,3 x 11,5	ECR2WPT010M◇◇△△0611
	2,2	139	0,23	40	43	8 x 11,5	ECR2WPT2R2M◇◇△△0811
	3,3	92,5	0,23	55	59	10 x 12,5	ECR2WPT3R3M◇◇△△1012
	4,7	64,9	0,23	74	76	10 x 16	ECR2WPT4R7M◇◇△△1016
	10	30,5	0,23	145	123	10 x 20	ECR2WPT100M◇◇△△1020
	22	13,9	0,23	307	226	12,5 x 25	ECR2WPT220M◇◇△△1225
		13,9	0,23	307	226	16 x 25,5	ECR2WPT220M◇◇△△1625
	33	9,20	0,23	456	304	16 x 25,5	ECR2WPT330M◇◇△△1625
	47	6,5	0,23	645	380	16 x 31,5	ECR2WPT470M◇◇△△1631
	68	4,5	0,23	928	436	18 x 25,5	ECR2WPT680M◇◇△△1825
	82	3,7	0,23	1117	530	18 x 31,5	ECR2WPT820M◇◇△△1831
	100	2,6	0,23	1360	610	18 x 36	ECR2WPT101M◇◇△△1836

500 (550) 2H	1,0	305	0,23	25	35	10 x 12,5	ECR2HPT010M◇◇△△1012
	2,2	139	0,23	43	45	10 x 16	ECR2HPT2R2M◇◇△△1016
	3,3	92,5	0,23	60	75	10 x 20	ECR2HPT3R3M◇◇△△1020
	4,7	64,9	0,23	81	100	12,5 x 20	ECR2HPT4R7M◇◇△△1220
	10	30,5	0,23	160	165	12,5 x 25	ECR2HPT100M◇◇△△1225



6 000 at 125°C

· Suited for ballast and energy-saved lamp application of which high temperature and high reliability are required

CD 261L DE
14 000h 105°C
Long Life

125°C

CD 11GL GL
6 000h 125°C
High Temperature
High Voltage

higher voltage

CD 269L HL
10 000h 125°C
High Temperature
Low Voltage

ITEM

CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +125	-25 ~ +125
Voltage Range (V)	160 ~ 250	350 ~ 450
Capacitance Range (µF)	2,2 ~ 330	
Capacitance Tolerance (20°C, 120Hz)	± 20%	



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 1 minute at 20°C application of rated voltage, leakage current is not more than specified in table.
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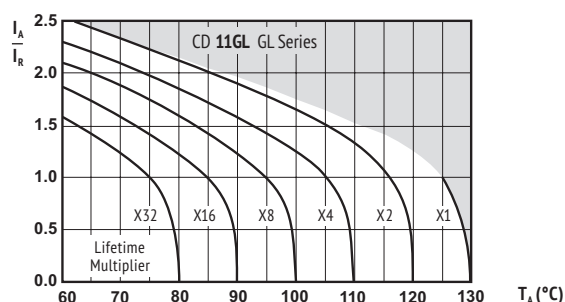
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	6 000h	80 000h	Ø 10 : 4 000h Ø 12,5 ~18: 5 000h	6 000h	500h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 25% of initial value	Within ± 25% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 300% of specified value	Not more than 300% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 125°C	U_R $1,5 \times I_R$ 75°C	U_R I_R 125°C	U_R $I_R = 0$ 125°C IEC 60384	$U_R = 0$ $I_R = 0$ 125°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	500Hz	1kHz	>10kHz
Coefficient	0,80	1,0	1,2	1,3	1,5

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 125°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

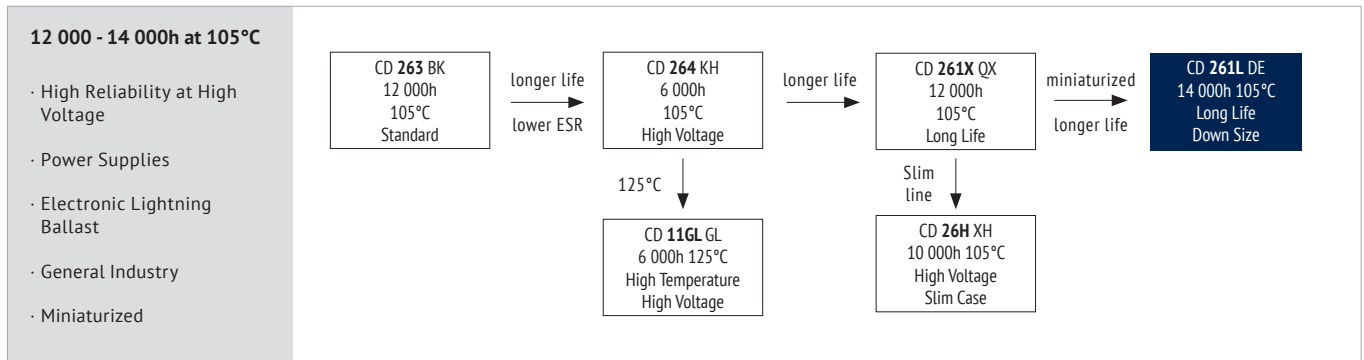
ENVIRONMENTAL

The products are RoHS, WEEE and RECh compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 125°C 120Hz	Size $\phi D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)	(Ω)		(μA)	(mA _{rms})	(mm)	
160 (200) 2C	10	15,9	8,0	0,12	118	62	10 x 16	ECR2CGL100M◇◇△△1016
	22	7,2	3,6	0,12	176	101	10 x 20	ECR2CGL220M◇◇△△1020
	33	4,8	2,4	0,12	228	139	12,5 x 20	ECR2CGL330M◇◇△△1220
	47	3,4	1,7	0,12	296	165	12,5 x 20	ECR2CGL470M◇◇△△1220
	100	1,6	0,80	0,12	550	302	16 x 25	ECR2CGL101M◇◇△△1625
	220	0,70	0,40	0,12	1126	496	16 x 31,5	ECR2CGL221M◇◇△△1631
		0,70	0,40	0,12	1126	514	18 x 31,5	ECR2CGL221M◇◇△△1831
	330	0,50	0,20	0,12	1654	642	18 x 31,5	ECR2CGL331M◇◇△△1831
		0,50	0,20	0,12	1654	673	18 x 36	ECR2CGL331M◇◇△△1836
200 (250) 2D	10	15,9	8,0	0,12	130	62	10 x 16	ECR2DGL100M◇◇△△1016
	22	7,2	3,6	0,12	202	101	10 x 20	ECR2DGL220M◇◇△△1020
	33	4,8	2,4	0,12	268	139	12,5 x 20	ECR2DGL330M◇◇△△1220
	47	3,4	1,7	0,12	352	165	12,5 x 20	ECR2DGL470M◇◇△△1220
	100	1,6	0,80	0,12	670	302	16 x 25	ECR2DGL101M◇◇△△1625
	220	0,70	0,40	0,12	1390	480	18 x 25,5	ECR2DGL221M◇◇△△1825
		0,70	0,40	0,12	1390	514	18 x 31,5	ECR2DGL221M◇◇△△1831
	330	0,50	0,20	0,12	2050	673	18 x 36	ECR2DGL331M◇◇△△1836
250 (300) 2E	4,7	33,9	16,9	0,12	105	42	10 x 16	ECR2EGL47M◇◇△△1016
	6,8	23,4	11,7	0,12	121	51	10 x 16	ECR2EGL68M◇◇△△1016
	10	15,9	8,0	0,12	145	68	10 x 20	ECR2EGL100M◇◇△△1020
	22	7,2	3,6	0,12	235	113	12,5 x 20	ECR2EGL220M◇◇△△1220
	33	4,8	2,4	0,12	318	153	12,5 x 25	ECR2EGL330M◇◇△△1225
	47	3,4	1,7	0,12	423	207	16 x 25	ECR2EGL470M◇◇△△1625
	100	1,6	0,80	0,12	820	346	18 x 31,5	ECR2EGL101M◇◇△△1831
	220	0,70	0,40	0,12	1720	550	18 x 36	ECR2EGL221M◇◇△△1836
350 (400) 2V	2,2	90,5	36,2	0,15	93	26	10 x 16	ECR2VGL2R2M◇◇△△1016
	3,3	60,3	24,1	0,15	105	32	10 x 16	ECR2VGL3R3M◇◇△△1016
	4,7	42,3	16,9	0,15	119	42	10 x 20	ECR2VGL4R7M◇◇△△1020
	5,6	35,5	14,2	0,15	129	46	10 x 20	ECR2VGL5R6M◇◇△△1020
	6,8	29,3	11,7	0,15	141	56	12,5 x 20	ECR2VGL6R8M◇◇△△1220
	10	19,9	8,0	0,15	175	68	12,5 x 20	ECR2VGL100M◇◇△△1220
	22	9,0	3,6	0,15	301	112	12,5 x 25	ECR2VGL220M◇◇△△1225
	33	6,0	2,4	0,15	417	155	16 x 25	ECR2VGL330M◇◇△△1625
	47	4,2	1,7	0,15	564	201	16 x 31,5	ECR2VGL470M◇◇△△1631
400 (450) 2G	2,2	90,5	36,2	0,15	96	26	10 x 16	ECR2GGL2R2M◇◇△△1016
	3,3	60,3	24,1	0,15	110	32	10 x 16	ECR2GGL3R3M◇◇△△1016
	4,7	42,3	16,9	0,15	126	42	10 x 20	ECR2GGL4R7M◇◇△△1020
	5,6	35,5	14,2	0,15	137	46	10 x 20	ECR2GGL5R6M◇◇△△1020
	6,8	29,3	11,7	0,15	152	56	12,5 x 20	ECR2GGL6R8M◇◇△△1220
	10	19,9	8,0	0,15	190	68	12,5 x 20	ECR2GGL100M◇◇△△1220
	22	9,0	3,6	0,15	334	112	12,5 x 25	ECR2GGL220M◇◇△△1225
	33	6,0	2,4	0,15	466	155	16 x 25	ECR2GGL330M◇◇△△1625
	47	4,2	1,7	0,15	634	201	16 x 31,5	ECR2GGL470M◇◇△△1631
450 (500) 2W	2,2	90,5	36,2	0,15	100	26	10 x 16	ECR2WGL2R2M◇◇△△1016
	3,3	60,3	24,1	0,15	115	32	10 x 16	ECR2WGL3R3M◇◇△△1016
	4,7	42,3	16,9	0,15	133	42	10 x 20	ECR2WGL4R7M◇◇△△1020
	5,6	35,5	14,2	0,15	146	51	12,5 x 20	ECR2WGL5R6M◇◇△△1220
	6,8	29,3	11,7	0,15	162	56	12,5 x 20	ECR2WGL6R8M◇◇△△1220
	10	19,9	8,0	0,15	205	75	12,5 x 25	ECR2WGL100M◇◇△△1225
	22	9,0	3,6	0,15	367	127	16 x 25	ECR2WGL220M◇◇△△1625
	33	6,0	2,4	0,15	516	168	16 x 31,5	ECR2WGL330M◇◇△△1631
	47	4,2	1,7	0,15	705	212	18 x 31,5	ECR2WGL470M◇◇△△1831



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	160 ~ 450
Capacitance Range (µF)	10 ~ 820
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (µA)	After 1 minute at 20°C application of rated voltage, leakage current is not more than specified in table.
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Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	160	200	250	350	400	420	450
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		3		4		6		
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		6				8		

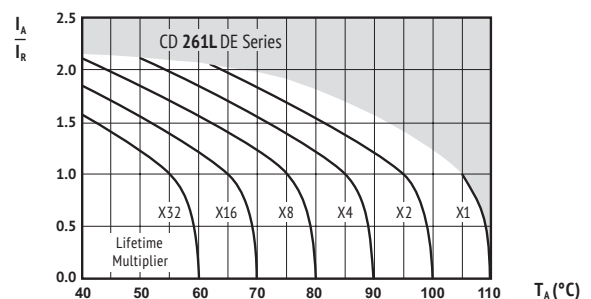
ITEM	USEFUL LIFE	LOAD LIFE	ENDURANCE TEST	SHELF LIFE
Lifetime	$L \leq 20,5 : 12\ 000\text{h}$ $L \geq 25 : 14\ 000\text{h}$	$L \leq 20,5 : 10\ 000\text{h}$ $L \geq 25 : 12\ 000\text{h}$	$L \leq 20,5 : 10\ 000\text{h}$ $L \geq 25 : 12\ 000\text{h}$	1 000h
Leakage Current	Not more than specified value	Not more than specified value	Not more than specified value	Not more than specified value
Capacitance Change	Within ± 30% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value
Dissipation Factor	Not more than 300% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 60°C	U_R I_R 105°C	$U_R = 0$ $I_R = 0$ 105°C IEC 60384
				After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (µF) \ Frequency	50/60Hz	120Hz	500Hz	1kHz	10kHz	100kHz
10 ~ 82	0,32	0,40	0,52	0,60	0,84	1,00
100 ~ 220	0,36	0,44	0,58	0,67	0,93	1,00
270 ~ 820	0,40	0,50	0,65	0,75	0,95	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 100kHz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)		(μA)	(mA _{RMS})	(mm)	
160 (200) 2C	47	1,69	0,15	401	650	10 x 16	ECR2CDE470M◇◇△△1016
	68	1,17	0,15	536	800	10 x 20	ECR2CDE680M◇◇△△1020
	82	0,970	0,15	625	1038	10 x 25	ECR2CDE820M◇◇△△1025
	100	0,800	0,15	740	1193	10 x 30	ECR2CDE101M◇◇△△1030
		0,800	0,15	740	1350	12,5 x 20	ECR2CDE101M◇◇△△1220
	120	0,660	0,15	868	1395	10 x 35	ECR2CDE121M◇◇△△1035
		0,530	0,15	1060	1575	10 x 40	ECR2CDE151M◇◇△△1040
	150	0,530	0,15	1060	1643	12,5 x 25	ECR2CDE151M◇◇△△1225
		0,440	0,15	1252	1800	10 x 50	ECR2CDE181M◇◇△△1050
	180	0,440	0,15	1252	1958	12,5 x 30	ECR2CDE181M◇◇△△1230
		0,440	0,15	1252	1800	16 x 20	ECR2CDE181M◇◇△△1620
	220	0,360	0,15	1508	2250	12,5 x 35	ECR2CDE221M◇◇△△1235
		0,360	0,15	1508	2250	16 x 25,5	ECR2CDE221M◇◇△△1625
		0,360	0,15	1508	2228	18 x 20,5	ECR2CDE221M◇◇△△1820
	270	0,290	0,15	1828	2240	12,5 x 40	ECR2CDE271M◇◇△△1240
		0,290	0,15	1828	2420	16 x 31,5	ECR2CDE271M◇◇△△1631
		0,240	0,15	2212	2800	12,5 x 50	ECR2CDE331M◇◇△△1250
	330	0,240	0,15	2212	2700	16 x 31,5	ECR2CDE331M◇◇△△1631
		0,240	0,15	2212	2360	18 x 25,5	ECR2CDE331M◇◇△△1825
	390	0,200	0,15	2596	2760	16 x 36	ECR2CDE391M◇◇△△1636
	470	0,170	0,15	3108	3100	16 x 40	ECR2CDE471M◇◇△△1640
		0,170	0,15	3108	3100	18 x 31,5	ECR2CDE471M◇◇△△1831
	560	0,140	0,15	3684	3720	16 x 50	ECR2CDE561M◇◇△△1650
		0,140	0,15	3684	3680	18 x 40	ECR2CDE561M◇◇△△1840
	680	0,120	0,15	4452	4260	18 x 45	ECR2CDE681M◇◇△△1845
	820	0,100	0,15	5348	4460	18 x 50	ECR2CDE821M◇◇△△1850

200 (250) 2D	33	2,41	0,15	364	650	10 x 16	ECR2DDE330M◇◇△△1016
	47	1,69	0,15	476	800	10 x 20	ECR2DDE470M◇◇△△1020
	56	1,42	0,15	548	1038	10 x 25	ECR2DDE560M◇◇△△1025
	68	1,17	0,15	644	1075	10 x 25	ECR2DDE680M◇◇△△1025
		1,17	0,15	644	1350	12,5 x 20	ECR2DDE680M◇◇△△1220
	82	0,970	0,15	756	1250	10 x 30	ECR2DDE820M◇◇△△1030
	100	0,800	0,15	900	1440	10 x 35	ECR2DDE101M◇◇△△1035
	120	0,664	0,15	1060	1665	10 x 40	ECR2DDE121M◇◇△△1040
		0,664	0,15	1060	1631	12,5 x 30	ECR2DDE121M◇◇△△1230
		0,664	0,15	1060	1560	16 x 20	ECR2DDE121M◇◇△△1620
	150	0,532	0,15	1300	1755	10 x 45	ECR2DDE151M◇◇△△1045
		0,532	0,15	1300	1800	12,5 x 35	ECR2DDE151M◇◇△△1235
		0,444	0,15	1540	2070	12,5 x 35	ECR2DDE181M◇◇△△1235
	180	0,444	0,15	1540	2025	16 x 25,5	ECR2DDE181M◇◇△△1625
		0,444	0,15	1540	2000	18 x 20,5	ECR2DDE181M◇◇△△1820
		0,360	0,15	1860	2263	12,5 x 45	ECR2DDE221M◇◇△△1245
	220	0,360	0,15	1860	2430	16 x 31,5	ECR2DDE221M◇◇△△1631
		0,290	0,15	2260	2520	12,5 x 50	ECR2DDE271M◇◇△△1250
		0,290	0,15	2260	2360	16 x 31,5	ECR2DDE271M◇◇△△1631
	270	0,290	0,15	2260	2200	18 x 25,5	ECR2DDE271M◇◇△△1825
		0,240	0,15	2740	2860	16 x 40	ECR2DDE331M◇◇△△1640
		0,240	0,15	2740	2600	18 x 31,5	ECR2DDE331M◇◇△△1831
	390	0,204	0,15	3220	3100	16 x 45	ECR2DDE391M◇◇△△1645
		0,204	0,15	3220	2860	18 x 36	ECR2DDE391M◇◇△△1836
	470	0,168	0,15	3860	3360	16 x 50	ECR2DDE471M◇◇△△1650
		0,168	0,15	3860	3240	18 x 40	ECR2DDE471M◇◇△△1840
	560	0,144	0,15	4580	3540	18 x 45	ECR2DDE561M◇◇△△1845

250 (300) 2E	33	2,41	0,15	430	800	10 x 20	ECR2EDE330M◇◇△△1020
	47	1,70	0,15	570	975	10 x 25	ECR2EDE470M◇◇△△1025
		1,70	0,15	570	1100	10 x 30	ECR2EDE470M◇◇△△1030
	56	1,42	0,15	660	1350	12,5 x 20	ECR2EDE560M◇◇△△1220
	68	1,18	0,15	780	1250	10 x 35	ECR2EDE680M◇◇△△1035
	82	0,972	0,15	920	1425	10 x 40	ECR2EDE820M◇◇△△1040
		0,972	0,15	920	1425	12,5 x 25	ECR2EDE820M◇◇△△1225
	100	0,796	0,15	1100	1620	10 x 45	ECR2EDE101M◇◇△△1045
		0,796	0,15	1100	1553	12,5 x 30	ECR2EDE101M◇◇△△1230
		0,796	0,15	1100	1428	16 x 20	ECR2EDE101M◇◇△△1620
	120	0,664	0,15	1300	1755	10 x 50	ECR2EDE121M◇◇△△1050
		0,664	0,15	1300	1778	12,5 x 35	ECR2EDE121M◇◇△△1235
		0,664	0,15	1300	1640	18 x 20,5	ECR2EDE121M◇◇△△1820

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 100kHz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)		(μA)	(mA _{RMS})	(mm)	
250 (300) 2E	150	0,532	0,15	1600	2070	12,5 x 40	ECR2EDE151M◇◇△△1240
		0,532	0,15	1600	1958	16 x 31,5	ECR2EDE151M◇◇△△1631
		0,444	0,15	1900	2183	12,5 x 50	ECR2EDE181M◇◇△△1250
	180	0,444	0,15	1900	2138	16 x 31,5	ECR2EDE181M◇◇△△1631
		0,444	0,15	1900	2070	18 x 25,5	ECR2EDE181M◇◇△△1825
		0,360	0,15	2300	2475	16 x 36	ECR2EDE221M◇◇△△1636
	220	0,360	0,15	2300	2475	18 x 31,5	ECR2EDE221M◇◇△△1831
		0,290	0,15	2800	2540	16 x 40	ECR2EDE271M◇◇△△1640
		0,290	0,15	2800	2520	18 x 36	ECR2EDE271M◇◇△△1836
	330	0,240	0,15	3400	2960	16 x 50	ECR2EDE331M◇◇△△1650
		0,240	0,15	3400	2900	18 x 40	ECR2EDE331M◇◇△△1840
	390	0,204	0,15	4000	3180	18 x 45	ECR2EDE391M◇◇△△1845
	470	0,168	0,15	4800	3660	18 x 50	ECR2EDE471M◇◇△△1850

350 (400) 2V	12	6,63	0,20	268	338	10 x 16	ECR2VDE120M◇◇△△1016
	22	3,62	0,20	308	500	10 x 20	ECR2VDE220M◇◇△△1020
	27	2,95	0,20	478	775	10 x 25	ECR2VDE270M◇◇△△1025
	33	2,42	0,20	562	825	10 x 30	ECR2VDE330M◇◇△△1030
		2,42	0,20	562	850	12,5 x 20	ECR2VDE330M◇◇△△1220
	39	2,04	0,20	646	975	10 x 35	ECR2VDE390M◇◇△△1035
	47	1,70	0,20	758	1125	10 x 40	ECR2VDE470M◇◇△△1040
		1,70	0,20	758	1125	12,5 x 25	ECR2VDE470M◇◇△△1225
	56	1,43	0,20	884	1300	10 x 45	ECR2VDE560M◇◇△△1045
		1,43	0,20	884	1375	12,5 x 30	ECR2VDE560M◇◇△△1230
		1,43	0,20	884	1200	16 x 20	ECR2VDE560M◇◇△△1620
	68	1,17	0,20	1052	1500	10 x 50	ECR2VDE680M◇◇△△1050
		1,17	0,20	1052	1525	12,5 x 35	ECR2VDE680M◇◇△△1235
		0,969	0,20	1248	1775	12,5 x 40	ECR2VDE820M◇◇△△1240
	100	0,969	0,20	1248	1625	16 x 25,5	ECR2VDE820M◇◇△△1625
		0,795	0,20	1500	1778	12,5 x 45	ECR2VDE101M◇◇△△1245
		0,795	0,20	1500	1733	16 x 31,5	ECR2VDE101M◇◇△△1631
		0,795	0,20	1500	1710	18 x 25,5	ECR2VDE101M◇◇△△1825
	120	0,663	0,20	1780	1913	12,5 x 50	ECR2VDE121M◇◇△△1250
		0,663	0,20	1780	2003	16 x 36	ECR2VDE121M◇◇△△1636
	150	0,531	0,20	2200	2250	16 x 40	ECR2VDE151M◇◇△△1640
		0,531	0,20	2200	2025	18 x 31,5	ECR2VDE151M◇◇△△1831
	180	0,441	0,20	2620	2520	16 x 50	ECR2VDE181M◇◇△△1650
		0,441	0,20	2620	2340	18 x 40	ECR2VDE181M◇◇△△1840
	220	0,363	0,20	3180	2700	18 x 45	ECR2VDE221M◇◇△△1845
	270	0,294	0,20	3880	2800	18 x 50	ECR2VDE271M◇◇△△1850

400 (450) 2G	10	7,96	0,20	260	313	10 x 16	ECR2GDE100M◇◇△△1016
	18	4,43	0,20	388	550	10 x 20	ECR2GDE180M◇◇△△1020
	22	3,62	0,20	452	600	10 x 25	ECR2GDE220M◇◇△△1025
	27	2,95	0,20	532	850	12,5 x 20	ECR2GDE270M◇◇△△1220
	33	2,41	0,20	628	850	10 x 30	ECR2GDE330M◇◇△△1030
		2,04	0,20	724	975	10 x 35	ECR2GDE390M◇◇△△1035
	39	2,04	0,20	724	975	12,5 x 25	ECR2GDE390M◇◇△△1225
		1,69	0,20	852	1100	10 x 40	ECR2GDE470M◇◇△△1040
	47	1,70	0,20	852	1138	12,5 x 30	ECR2GDE470M◇◇△△1230
		1,70	0,20	852	1090	16 x 20	ECR2GDE470M◇◇△△1620
	56	1,43	0,20	996	1313	12,5 x 35	ECR2GDE560M◇◇△△1235
		1,43	0,20	996	1250	18 x 20,5	ECR2GDE560M◇◇△△1820
		1,17	0,20	1188	1500	12,5 x 40	ECR2GDE680M◇◇△△1240
	68	1,17	0,20	1188	1425	16 x 25,5	ECR2GDE680M◇◇△△1625
		0,969	0,20	1412	1700	12,5 x 45	ECR2GDE820M◇◇△△1245

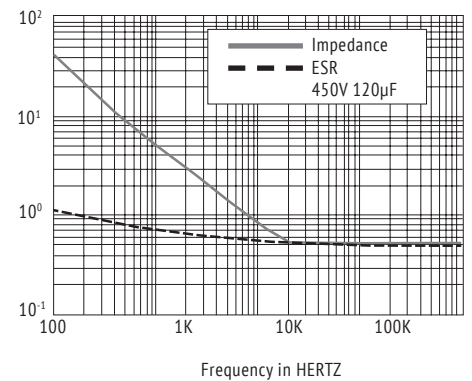
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 100kHz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)		(μA)	(mA rms)	(mm)	
420 (470) 2X	15	5,31	0,20	352	475	10 x 20	ECR2XDE150M◇◇△△1020
	18	4,43	0,20	403	575	10 x 25	ECR2XDE180M◇◇△△1025
	22	3,62	0,20	470	625	10 x 25	ECR2XDE220M◇◇△△1025
	27	2,95	0,20	554	725	10 x 30	ECR2XDE270M◇◇△△1030
		2,95	0,20	554	750	12,5 x 20	ECR2XDE270M◇◇△△1220
		2,95	0,20	554	850	12,5 x 25	ECR2XDE270M◇◇△△1225
		2,42	0,20	655	850	10 x 35	ECR2XDE330M◇◇△△1035
	33	2,42	0,20	655	875	12,5 x 25	ECR2XDE330M◇◇△△1225
		2,42	0,20	655	1000	12,5 x 30	ECR2XDE330M◇◇△△1230
		2,04	0,20	756	975	10 x 40	ECR2XDE390M◇◇△△1040
	39	2,04	0,20	756	1000	16 x 20	ECR2XDE390M◇◇△△1620
	47	1,70	0,20	890	1100	10 x 45	ECR2XDE470M◇◇△△1045
		1,70	0,20	890	1100	12,5 x 30	ECR2XDE470M◇◇△△1230
		1,70	0,20	890	1263	12,5 x 35	ECR2XDE470M◇◇△△1235
		1,70	0,20	890	1100	16 x 25,5	ECR2XDE470M◇◇△△1625
	56	1,43	0,20	1041	1275	12,5 x 35	ECR2XDE560M◇◇△△1235
		1,43	0,20	1041	1425	12,5 x 40	ECR2XDE560M◇◇△△1240
		1,43	0,20	1041	1275	16 x 25,5	ECR2XDE560M◇◇△△1625
		1,43	0,20	1041	1200	18 x 20,5	ECR2XDE560M◇◇△△1820
	68	1,17	0,20	1243	1500	12,5 x 45	ECR2XDE680M◇◇△△1245
		1,17	0,20	1243	1675	12,5 x 50	ECR2XDE680M◇◇△△1250
		1,17	0,20	1243	1400	16 x 31,5	ECR2XDE680M◇◇△△1631
		1,17	0,20	1243	1538	18 x 25,5	ECR2XDE680M◇◇△△1825
	82	0,969	0,20	1478	1725	12,5 x 50	ECR2XDE820M◇◇△△1250
		0,969	0,20	1478	1600	16 x 31,5	ECR2XDE820M◇◇△△1631
		0,969	0,20	1478	1725	16 x 36	ECR2XDE820M◇◇△△1636
		0,969	0,20	1478	1600	18 x 25,5	ECR2XDE820M◇◇△△1825
	100	0,795	0,20	1780	1800	16 x 40	ECR2XDE101M◇◇△△1640
		0,795	0,20	1780	1755	18 x 31,5	ECR2XDE101M◇◇△△1831
		0,795	0,20	1780	1879	18 x 36	ECR2XDE101M◇◇△△1836
	120	0,663	0,20	2116	2070	16 x 45	ECR2XDE121M◇◇△△1645
		0,663	0,20	2116	1913	18 x 36	ECR2XDE121M◇◇△△1836
		0,663	0,20	2116	2093	18 x 40	ECR2XDE121M◇◇△△1840
	150	0,531	0,20	2620	2115	16 x 50	ECR2XDE151M◇◇△△1650
		0,531	0,20	2620	2385	18 x 45	ECR2XDE151M◇◇△△1845
	180	0,441	0,20	3124	2475	18 x 50	ECR2XDE181M◇◇△△1850

450 (500) 2W	10	7,96	0,20	280	325	10 x 16	ECR2WDE100M◇◇△△1016
	15	5,31	0,20	370	475	10 x 20	ECR2WDE150M◇◇△△1020
		5,31	0,20	370	525	10 x 25	ECR2WDE150M◇◇△△1025
	18	4,43	0,20	424	575	10 x 25	ECR2WDE180M◇◇△△1025
	22	3,62	0,20	496	675	10 x 30	ECR2WDE220M◇◇△△1030
		3,62	0,20	496	700	12,5 x 20	ECR2WDE220M◇◇△△1220
	27	2,95	0,20	586	800	10 x 35	ECR2WDE270M◇◇△△1035
		2,95	0,20	586	725	12,5 x 20	ECR2WDE270M◇◇△△1220
		2,95	0,20	586	850	12,5 x 25	ECR2WDE270M◇◇△△1225
	33	2,41	0,20	694	875	10 x 35	ECR2WDE330M◇◇△△1035
		2,41	0,20	694	900	12,5 x 25	ECR2WDE330M◇◇△△1225
		2,42	0,20	694	1000	12,5 x 30	ECR2WDE330M◇◇△△1230
		2,42	0,20	694	900	16 x 20	ECR2WDE330M◇◇△△1620
	39	2,04	0,20	802	1000	10 x 40	ECR2WDE390M◇◇△△1040
		2,04	0,20	802	1075	12,5 x 30	ECR2WDE390M◇◇△△1230
		2,04	0,20	802	1150	12,5 x 35	ECR2WDE390M◇◇△△1235
		2,04	0,20	802	1000	16 x 20	ECR2WDE390M◇◇△△1620
	47	1,69	0,20	946	1200	10 x 50	ECR2WDE470M◇◇△△1050
		1,69	0,20	946	1100	12,5 x 30	ECR2WDE470M◇◇△△1230
		1,70	0,20	946	1200	12,5 x 35	ECR2WDE470M◇◇△△1235
		1,70	0,20	946	1250	16 x 25,5	ECR2WDE470M◇◇△△1625
	56	1,42	0,20	1108	1250	18 x 20,5	ECR2WDE470M◇◇△△1820
		1,42	0,20	1108	1250	12,5 x 35	ECR2WDE560M◇◇△△1235
		1,42	0,20	1108	1350	12,5 x 40	ECR2WDE560M◇◇△△1240
		1,42	0,20	1108	1463	16 x 25,5	ECR2WDE560M◇◇△△1625
	68	1,17	0,20	1324	1450	18 x 20,5	ECR2WDE560M◇◇△△1820
		1,17	0,20	1324	1450	12,5 x 40	ECR2WDE680M◇◇△△1240
		1,17	0,20	1324	1525	16 x 31,5	ECR2WDE680M◇◇△△1631
		1,17	0,20	1324	1650	16 x 36	ECR2WDE680M◇◇△△1636
		1,17	0,20	1324	1525	18 x 25,5	ECR2WDE680M◇◇△△1825

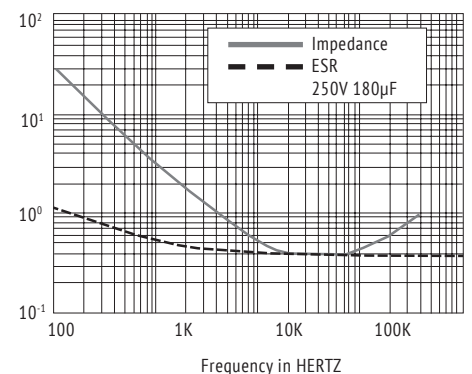
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 100kHz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)		(μA)	(mA rms)	(mm)	
450 (500) 2W	82	0,969	0,20	1576	1650	12,5 x 45	ECR2WDE820M◇◇△△1245
		0,969	0,20	1576	1750	12,5 x 50	ECR2WDE820M◇◇△△1250
		0,969	0,20	1576	1625	16 x 31,5	ECR2WDE820M◇◇△△1631
		0,969	0,20	1576	1600	18 x 25,5	ECR2WDE820M◇◇△△1825
	100	0,795	0,20	1576	1825	18 x 31,5	ECR2WDE820M◇◇△△1831
		0,795	0,20	1900	1640	16 x 36	ECR2WDE101M◇◇△△1636
		0,795	0,20	1900	1875	16 x 40	ECR2WDE101M◇◇△△1640
		0,795	0,20	1900	1687	18 x 31,5	ECR2WDE101M◇◇△△1831
	120	0,795	0,20	1900	1879	18 x 36	ECR2WDE101M◇◇△△1836
		0,663	0,20	2260	1935	18 x 36	ECR2WDE121M◇◇△△1836
	150	0,663	0,20	2260	2093	18 x 40	ECR2WDE121M◇◇△△1840
		0,531	0,20	2800	2150	18 x 40	ECR2WDE151M◇◇△△1840
		0,531	0,20	2800	2250	18 x 45	ECR2WDE151M◇◇△△1845
		0,531	0,20	2800	2385	18 x 50	ECR2WDE151M◇◇△△1850
	180	0,440	0,20	3340	2450	18 x 50	ECR2WDE181M◇◇△△1850

TYPICAL CURVES

Impedance/ESR
in OHMS

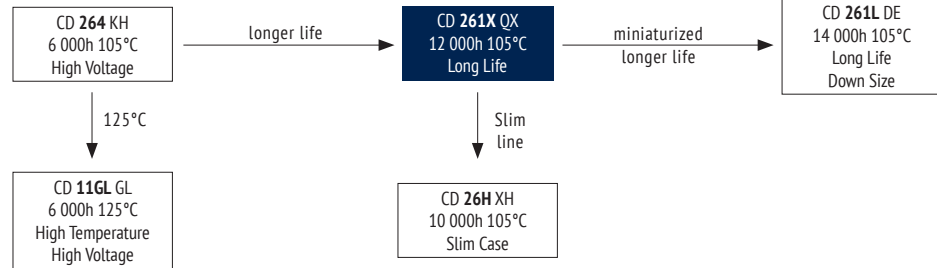


Impedance/ESR
in OHMS



**7 000 - 12 000h
at 105°C**

- Extra high Ripple Current
- Down sized
- Electronic Ballast, Lighting


ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	160 ~ 500
Capacitance Range (μF)	1 ~ 330
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (μA) After 1 minute at 20°C application of rated voltage, leakage current is not more than specified in table.

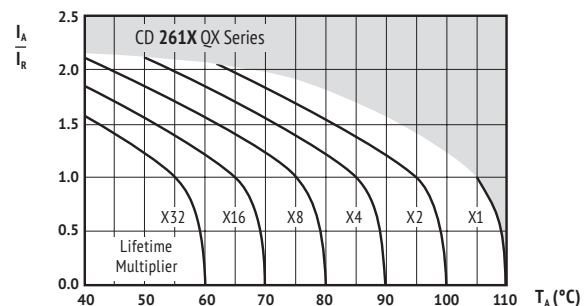
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	160	200	250	350	400	450	500
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		3			6			
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		6			8		10	

ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	Ø 6,3 : 7 000h Ø 8~10 : 10 000h Ø ≥ 12,5 : 12 000h	> 100 000h	Ø 6,3 : 5 000h Ø 8~10 : 8 000h Ø ≥ 12,5 : 10 000h	Ø 6,3 : 7 000h Ø 8~10 : 10 000h Ø ≥ 12,5 : 12 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,6 \times I_R$ 50°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (μF) \ Frequency	120Hz	1kHz	10kHz	100kHz
1 ~ 5,6	0,20	0,40	0,80	1,00
6,8 ~ 15	0,30	0,60	0,90	1,00
22 ~ 82	0,40	0,70	0,90	1,00
100 ~ 330	0,45	0,75	0,90	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)


I_A = actual ripple current at 100kHz,

I_R = rated ripple current at 100kHz, 105°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com


SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



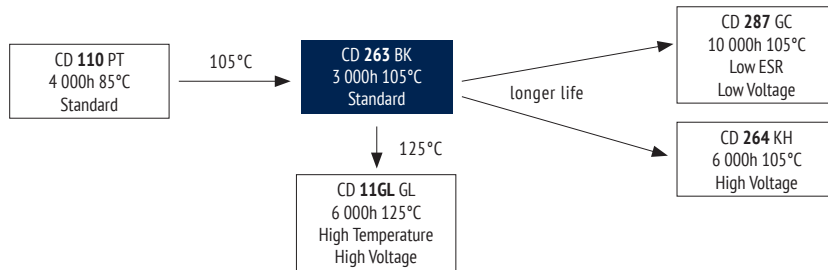
U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{typ} Equivalent Series Resistance 20°C 120kHz	tanδ Dissipation Factor 20°C 120kHz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 100kHz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(µF)	(Ω)		(µA)	(mA _{RMS})	(mm)	
160 (200) 2C	10	8,0	0,15	164	320	10 x 16	ECR2CQX100M◇◇△△1016
	22	3,6	0,15	241	500	10 x 20	ECR2CQX220M◇◇△△1020
	33	2,4	0,15	311	650	10 x 20	ECR2CQX330M◇◇△△1020
	47	1,7	0,15	401	750	10 x 20	ECR2CQX470M◇◇△△1020
	68	1,2	0,15	535	1180	12,5 x 20	ECR2CQX680M◇◇△△1220
		1,2	0,15	535	1180	16 x 20	ECR2CQX680M◇◇△△1620
	100	0,80	0,15	740	1420	12,5 x 25	ECR2CQX101M◇◇△△1225
		0,80	0,15	740	1420	16 x 20	ECR2CQX101M◇◇△△1620
	150	0,50	0,15	1060	1890	16 x 25,5	ECR2CQX151M◇◇△△1625
	220	0,40	0,15	1508	2370	18 x 25,5	ECR2CQX221M◇◇△△1825
	330	0,20	0,15	2212	3220	18 x 31,5	ECR2CQX331M◇◇△△1831
200 (250) 2D	4,7	16,9	0,15	138	160	8 x 11,5	ECR2DQX4R7M◇◇△△0811
	6,8	11,7	0,15	155	200	10 x 12,5	ECR2DQX6R8M◇◇△△1012
	10	8,0	0,15	180	220	8 x 11,5	ECR2DQX100M◇◇△△0811
	22	3,6	0,15	180	280	10 x 12,5	ECR2DQX100M◇◇△△1012
		3,6	0,15	276	400	10 x 12,5	ECR2DQX220M◇◇△△1012
	33	2,4	0,15	276	500	10 x 20	ECR2DQX220M◇◇△△1020
	47	1,7	0,15	364	650	10 x 20	ECR2DQX330M◇◇△△1020
	68	1,2	0,15	476	980	12,5 x 20	ECR2DQX470M◇◇△△1220
		1,2	0,15	644	1300	12,5 x 25	ECR2DQX680M◇◇△△1225
	100	0,80	0,15	644	1300	16 x 20	ECR2DQX680M◇◇△△1620
		0,80	0,15	900	1420	16 x 20	ECR2DQX101M◇◇△△1620
	150	0,50	0,15	1300	1890	16 x 25,5	ECR2DQX151M◇◇△△1625
	220	0,40	0,15	1860	2330	18 x 25,5	ECR2DQX221M◇◇△△1825
	330	0,20	0,15	1790	3220	18 x 35,5	ECR2DQX331M◇◇△△1835
250 (300) 2E	4,7	16,9	0,15	147	160	8 x 11,5	ECR2EQX4R7M◇◇△△0811
	6,8	11,7	0,15	168	250	10 x 12,5	ECR2EQX6R8M◇◇△△1012
	10	8,0	0,15	200	320	10 x 16	ECR2EQX100M◇◇△△1016
	22	3,6	0,15	320	470	10 x 16	ECR2EQX220M◇◇△△1016
		3,6	0,15	320	500	10 x 20	ECR2EQX220M◇◇△△1020
	33	2,4	0,15	430	760	12,5 x 16	ECR2EQX330M◇◇△△1216
		2,4	0,15	430	800	12,5 x 20	ECR2EQX330M◇◇△△1220
	47	1,7	0,15	570	980	12,5 x 20	ECR2EQX470M◇◇△△1220
	68	1,2	0,15	780	1300	12,5 x 25	ECR2EQX680M◇◇△△1225
		1,2	0,15	780	1300	16 x 20	ECR2EQX680M◇◇△△1620
	100	0,80	0,15	1100	1530	16 x 25,5	ECR2EQX101M◇◇△△1625
		0,80	0,15	1100	1440	18 x 20,5	ECR2EQX101M◇◇△△1820
	150	0,50	0,15	1600	1960	18 x 25,5	ECR2EQX151M◇◇△△1825
	220	0,40	0,15	2300	2545	18 x 31,5	ECR2EQX221M◇◇△△1831
350 (400) 2V	3,3	24,1	0,20	146	130	8 x 11,5	ECR2VQX3R3M◇◇△△0811
	4,7	16,9	0,20	166	150	10 x 12,5	ECR2VQX4R7M◇◇△△1012
	5,6	14,2	0,20	179	150	8 x 11,5	ECR2VQX5R6M◇◇△△0811
		14,2	0,20	178	180	10 x 12,5	ECR2VQX5R6M◇◇△△1012
	6,8	11,7	0,20	195	280	10 x 16	ECR2VQX6R8M◇◇△△1016
	10	8,0	0,20	240	280	10 x 12,5	ECR2VQX100M◇◇△△1012
		8,0	0,20	240	350	10 x 20	ECR2VQX100M◇◇△△1020
	22	3,6	0,20	408	650	12,5 x 20	ECR2VQX220M◇◇△△1220
	33	2,4	0,15	562	850	12,5 x 25	ECR2VQX330M◇◇△△1225
		2,4	0,20	562	900	16 x 20	ECR2VQX330M◇◇△△1620
	47	1,7	0,20	758	1080	16 x 20	ECR2VQX470M◇◇△△1620
	68	1,2	0,15	1052	1350	18 x 20,5	ECR2VQX680M◇◇△△1820
		1,2	0,20	1052	1470	18 x 25,5	ECR2VQX680M◇◇△△1825
	82	0,97	0,20	1248	1530	18 x 25,5	ECR2VQX820M◇◇△△1825
400 (450) 2G	1	80,0	0,20	116	50	6,3 x 11,5	ECR2GQX010M◇◇△△0611
	1,5	53,1	0,20	124	70	6,3 x 11,5	ECR2GQX1R5M◇◇△△0611
		53,1	0,20	124	80	8 x 11,5	ECR2GQX1R5M◇◇△△0811
	2,2	36,2	0,20	135	95	8 x 11,5	ECR2GQX2R2M◇◇△△0811
		36,2	0,20	135	140	10 x 12,5	ECR2GQX2R2M◇◇△△1012
	3,3	24,1	0,20	153	150	10 x 12,5	ECR2GQX3R3M◇◇△△1012
		24,1	0,20	153	180	10 x 16	ECR2GQX3R3M◇◇△△1016
	4,7	16,9	0,20	176	160	8 x 11,5	ECR2GQX4R7M◇◇△△0811
		16,9	0,20	175	220	10 x 16	ECR2GQX4R7M◇◇△△1016
	5,6	14,2	0,20	190	200	10 x 12,5	ECR2GQX5R6M◇◇△△1012

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{typ} Equivalent Series Resistance 20°C 120kHz	tanδ Dissipation Factor 20°C 120kHz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 100kHz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(µF)	(Ω)		(µA)	(mA _{RMS})	(mm)	
400 (450) 2G	6,8	11,7	0,20	209	220	10 x 16	ECR2GQX6R8M◇◇△△1016
		11,7	0,20	209	280	10 x 20	ECR2GQX6R8M◇◇△△1020
	10	8,0	0,20	260	350	10 x 20	ECR2GQX100M◇◇△△1020
	15	5,3	0,15	340	500	12,5 x 16	ECR2GQX150M◇◇△△1216
		5,3	0,20	340	550	12,5 x 20	ECR2GQX150M◇◇△△1220
	22	3,6	0,20	452	650	12,5 x 20	ECR2GQX220M◇◇△△1220
		3,6	0,20	452	760	12,5 x 25	ECR2GQX220M◇◇△△1225
	33	3,6	0,20	452	760	16 x 20	ECR2GQX220M◇◇△△1620
		2,4	0,20	628	900	16 x 20	ECR2GQX330M◇◇△△1620
	47	1,7	0,20	852	1180	16 x 25,5	ECR2GQX470M◇◇△△1625
		1,7	0,20	852	1180	18 x 20,5	ECR2GQX470M◇◇△△1820
	68	1,2	0,20	1188	1470	18 x 25	ECR2GQX680M◇◇△△1825
	82	1,0	0,20	1412	1600	18 x 31,5	ECR2GQX820M◇◇△△1831
	100	0,80	0,20	1700	1780	18 x 36	ECR2GQX101M◇◇△△1836
450 (500) 2W	2,2	36,2	0,20	140	90	8 x 11,5	ECR2WQX2R2M◇◇△△0811
		36,2	0,20	140	90	10 x 12,5	ECR2WQX2R2M◇◇△△1012
	3,3	24,1	0,20	159	180	10 x 12,5	ECR2WQX3R3M◇◇△△1012
		24,1	0,20	159	190	10 x 16	ECR2WQX3R3M◇◇△△1016
	4,7	16,9	0,20	185	212	10 x 16	ECR2WQX4R7M◇◇△△1016
	5,6	14,2	0,20	201	200	10 x 16	ECR2WQX5R6M◇◇△△1016
	6,8	11,7	0,20	222	230	10 x 16	ECR2WQX6R8M◇◇△△1016
		11,7	0,20	222	280	10 x 20	ECR2WQX6R8M◇◇△△1020
	10	8,0	0,20	280	300	10 x 20	ECR2WQX100M◇◇△△1020
	15	5,3	0,20	370	450	12,5 x 20	ECR2WQX150M◇◇△△1220
	22	3,6	0,20	496	600	12,5 x 25	ECR2WQX220M◇◇△△1225
		3,6	0,20	496	730	16 x 20	ECR2WQX220M◇◇△△1620
	33	2,4	0,20	694	980	16 x 25,5	ECR2WQX330M◇◇△△1625
	47	1,7	0,20	946	1090	16 x 25,5	ECR2WQX470M◇◇△△1625
		1,7	0,20	946	1200	18 x 25,5	ECR2WQX470M◇◇△△1825
	68	1,2	0,20	1324	1440	18 x 25,5	ECR2WQX680M◇◇△△1825
		1,2	0,20	1324	1575	18 x 31,5	ECR2WQX680M◇◇△△1831
	82	1,0	0,20	1576	1600	18 x 31,5	ECR2WQX820M◇◇△△1831
		1,0	0,20	1576	1675	18 x 36	ECR2WQX820M◇◇△△1836
	100	0,80	0,20	1900	1700	18 x 31,5	ECR2WQX101M◇◇△△1831
		0,80	0,20	1900	1730	18 x 36	ECR2WQX101M◇◇△△1836
	120	0,70	0,20	2260	1750	18 x 36	ECR2WQX121M◇◇△△1836
		0,70	0,20	2260	1820	18 x 40	ECR2WQX121M◇◇△△1840
	150	0,50	0,20	2800	2020	18 x 40	ECR2WQX151M◇◇△△1840
		0,50	0,20	2800	2140	18 x 45	ECR2WQX151M◇◇△△1845
	180	0,40	0,20	3340	2380	18 x 45	ECR2WQX181M◇◇△△1845
		0,40	0,20	3340	2460	18 x 50	ECR2WQX181M◇◇△△1850
	220	0,36	0,20	4060	2600	18 x 50	ECR2WQX221M◇◇△△1850
500 (550) 2H	10	9,3	0,20	300	360	12,5 x 20	ECR2HQX100M◇◇△△1220
	15	6,2	0,20	400	480	12,5 x 25	ECR2HQX150M◇◇△△1225
	22	4,2	0,20	540	580	16 x 25,5	ECR2HQX220M◇◇△△1625
	33	2,8	0,20	760	720	16 x 31,5	ECR2HQX330M◇◇△△1631
	47	2,0	0,20	1040	900	18 x 31,5	ECR2HQX470M◇◇△△1831
	56	1,6	0,20	1220	980	18 x 31,5	ECR2HQX560M◇◇△△1831
	68	1,4	0,20	1460	1250	18 x 36	ECR2HQX680M◇◇△△1836
	82	1,1	0,20	1740	1330	18 x 40	ECR2HQX820M◇◇△△1840
	100	0,90	0,20	2100	1430	18 x 45	ECR2HQX101M◇◇△△1845
		0,90	0,20	2100	1450	20 x 41	ECR2HQX101M◇◇△△2041
	120	0,80	0,20	2500	1640	18 x 50	ECR2HQX121M◇◇△△1850
	150	0,50	0,20	3100	1950	22 x 45	ECR2HQX151M◇◇△△2245



2 000 - 3 000h at 105°C

· Standard 105°C



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	6,3 ~ 250	350 ~ 500
Capacitance Range (μF)	0,1 ~ 15 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	Rated Voltage (V)	6,3 ~ 100	160 ~ 500
	$I_{LEAKAGE}$	After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.	After 1 minute at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3	10	16	25	35	50	63	100	160	200	250	350	400	420	450	500
	$Z_{-25°C} / Z_{+20°C}$	4	3			2							3				6
	$Z_{-40°C} / Z_{+20°C}$	8	6	4			3				8			-			-

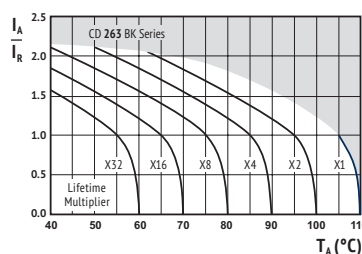
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	3 000h	> 100 000h	2 000h	2 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 150% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

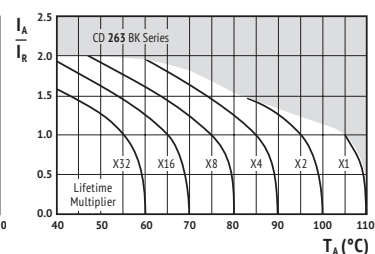
Rated Voltage (V)	Frequency	50Hz	120Hz	1kHz	10kHz	100kHz
	Capacitance (μF)					
6,3 ~ 100	0,47 ~ 4,7	0,32	0,40	0,70	0,80	1,00
	10 ~ 47	0,40	0,50	0,80	0,90	1,00
	100 ~ 220	0,56	0,70	0,90	0,90	1,00
	330 ~ 1 000	0,64	0,80	0,90	1,00	1,00
	2 200 ~ 15 000	0,72	0,90	1,00	1,00	1,00
160 ~ 500	0,47 ~ 10	0,80	1,00	1,75	2,00	2,50
	22 ~ 56	0,80	1,00	1,60	1,80	2,00
	68 ~ 220	0,80	1,00	1,30	1,40	1,65

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)

LIFETIME DIAGRAM
6,3 ~ 100V

I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
Multiplier of Useful Life as a function of
ambient temperature & ripple current load

LIFETIME DIAGRAM
160 ~ 500V

I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of
ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	Z _{max} Max Impedance 20°C 100kHz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 100kHz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)	(Ω)		(μA)	(mA _{RMS})	(mm)	
6,3 (7,2) 0J	33	8,9	2,5	0,22	3	105	5x11,5	ECR0JBK330M◇◇△△0511
	47	6,3	1,5	0,22	3	120	5x11,5	ECR0JBK470M◇◇△△0511
	100	3,0	1,2	0,22	7	130	5x11,5	ECR0JBK101M◇◇△△0511
	220	1,4	1,2	0,22	14	180	5x11,5	ECR0JBK221M◇◇△△0511
		1,4	0,87	0,22	14	180	6,3x11,5	ECR0JBK221M◇◇△△0611
	330	0,89	0,58	0,22	21	220	6,3x11,5	ECR0JBK331M◇◇△△0611
		0,63	0,55	0,22	30	250	6,3x11,5	ECR0JBK471M◇◇△△0611
	470	0,63	0,39	0,22	30	315	8x11,5	ECR0JBK471M◇◇△△0811
		0,30	0,37	0,22	63	435	8x11,5	ECR0JBK102M◇◇△△0811
	1 000	0,30	0,23	0,22	63	500	10x12,5	ECR0JBK102M◇◇△△1012
		0,15	0,095	0,24	139	765	10x20	ECR0JBK222M◇◇△△1020
	2 200	0,15	0,095	0,24	139	1000	12,5x20	ECR0JBK222M◇◇△△1220
		0,11	0,12	0,26	208	882	10x20	ECR0JBK332M◇◇△△1020
	3 300	0,11	0,090	0,26	208	1050	12,5x20	ECR0JBK332M◇◇△△1220
	4 700	0,080	0,090	0,28	297	1120	12,5x20	ECR0JBK472M◇◇△△1220
10 (13) 1A		0,080	0,061	0,28	297	1670	16x25	ECR0JBK472M◇◇△△1625
	6 800	0,063	0,090	0,32	429	1380	12,5x20	ECR0JBK682M◇◇△△1220
		0,063	0,056	0,32	429	1740	16x25	ECR0JBK682M◇◇△△1625
	10 000	0,054	0,061	0,40	630	1750	16x25	ECR0JBK103M◇◇△△1625
		0,054	0,045	0,40	630	2110	16x31,5	ECR0JBK103M◇◇△△1631
	15 000	0,045	0,042	0,50	945	2040	16x35,5	ECR0JBK153M◇◇△△1635
		0,045	0,036	0,50	945	2580	18x35,5	ECR0JBK153M◇◇△△1835

10 (13) 1A	22	11,5	2,5	0,19	3	92	5x11,5	ECR1ABK220M◇◇△△0511
	33	7,7	1,9	0,19	4	105	5x11,5	ECR1ABK330M◇◇△△0511
	47	5,4	1,5	0,19	5	120	5x11,5	ECR1ABK470M◇◇△△0511
	100	2,6	1,2	0,19	10	130	5x11,5	ECR1ABK101M◇◇△△0511
	220	1,2	0,58	0,19	22	220	6,3x11,5	ECR1ABK221M◇◇△△0611
		0,77	0,54	0,19	33	230	6,3x11,5	ECR1ABK331M◇◇△△0611
	330	0,77	0,47	0,19	33	265	8x11,5	ECR1ABK331M◇◇△△0811
	470	0,54	0,39	0,19	47	315	8x11,5	ECR1ABK471M◇◇△△0811
		0,25	0,25	0,19	100	500	10x12,5	ECR1ABK102M◇◇△△1012
	1 000	0,25	0,18	0,19	100	615	10x16	ECR1ABK102M◇◇△△1016
		0,13	0,17	0,21	220	761	10x20	ECR1ABK222M◇◇△△1020
	2 200	0,13	0,090	0,21	220	1050	12,5x20	ECR1ABK222M◇◇△△1220
		0,10	0,086	0,23	330	1010	12,5x20	ECR1ABK332M◇◇△△1220
	3 300	0,10	0,068	0,23	330	1300	12,5x25	ECR1ABK332M◇◇△△1225
	4 700	0,071	0,068	0,25	470	1250	12,5x25	ECR1ABK472M◇◇△△1225
16 (20) 1C		0,071	0,056	0,25	470	1740	16x25	ECR1ABK472M◇◇△△1625
	6 800	0,057	0,056	0,29	680	1570	16x25	ECR1ABK682M◇◇△△1625
		0,057	0,045	0,29	680	2110	16x31,5	ECR1ABK682M◇◇△△1631
	10 000	0,050	0,042	0,37	1000	1910	16x35,5	ECR1ABK103M◇◇△△1635
		0,050	0,036	0,37	1000	2580	18x35,5	ECR1ABK103M◇◇△△1835

16 (20) 1C	10	21,3	2,5	0,16	3	92	5x11,5	ECR1CBK100M◇◇△△0511
	22	9,7	1,9	0,16	4	105	5x11,5	ECR1CBK220M◇◇△△0511
	33	6,5	1,5	0,16	6	120	5x11,5	ECR1CBK330M◇◇△△0511
	47	4,6	1,2	0,16	8	130	5x11,5	ECR1CBK470M◇◇△△0511
	100	2,2	1,2	0,16	16	150	5x11,5	ECR1CBK101M◇◇△△0511
		2,2	0,58	0,16	16	220	6,3x11,5	ECR1CBK101M◇◇△△0611
	220	1,0	0,54	0,16	36	250	6,3x11,5	ECR1CBK221M◇◇△△0611
		1,0	0,47	0,16	36	290	8x11,5	ECR1CBK221M◇◇△△0811
	330	0,65	0,39	0,16	53	315	8x11,5	ECR1CBK331M◇◇△△0811
	470	0,46	0,66	0,16	76	350	8x11,5	ECR1CBK471M◇◇△△0811
		0,46	0,23	0,16	76	500	10x12,5	ECR1CBK471M◇◇△△1012
	1 000	0,22	0,21	0,16	160	610	10x16	ECR1CBK102M◇◇△△1016
		0,22	0,12	0,16	160	825	10x20	ECR1CBK102M◇◇△△1020
	2 200	0,11	0,095	0,18	352	961	12,5x20	ECR1CBK222M◇◇△△1220
		0,11	0,068	0,18	352	1300	12,5x25	ECR1CBK222M◇◇△△1225
25 (32) 1E	3 300	0,081	0,068	0,20	528	1200	12,5x25	ECR1CBK332M◇◇△△1225
		0,081	0,056	0,20	528	1740	16x25	ECR1CBK332M◇◇△△1625
	4 700	0,063	0,052	0,22	752	1490	16x25	ECR1CBK472M◇◇△△1625
		0,063	0,045	0,22	752	2110	16x31,5	ECR1CBK472M◇◇△△1631
	6 800	0,051	0,042	0,26	1088	1830	16x35,5	ECR1CBK682M◇◇△△1635
		0,051	0,036	0,26	1088	2580	18x35,5	ECR1CBK682M◇◇△△1835

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	Z _{max} Max Impedance 20°C 100kHz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 100kHz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)	(Ω)		(μA)	(mA _{RMS})	(mm)	
25 (32) 1E	4,7	39,6	3,0	0,14	3	85	5x11,5	ECR1EBK47M◇◇△△0511
	10	18,6	2,5	0,14	3	92	5x11,5	ECR1EBK100M◇◇△△0511
	22	8,5	1,9	0,14	6	105	5x11,5	ECR1EBK220M◇◇△△0511
	33	5,7	1,5	0,14	9	120	5x11,5	ECR1EBK330M◇◇△△0511
	47	4,0	1,2	0,14	12	130	5x11,5	ECR1EBK470M◇◇△△0511
	100	1,9	0,58	0,14	25	220	6,3x11,5	ECR1EBK101M◇◇△△0611
	220	0,85	0,39	0,14	55	315	8x11,5	ECR1EBK221M◇◇△△0811
	330	0,57	0,23	0,14	83	500	10x12,5	ECR1EBK331M◇◇△△1012
		0,40	0,21	0,14	118	429	10x12,5	ECR1EBK471M◇◇△△1012
	470	0,40	0,18	0,14	118	615	10x16	ECR1EBK471M◇◇△△1016
		0,19	0,12	0,14	250	705	10x20	ECR1EBK102M◇◇△△1020
	1 000	0,19	0,090	0,14	250	1050	12,5x20	ECR1EBK102M◇◇△△1220
	2 200	0,10	0,056	0,16	550	1740	16x25	ECR1EBK222M◇◇△△1625
		0,073	0,056	0,18	825	1440	16x25	ECR1EBK332M◇◇△△1625
	3 300	0,073	0,045	0,18	825	2110	16x31,5	ECR1EBK332M◇◇△△1631
	4 700	0,057	0,050	0,20	1175	1880	16x31,5	ECR1EBK472M◇◇△△1631
		0,057	0,036	0,20	1175	2580	18x35,5	ECR1EBK472M◇◇△△1835

35 (44) 1V	4,7	33,9	2,5	0,12	3	92	5x11,5	ECR1VBK47M◇◇△△0511
	10	16,0	1,8	0,12	4	105	5x11,5	ECR1VBK100M◇◇△△0511
	22	7,3	1,5	0,12	8	120	5x11,5	ECR1VBK220M◇◇△△0511
	33	4,9	1,5	0,12	12	130	5x11,5	ECR1VBK330M◇◇△△0511
	47	3,4	1,7	0,12	17	90	5x11,5	ECR1VBK470M◇◇△△0511
		3,4	0,58	0,12	17	220	6,3x11,5	ECR1VBK470M◇◇△△0611
	100	1,6	0,80	0,12	35	151	6,3x11,5	ECR1VBK101M◇◇△△0611
		1,6	0,39	0,12	35	315	8x11,5	ECR1VBK101M◇◇△△0811
	220	0,73	0,23	0,12	77	500	10x12,5	ECR1VBK221M◇◇△△1012
		0,49	0,25	0,12	116	384	10x12,5	ECR1VBK331M◇◇△△1012
	330	0,49	0,18	0,12	116	615	10x16	ECR1VBK331M◇◇△△1016
	470	0,34	0,21	0,12	165	470	10x16	ECR1VBK471M◇◇△△1016
		0,34	0,12	0,12	165	825	10x20	ECR1VBK471M◇◇△△1020
	1 000	0,16	0,095	0,12	350	857	12,5x20	ECR1VBK102M◇◇△△1220
		0,16	0,068	0,12	350	1300	12,5x25	ECR1VBK102M◇◇△△1225
50 (63) 1H	2 200	0,085	0,056	0,14	770	1380	16x25	ECR1VBK222M◇◇△△1625
		0,085	0,045	0,14	770	2110	16x31,5	ECR1VBK222M◇◇△△1631
	3 300	0,065	0,042	0,16	1155	1780	16x35,5	ECR1VBK332M◇◇△△1635
		0,065	0,036	0,16	1155	2580	18x35,5	ECR1VBK332M◇◇△△1835
	4 700	0,051	0,036	0,18	1645	2120	18x35,5	ECR1VBK472M◇◇△△1835

50 (63) 1H	0,10	1.327	18,0	0,10	3	10	5x11,5	ECR1HBK0R1M◇◇△△0511
	0,22	603	13,0	0,10	3	15	5x11,5	ECR1HBK0R2M◇◇△△0511
	0,33	402	10,0	0,10	3	18	5x11,5	ECR1HBK0R3M◇◇△△0511
	0,47	283	7,0	0,10	3	23	5x11,5	ECR1HBK0R4M◇◇△△0511
	1,0	133	4,9	0,10	3	35	5x11,5	ECR1HBK0R10M◇◇△△0511
	2,2	60,3	4,2	0,10	3	53	5x11,5	ECR1HBK2R2M◇◇△△0511
	3,3	40,2	3,9	0,10	3	65	5x11,5	ECR1HBK3R3M◇◇△△0511
	4,7	28,3	3,6	0,10	3	82	5x11,5	ECR1HBK4R7M◇◇△△0511
	10	13,3	2,7	0,10	5	100	5x11,5	ECR1HBK100M◇◇△△0511
	22	6,1	1,9	0,10	11	125	5x11,5	ECR1HBK220M◇◇△△0511
		4,1	1,9	0,10	17	90	5x11,5	ECR1HBK330M◇◇△△0511
	33	4,1	1,1	0,10	17	195	6,3x11,5	ECR1HBK330M◇◇△△0611
	47	2,9	0,90	0,10	24	245	6,3x11,5	ECR1HBK470M◇◇△△0611
	100	1,4	0,50	0,10	50	385	8x11,5	ECR1HBK101M◇◇△△0811
	220	0,61	0,38	0,10	110	314	10x12,5	ECR1HBK221M◇◇△△1012
100 (125) 2J		0,61	0,27	0,10	110	505	10x16	ECR1HBK221M◇◇△△1016



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	Z _{max} Max Impedance 20°C 100kHz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 100kHz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)	(Ω)		(μA)	(mA _{RMS})	(mm)	
63 (79) 1J	4,7	25,4	5,8	0,09	3	74	5x11,5	ECR1JBK4R7M◇◇△△0511
	10	12,0	3,6	0,09	7	95	5x11,5	ECR1JBK100M◇◇△△0511
	22	5,5	2,1	0,09	14	130	6,3x11,5	ECR1JBK220M◇◇△△0611
	33	3,7	1,7	0,09	21	160	6,3x11,5	ECR1JBK330M◇◇△△0611
	47	2,6	1,8	0,09	30	120	6,3x11,5	ECR1JBK470M◇◇△△0611
		2,6	1,2	0,09	30	305	8x11,5	ECR1JBK470M◇◇△△0811
	100	1,2	0,65	0,09	63	395	10x12,5	ECR1JBK101M◇◇△△1012
	220	0,55	0,48	0,09	139	335	10x16	ECR1JBK221M◇◇△△1016
		0,55	0,32	0,09	139	505	10x20	ECR1JBK221M◇◇△△1020
	330	0,37	0,32	0,09	208	510	10x20	ECR1JBK331M◇◇△△1020
		0,37	0,22	0,09	208	660	12,5x20	ECR1JBK331M◇◇△△1220
	470	0,26	0,16	0,09	297	640	12,5x20	ECR1JBK471M◇◇△△1220
		0,26	0,16	0,09	297	850	12,5x25	ECR1JBK471M◇◇△△1225
	1 000	0,12	0,13	0,09	630	930	16x25	ECR1JBK102M◇◇△△1625
		0,12	0,098	0,09	630	1430	16x31,5	ECR1JBK102M◇◇△△1631

100 (125) 2A	0,47	226	13,0	0,08	3	30	5x11,5	ECR2ABKR47M◇◇△△0511
	1,0	107	11,0	0,08	3	45	5x11,5	ECR2ABK010M◇◇△△0511
	2,2	48,3	9,2	0,08	3	60	5x11,5	ECR2ABK2R2M◇◇△△0511
	3,3	32,2	7,2	0,08	4	67	5x11,5	ECR2ABK3R3M◇◇△△0511
	4,7	22,6	6,3	0,08	5	75	5x11,5	ECR2ABK4R7M◇◇△△0511
	10	10,7	3,3	0,08	10	110	6,3x11,5	ECR2ABK100M◇◇△△0611
	22	4,9	3,5	0,08	22	93	6,3x11,5	ECR2ABK220M◇◇△△0611
		4,9	1,4	0,08	22	165	8x11,5	ECR2ABK220M◇◇△△0811
	33	3,3	1,5	0,08	33	130	8x11,5	ECR2ABK330M◇◇△△0811
		3,3	0,94	0,08	33	305	10x12,5	ECR2ABK330M◇◇△△1012
	47	2,3	1,1	0,08	47	165	10x12,5	ECR2ABK470M◇◇△△1012
		2,3	0,68	0,08	47	320	10x16	ECR2ABK470M◇◇△△1016
	100	1,1	0,50	0,08	100	265	10x20	ECR2ABK101M◇◇△△1020
		1,1	0,28	0,08	100	585	12,5x20	ECR2ABK101M◇◇△△1220
	220	0,49	0,22	0,08	220	440	12,5x25	ECR2ABK221M◇◇△△1225
		0,49	0,16	0,08	220	1120	16x25	ECR2ABK221M◇◇△△1625
	330	0,33	0,13	0,08	330	1290	16x25	ECR2ABK331M◇◇△△1625
	470	0,23	0,11	0,08	470	1350	16x31,5	ECR2ABK471M◇◇△△1631

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	Z _{max} Max Impedance 20°C 100kHz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)	(Ω)		(μA)	(mA _{RMS})	(mm)	
160 (200) 2C	0,47	424	-	0,15	48	12	6,3x11,5	ECR2CBKR47M◇◇△△0611
	1,0	199	-	0,15	56	18	6,3x11,5	ECR2CBK010M◇◇△△0611
	2,2	90,5	-	0,15	76	26	6,3x11,5	ECR2CBK2R2M◇◇△△0611
	3,3	60,3	-	0,15	93	28	6,3x11,5	ECR2CBK3R3M◇◇△△0611
		60,3	-	0,15	93	37	8x11,5	ECR2CBK3R3M◇◇△△0811
	4,7	42,4	-	0,15	116	34	6,3x11,5	ECR2CBK4R7M◇◇△△0611
		42,4	-	0,15	116	44	8x11,5	ECR2CBK4R7M◇◇△△0811
	10	19,9	-	0,15	164	58	8x11,5	ECR2CBK100M◇◇△△0811
		19,9	-	0,15	164	75	10x12,5	ECR2CBK100M◇◇△△1012
	22	9,1	-	0,15	241	135	10x16	ECR2CBK220M◇◇△△1016
	33	6,1	-	0,15	312	175	10x20	ECR2CBK330M◇◇△△1020
	47	4,3	-	0,15	401	230	12,5x20	ECR2CBK470M◇◇△△1220
	100	2,0	-	0,15	740	299	12,5x25	ECR2CBK101M◇◇△△1225
		2,0	-	0,15	740	330	16x25,5	ECR2CBK101M◇◇△△1625
	220	1,0	-	0,15	1508	500	16x35,5	ECR2CBK221M◇◇△△1635
	330	0,61	-	0,15	2212	764	18x36	ECR2CBK331M◇◇△△1836

200 (250) 2D	0,47	424	-	0,15	50	12	6,3x11,5	ECR2DBKR47M◇◇△△0611
	1,0	199	-	0,15	60	18	6,3x11,5	ECR2DBK010M◇◇△△0611
	2,2	90,5	-	0,15	84	26	6,3x11,5	ECR2DBK2R2M◇◇△△0611
	3,3	60,3	-	0,15	106	28	6,3x11,5	ECR2DBK3R3M◇◇△△0611
		60,3	-	0,15	106	37	8x11,5	ECR2DBK3R3M◇◇△△0811
	4,7	42,4	-	0,15	134	40	8x11,5	ECR2DBK4R7M◇◇△△0811
		42,4	-	0,15	134	50	10x12,5	ECR2DBK4R7M◇◇△△1012
	10	19,9	-	0,15	180	66	10x12,5	ECR2DBK100M◇◇△△1012
		19,9	-	0,15	180	80	10x16	ECR2DBK100M◇◇△△1016
	22	9,1	-	0,15	276	135	10x20	ECR2DBK220M◇◇△△1020
	33	6,1	-	0,15	364	190	12,5x20	ECR2DBK330M◇◇△△1220
	47	4,3	-	0,15	476	230	12,5x25	ECR2DBK470M◇◇△△1225
	100	2,0	-	0,15	900	360	16x25,5	ECR2DBK101M◇◇△△1625
	220	1,0	-	0,15	1860	525	18x31,5	ECR2DBK221M◇◇△△1831

250 (300) 2E	0,47	424	-	0,15	52	12	6,3x11,5	ECR2EBKR47M◇◇△△0611
	1,0	199	-	0,15	65	18	6,3x11,5	ECR2EBK010M◇◇△△0611
	2,2	90,5	-	0,15	95	23	6,3x11,5	ECR2EBK2R2M◇◇△△0611
	3,3	90,5	-	0,15	95	30	8x11,5	ECR2EBK2R2M◇◇△△0811
		60,3	-	0,15	123	43	8x11,5	ECR2EBK3R3M◇◇△△0811
	4,7	60,3	-	0,15	123	43	10x12,5	ECR2EBK3R3M◇◇△△1012
		42,4	-	0,15	147	40	8x11,5	ECR2EBK4R7M◇◇△△0811
	10	42,4	-	0,15	147	50	10x12,5	ECR2EBK4R7M◇◇△△1012
		19,9	-	0,15	200	90	10x16	ECR2EBK100M◇◇△△1016
	22	9,1	-	0,15	320	155	12,5x20	ECR2EBK220M◇◇△△1220
	33	6,1	-	0,15	430	190	12,5x25	ECR2EBK330M◇◇△△1225
	47	4,3	-	0,15	570	205	12,5x25	ECR2EBK470M◇◇△△1225
		4,3	-	0,15	570	225	16x25,5	ECR2EBK470M◇◇△△1625
	100	2,0	-	0,15	1100	340	16x31,5	ECR2EBK101M◇◇△△1631
	150	1,3	-	0,15	1600	405	18x25,5	ECR2EBK151M◇◇△△1825
	220	0,90	-	0,15	2300	570	18x36	ECR2EBK221M◇◇△△1836

350 (400) 2V	0,47	565	-	0,20	57	11	6,3x11,5	ECR2VBKR47M◇◇△△0611
	1,0	266	-	0,20	75	18	8x11,5	ECR2VBK010M◇◇△△0811
	2,2	121	-	0,20	117	30	8x11,5	ECR2VBK2R2M◇◇△△0811
	3,3	80,4	-	0,20	147	36	10x12,5	ECR2VBK2R2M◇◇△△1012
	4,7	56,5	-	0,20	166	45	10x12,5	ECR2VBK3R3M◇◇△△1012
		56,5	-	0,20	166	47	10x16	ECR2VBK4R7M◇◇△△1016
	10	26,6	-	0,20	240	95	10x20	ECR2VBK100M◇◇△△1020
	22	12,1	-	0,20	408	130	12,5x20	ECR2VBK220M◇◇△△1220
	33	8,0	-	0,20	562	180	12,5x25	ECR2VBK330M◇◇△△1225
		8,0	-	0,20	562	160	16x25,5	ECR2VBK330M◇◇△△1625
	47	5,7	-	0,20	758	330	16x25,5	ECR2VBK470M◇◇△△1625
	100	3,0	-	0,20	1500	620	18x31,5	ECR2VBK101M◇◇△△1831



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	Z _{max} Max Impedance 20°C 100kHz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code
(V)	(μF)	(Ω)	(Ω)		(μA)	(mA _{RMS})	(mm)	Details: Page 33
400 (450) 2G	1,0	266	-	0,20	80	16	6,3x11,5	ECR2GBK010M◇◇△△0611
		266	-	0,20	80	18	8x11,5	ECR2GBK010M◇◇△△0811
	2,2	121	-	0,20	128	25	8x11,5	ECR2GBK2R2M◇◇△△0811
		121	-	0,20	128	30	10x12,5	ECR2GBK2R2M◇◇△△1012
	3,3	80,4	-	0,20	153	35	10x12,5	ECR2GBK3R3M◇◇△△1012
		80,4	-	0,20	153	40	10x16	ECR2GBK3R3M◇◇△△1016
	4,7	56,5	-	0,20	176	47	10x12,5	ECR2GBK4R7M◇◇△△1012
		56,5	-	0,20	176	52	10x16	ECR2GBK4R7M◇◇△△1016
	10	26,6	-	0,20	260	80	10x16	ECR2GBK100M◇◇△△1016
		26,6	-	0,20	260	95	10x20	ECR2GBK100M◇◇△△1020
	22	12,1	-	0,20	452	120	12,5x20	ECR2GBK100M◇◇△△1220
		12,1	-	0,20	452	150	12,5x25,5	ECR2GBK220M◇◇△△1225
	33	8,1	-	0,20	628	180	12,5x25	ECR2GBK330M◇◇△△1225
		8,1	-	0,20	628	180	16x20	ECR2GBK330M◇◇△△1620
	47	5,7	-	0,20	852	360	16x25,5	ECR2GBK330M◇◇△△1625
		5,7	-	0,20	852	360	16x25,5	ECR2GBK470M◇◇△△1625
	68	3,9	-	0,20	1188	470	18x25,5	ECR2GBK680M◇◇△△1825
		3,2	-	0,20	1412	575	18x31,5	ECR2GBK820M◇◇△△1831
	100	2,7	-	0,20	1700	675	18x36	ECR2GBK101M◇◇△△1836
	120	2,2	-	0,20	2020	735	18x40	ECR2GBK121M◇◇△△1840
	150	1,8	-	0,20	2500	825	20x41	ECR2GBK151M◇◇△△2041

420 (470) 2X	1,0	266	-	0,20	82	16	8x11,5	ECR2XBK010M◇◇△△0811
		266	-	0,20	82	19	10x12,5	ECR2XBK010M◇◇△△1012
	2,2	121	-	0,20	133	24	8x11,5	ECR2XBK2R2M◇◇△△0811
		121	-	0,20	133	29	10x12,5	ECR2XBK2R2M◇◇△△1012
	3,3	80,4	-	0,20	156	34	10x12,5	ECR2XBK3R3M◇◇△△1012
		80,4	-	0,20	156	38	10x16	ECR2XBK3R3M◇◇△△1016
	4,7	56,5	-	0,20	179	46	10x16	ECR2XBK4R7M◇◇△△1016
		56,5	-	0,20	179	52	10x20	ECR2XBK4R7M◇◇△△1020
	10	26,5	-	0,20	268	100	10x20	ECR2XBK100M◇◇△△1020
		26,5	-	0,20	268	116	12,5x20	ECR2XBK100M◇◇△△1220
	22	12,1	-	0,20	470	162	12,5x25	ECR2XBK220M◇◇△△1225
		8,0	-	0,20	655	204	16x20	ECR2XBK330M◇◇△△1620
	33	8,0	-	0,20	655	228	16x25,5	ECR2XBK330M◇◇△△1625
		5,6	-	0,20	890	380	16x31,5	ECR2XBK470M◇◇△△1631
	56	4,7	-	0,20	1041	420	16x31,5	ECR2XBK560M◇◇△△1631
		4,7	-	0,20	1041	420	18x25,5	ECR2XBK560M◇◇△△1825
	68	3,9	-	0,20	1243	542	16x36	ECR2XBK680M◇◇△△1636
		3,9	-	0,20	1243	542	18x31,5	ECR2XBK680M◇◇△△1831
	82	3,2	-	0,20	1478	608	16x40	ECR2XBK820M◇◇△△1640
		3,2	-	0,20	1478	608	18x31,5	ECR2XBK820M◇◇△△1831
	100	2,7	-	0,20	1780	713	16x45	ECR2XBK101M◇◇△△1645
		2,7	-	0,20	1780	713	18x36	ECR2XBK101M◇◇△△1836
	120	2,2	-	0,20	2116	779	16x50	ECR2XBK121M◇◇△△1650
		2,2	-	0,20	2116	779	18x40	ECR2XBK121M◇◇△△1840
	150	1,8	-	0,20	2620	874	16x60	ECR2XBK151M◇◇△△1660
		1,8	-	0,20	2620	874	20x41	ECR2XBK151M◇◇△△2041

450 (500) 2W	1,0	266	-	0,20	85	16	8x11,5	ECR2WBK010M◇◇△△0811
		266	-	0,20	85	19	10x12,5	ECR2WBK010M◇◇△△1012
	2,2	121	-	0,20	139	26	10x12,5	ECR2WBK2R2M◇◇△△1012
		121	-	0,20	139	29	10x16	ECR2WBK2R2M◇◇△△1016
	3,3	80,4	-	0,20	160	38	10x16	ECR2WBK3R3M◇◇△△1016
		80,4	-	0,20	160	42	10x20	ECR2WBK3R3M◇◇△△1020
	4,7	56,5	-	0,20	185	49	10x16	ECR2WBK4R7M◇◇△△1016
		56,5	-	0,20	185	54	10x20	ECR2WBK4R7M◇◇△△1020
	10	26,6	-	0,20	280	120	10x20	ECR2WBK100M◇◇△△1020
	22	12,1	-	0,20	496	170	12,5x25	ECR2WBK220M◇◇△△1225
	33	8,1	-	0,20	694	240	16x25,5	ECR2WBK330M◇◇△△1625
	47	5,6	-	0,20	946	400	16x31,5	ECR2WBK470M◇◇△△1631
	56	4,7	-	0,20	1108	440	16x31,5	ECR2WBK560M◇◇△△1631
		4,7	-	0,20	1108	440	18x25,5	ECR2WBK560M◇◇△△1825
	68	4,0	-	0,20	1324	490	16x36	ECR2WBK680M◇◇△△1636
		4,0	-	0,20	1324	570	18x31,5	ECR2WBK680M◇◇△△1831
	82	3,2	-	0,20	1576	640	16x40	ECR2WBK820M◇◇△△1640
		3,2	-	0,20	1576	640	18x31,5	ECR2WBK820M◇◇△△1831

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	Z _{max} Max Impedance 20°C 100kHz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code
(V)	(μF)	(Ω)	(Ω)		(μA)	(mA _{RMS})	(mm)	Details: Page 33
450 (500) 2W	100	2,7	-	0,20	1900	750	16x45	ECR2WBK101M◇◇△△1645
		2,7	-	0,20	1900	750	18x36	ECR2WBK101M◇◇△△1836
	120	2,2	-	0,20	2260	820	16x50	ECR2WBK121M◇◇△△1650
		2,2	-	0,20	2260	820	18x40	ECR2WBK121M◇◇△△1840
	150	1,8	-	0,20	2800	920	16x60	ECR2WBK151M◇◇△△1660
		1,8	-	0,20	2800	920	18x46	ECR2WBK151M◇◇△△1846
	180	1,5	-	0,20	3340	1100	22x41	ECR2WBK181M◇◇△△2241
		1,2	-	0,20	4060	1200	22x45	ECR2WBK221M◇◇△△2245

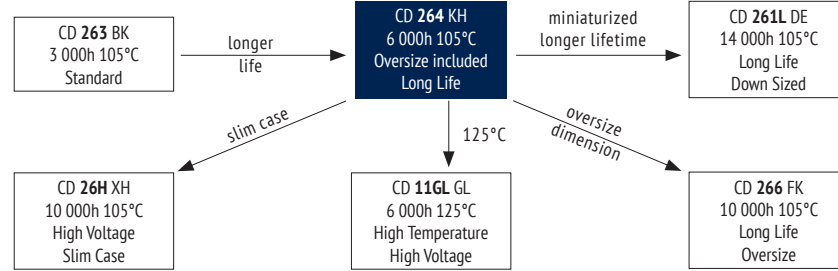
500 (550) 2H	1,0	266	-	0,20	90	21	10x12,5	ECR2HBK010M◇◇△△1012
	2,2	121	-	0,20	144	35	10x16	ECR2HBK2R2M◇◇△△1016
	3,3	80,4	-	0,20	166	48	10x20	ECR2HBK3R3M◇◇△△1020
	4,7	56,5	-	0,20	194	63	12,5x20	ECR2HBK4R7M◇◇△△1220
	10	26,6	-	0,20	300	120	12,5x25	ECR2HBK100M◇◇△△1225
	22	12,1	-	0,20	540	180	16x25,5	ECR2HBK220M◇◇△△1625
	33	8,0	-	0,20	760	240	16x31,5	ECR2HBK330M◇◇△△1631
	47	5,6	-	0,20	1040	405	18x31,5	ECR2HBK470M◇◇△△1831
	56	4,7	-	0,20	1220	450	16x40	ECR2HBK560M◇◇△△1640
		4,7	-	0,20	1220	450	18x31,5	ECR2HBK560M◇◇△△1831
	68	3,9	-	0,20	1460	560	16x45	ECR2HBK680M◇◇△△1645
		3,9	-	0,20	1460	560	18x36	ECR2HBK680M◇◇△△1836
	82	3,2	-	0,20	1740	640	16x55	ECR2HBK820M◇◇△△1655
		3,2	-	0,20	1740	640	18x40	ECR2HBK820M◇◇△△1840
	100	2,7	-	0,20	2100	800	16x60	ECR2HBK101M◇◇△△1660
		2,7	-	0,20	2100	800	18x46	ECR2HBK101M◇◇△△1846
	120	2,2	-	0,20	2500	840	20x41	ECR2HBK101M◇◇△△2041
		2,2	-	0,20	2500	840	22x45	ECR2HBK121M◇◇△△2245
	150	1,8	-	0,20	3100	890	22x45	ECR2HBK151M◇◇△△2245

550V capacitors available on request.

■ = not preferred

6 000 at 105°C

- Professional Industry
- High Voltage up to 500V
- Oversize Dimensions



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	160 ~ 250	350 ~ 500
Capacitance Range (μF)	1 ~ 220	
Capacitance Tolerance (20°C, 120Hz)	± 20%	

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (μA) After 1 minute at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	160	200	250	350	400	420	450	500
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		3			6			8	
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		4			-			-	

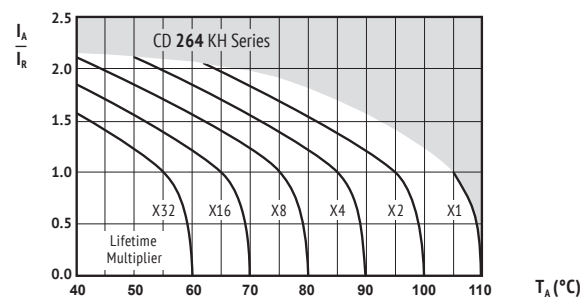
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	6 000h	> 70 000h	3 000h	4 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition:						
Applied Voltage	U_R	U_R	U_R	U_R	$U_R = 0$	After test: U_R to be applied for 30 min > 24h before measurement
Applied Current	I_R	$1,4 \times I_R$	I_R	$I_R = 0$	$I_R = 0$	
Applied Temperature	105°C	60°C	105°C	105°C IEC 60384	105°C	

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency		50/60Hz	120Hz	1kHz	10kHz	50kHz	100kHz
Coefficient	1,0 ~ 10μF	0,8	1	1,75	2,0	2,4	2,5
	22 ~ 47μF	0,8	1	1,6	1,8	1,9	2,0
	56 ~ 220μF	0,8	1	1,3	1,4	1,55	1,6

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{MAX} Equivalent Series Resistance 20°C 120Hz	ESR_{TYP} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)	(Ω)		(mA)	(mArms)	(mm)	
160 (200) 2C	10	15,9	5,3	0,12	0,118	95	10 x 12,5	ECR2CKH100M◇◇501012
	22	7,2	2,4	0,12	0,176	145	10 x 16	ECR2CKH220M◇◇501016
	33	4,8	1,6	0,12	0,228	190	10 x 20	ECR2CKH330M◇◇501020
	47	3,4	1,1	0,12	0,296	280	12,5 x 20	ECR2CKH470M◇◇501220
	100	1,6	0,5	0,12	0,550	380	16 x 25,5	ECR2CKH101M◇◇751625
		1,6	0,5	0,12	0,550	380	18 x 20	ECR2CKH101M◇◇751820
	220	0,7	0,2	0,12	1,126	630	16 x 35,5	ECR2CKH221M◇◇751635
200 (250) 2D	4,7	33,9	11,2	0,12	0,096	60	10 x 12,5	ECR2DKH4R7M◇◇501012
	10	15,9	5,3	0,12	0,130	95	10 x 16	ECR2DKH100M◇◇501016
	22	7,2	2,4	0,12	0,202	145	10 x 20	ECR2DKH220M◇◇501020
	33	4,8	1,6	0,12	0,268	190	12,5 x 20	ECR2DKH330M◇◇501220
	47	3,4	1,1	0,12	0,352	280	12,5 x 25	ECR2DKH470M◇◇501225
		3,4	1,1	0,12	0,352	280	16 x 20	ECR2DKH470M◇◇751620
	100	1,6	0,5	0,12	0,670	410	16 x 25,5	ECR2DKH101M◇◇751625
		1,6	0,5	0,12	0,670	410	18 x 20	ECR2DKH101M◇◇751820
250 (300) 2E	4,7	33,9	11,2	0,12	0,105	60	10 x 12,5	ECR2EKH4R7M◇◇501012
	10	15,9	5,3	0,12	0,145	105	10 x 16	ECR2EKH100M◇◇501016
	22	7,2	2,4	0,12	0,235	180	12,5 x 20	ECR2EKH220M◇◇501220
	33	4,8	1,6	0,12	0,318	250	12,5 x 25	ECR2EKH330M◇◇501225
		4,8	1,6	0,12	0,318	250	16 x 20	ECR2EKH330M◇◇751620
	47	3,4	1,1	0,12	0,423	300	16 x 25,5	ECR2EKH470M◇◇751625
		3,4	1,1	0,12	0,423	300	18 x 20	ECR2EKH470M◇◇751820
	100	1,6	0,5	0,12	0,820	410	16 x 31,5	ECR2EKH101M◇◇751631
		1,6	0,5	0,12	0,820	410	18 x 25,5	ECR2EKH101M◇◇751825
350 (400) 2V	3,3	60,3	19,9	0,15	0,105	50	8 x 11,5	ECR2VKH3R3M◇◇350811
	4,7	42,3	14,0	0,15	0,119	65	10 x 16	ECR2VKH4R7M◇◇501016
	10	19,9	6,6	0,15	0,175	120	10 x 20	ECR2VKH100M◇◇501020
	22	9,0	3,0	0,15	0,301	180	12,5 x 20	ECR2VKH220M◇◇501220
	33	6,0	2,0	0,15	0,417	210	12,5 x 25	ECR2VKH330M◇◇501225
	47	4,2	1,4	0,15	0,564	350	16 x 25,5	ECR2VKH470M◇◇751625
		4,2	1,4	0,15	0,564	350	18 x 20	ECR2VKH470M◇◇751820
	100	2,0	0,7	0,15	1,120	650	18 x 31,5	ECR2VKH101M◇◇751831
400 (450) 2G	2,2	90,5	29,9	0,15	0,093	40	10 x 12,5	ECR2GKH2R2M◇◇501012
	3,3	60,3	19,9	0,15	0,110	50	10 x 16	ECR2GKH3R3M◇◇501016
	4,7	42,3	14,0	0,15	0,126	70	10 x 20	ECR2GKH4R7M◇◇501020
	10	19,9	6,3	0,15	0,190	120	12,5 x 20	ECR2GKH100M◇◇501220
	22	9,0	3,0	0,15	0,334	200	12,5 x 25	ECR2GKH220M◇◇501225
	33	6,0	2,0	0,15	0,466	245	16 x 25,5	ECR2GKH330M◇◇751625
		6,0	2,0	0,15	0,466	245	18 x 20	ECR2GKH330M◇◇751820
	47	4,2	1,4	0,15	0,634	380	16 x 31,5	ECR2GKH470M◇◇751631
		4,2	1,4	0,15	0,634	380	18 x 25,5	ECR2GKH470M◇◇751825
	68	2,9	1,0	0,15	0,886	500	18 x 25,5	ECR2GKH680M◇◇751825
	82	2,4	0,8	0,15	1,054	610	18 x 31,5	ECR2GKH820M◇◇751831
		2,4	0,8	0,15	1,054	560	20 x 25,5	ECR2GKH820M◇◇△△2025
	100	2,0	0,7	0,15	1,270	700	18 x 36	ECR2GKH101M◇◇751836
		2,0	0,7	0,15	1,270	640	20 x 30	ECR2GKH101M◇◇△△2030
	120	1,7	0,6	0,15	1,510	785	18 x 40	ECR2GKH121M◇◇751840
	150	1,3	0,4	0,15	1,870	840	20 x 41	ECR2GKH151M◇◇△△2041
420 (470) 2X	1	266	88,0	0,20	0,065	23	10 x 12,5	ECR2XKH010M◇◇501012
	2,2	121	40,0	0,20	0,095	38	10 x 16	ECR2XKH2R2M◇◇501016
	3,3	81,0	26,5	0,20	0,112	45	10 x 20	ECR2XKH3R3M◇◇501020
	4,7	56,5	18,6	0,20	0,129	60	10 x 20	ECR2XKH4R7M◇◇501020
	10	26,5	8,8	0,20	0,196	118	12,5 x 20	ECR2XKH100M◇◇501220
	22	12,1	4,0	0,20	0,347	170	12,5 x 25	ECR2XKH220M◇◇501225
	33	8,0	2,7	0,20	0,486	230	16 x 25,5	ECR2XKH330M◇◇751625
	47	5,6	2,3	0,20	0,662	350	16 x 31,5	ECR2XKH470M◇◇751631
	56	4,7	1,9	0,20	0,776	425	16 x 31,5	ECR2XKH560M◇◇751631
		4,7	1,9	0,20	0,776	425	18 x 25,5	ECR2XKH560M◇◇751825
	68	3,9	1,6	0,20	0,927	510	16 x 36	ECR2XKH680M◇◇751636
		3,9	1,6	0,20	0,927	510	18 x 31,5	ECR2XKH680M◇◇751831
	82	3,2	1,3	0,20	1,103	625	16 x 40	ECR2XKH820M◇◇751640
		3,2	1,3	0,20	1,103	625	18 x 31,5	ECR2XKH820M◇◇751831

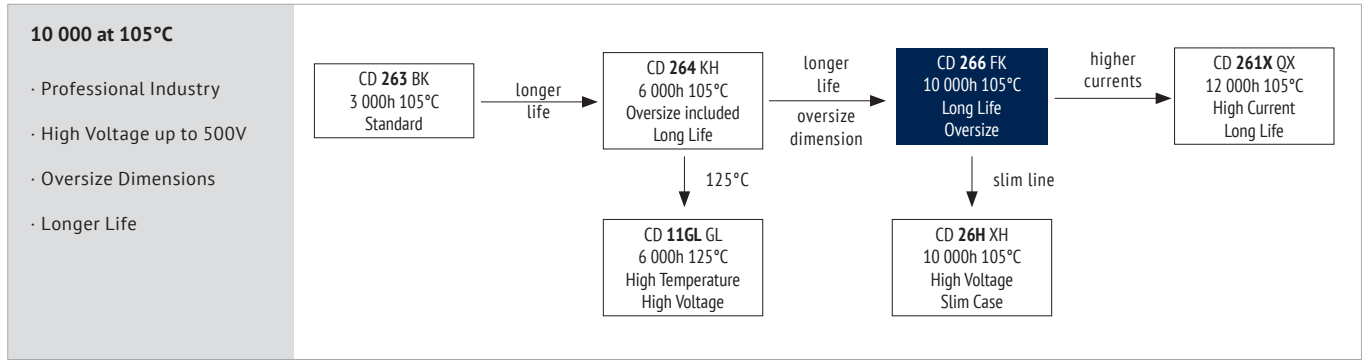
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{MAX} Equivalent Series Resistance 20°C 120Hz	ESR_{TYP} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pitch code
(V)	(µF)	(Ω)	(Ω)		(mA)	(mA _{RMS})	(mm)	Details: Page 33

420 (470) 2X	100	2,7	1,1	0,20	1,330	720	16 x 45	ECR2XKH101M◇◇751645
		2,7	1,1	0,20	1,330	720	18 x 36	ECR2XKH101M◇◇751836
	120	2,2	0,9	0,20	1,582	800	16 x 50	ECR2XKH121M◇◇751650
		2,2	0,9	0,20	1,582	800	18 x 40	ECR2XKH121M◇◇751840
	150	1,8	0,7	0,20	1,960	850	16 x 60	ECR2XKH151M◇◇751660
		1,8	0,7	0,20	1,960	850	20 x 41	ECR2XKH151M◇◇△△2041

450 (500) 2W	1	265	87,6	0,20	0,067	30	10 x 12,5	ECR2WKH101M◇◇501012
	2,2	121	40,0	0,20	0,099	45	10 x 16	ECR2WKH2R2M◇◇501016
	3,3	80,4	26,5	0,20	0,115	65	10 x 20	ECR2WKH3R3M◇◇501020
	4,7	56,5	18,6	0,20	0,133	80	12,5 x 20	ECR2WKH4R7M◇◇501220
	10	26,5	8,8	0,20	0,205	140	12,5 x 25	ECR2WKH100M◇◇501225
	22	12,1	4,0	0,20	0,367	220	16 x 25,5	ECR2WKH220M◇◇751625
	33	8,0	2,7	0,20	0,516	280	16 x 31,5	ECR2WKH330M◇◇751631
	47	5,6	1,9	0,20	0,705	420	16 x 31,5	ECR2WKH470M◇◇751631
	56	4,7	1,7	0,20	0,826	450	16 x 31,5	ECR2WKH560M◇◇751631
		4,7	1,7	0,20	0,826	450	18 x 25,5	ECR2WKH560M◇◇751825
	68	3,9	1,3	0,20	0,988	520	16 x 36	ECR2WKH680M◇◇751636
		3,9	1,3	0,20	0,988	590	18 x 31,5	ECR2WKH680M◇◇751831
	82	3,2	1,1	0,20	1,177	650	16 x 40	ECR2WKH820M◇◇751640
		3,2	1,1	0,20	1,177	650	18 x 31,5	ECR2WKH820M◇◇751831
		3,2	1,1	0,20	1,177	580	20 x 30	ECR2WKH820M◇◇△△2030
	100	2,7	0,9	0,20	1,420	760	16 x 45	ECR2WKH101M◇◇751645
		2,7	0,9	0,20	1,420	760	18 x 36	ECR2WKH101M◇◇751836
		2,7	0,9	0,20	1,420	680	20 x 30	ECR2WKH101M◇◇△△2030
	120	2,2	0,7	0,20	1,690	830	16 x 50	ECR2WKH121M◇◇751650
		2,2	0,7	0,20	1,690	830	18 x 40	ECR2WKH121M◇◇751840
	150	1,8	0,6	0,20	2,095	920	16 x 60	ECR2WKH151M◇◇751660
		1,8	0,6	0,20	2,095	920	18 x 46	ECR2WKH151M◇◇751846
		1,8	0,6	0,20	2,095	920	20 x 41	ECR2WKH151M◇◇△△2041
	180	1,5	0,5	0,20	2,500	1100	22 x 41	ECR2WKH181M◇◇102241
	220	1,2	0,4	0,20	3,040	1200	22 x 45	ECR2WKH221M◇◇102245

500 (550) 2H	1	265	107	0,20	0,070	32	10 x 12,5	ECR2HKH101M◇◇501012
	2,2	121	48,3	0,20	0,103	49	10 x 16	ECR2HKH2R2M◇◇501016
	3,3	80,4	32,2	0,20	0,120	68	10 x 20	ECR2HKH3R3M◇◇501020
	4,7	56,5	22,6	0,20	0,141	84	12,5 x 20	ECR2HKH4R7M◇◇501220
	10	26,5	10,6	0,20	0,220	145	12,5 x 25	ECR2HKH100M◇◇501225
	22	12,1	4,8	0,20	0,400	230	16 x 25,5	ECR2HKH220M◇◇751625
	33	8,0	3,2	0,20	0,565	295	16 x 31,5	ECR2HKH330M◇◇751631
	47	5,6	2,3	0,20	0,775	415	16 x 36	ECR2HKH470M◇◇751636
		5,6	2,3	0,20	0,775	415	18 x 31,5	ECR2HKH470M◇◇751831
	56	4,7	1,9	0,20	0,910	460	16 x 40	ECR2HKH560M◇◇751640
		4,7	1,9	0,20	0,910	460	18 x 31,5	ECR2HKH560M◇◇751831
	68	3,9	1,6	0,20	1,090	580	16 x 45	ECR2HKH680M◇◇751645
		3,9	1,6	0,20	1,090	580	18 x 36	ECR2HKH680M◇◇751836
		3,9	1,6	0,20	1,090	580	18 x 40	ECR2HKH680M◇◇751840
	82	3,2	1,3	0,20	1,300	650	16 x 55	ECR2HKH820M◇◇751655
		3,2	1,3	0,20	1,300	650	18 x 40	ECR2HKH820M◇◇751840
	100	2,7	1,1	0,20	1,570	820	16 x 60	ECR2HKH101M◇◇751660
		2,7	1,1	0,20	1,570	820	18 x 46	ECR2HKH101M◇◇751846
		2,7	1,1	0,20	1,570	820	20 x 41	ECR2HKH101M◇◇△△2041
	120	2,2	0,9	0,20	1,870	860	22 x 45	ECR2HKH121M◇◇102245
	150	1,8	0,7	0,20	2,320	930	22 x 45	ECR2HKH151M◇◇102245

550V capacitors available on request.



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	160 ~ 250	350 ~ 500
Capacitance Range (µF)	1 ~ 220	
Capacitance Tolerance (20°C, 120Hz)	± 20%	

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (µA) After 1 minute at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	160	200	250	350	400	450	500
$Z_{-25°C} / Z_{+20°C}$			3			6		8
$Z_{-40°C} / Z_{+20°C}$			4			-		-

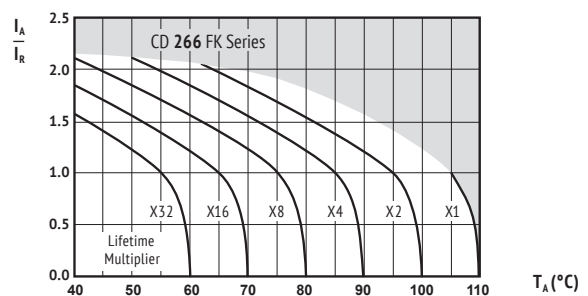
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	Ø 10 : 8 000h Ø ≥ 12,5 : 10 000h	Ø ≥ 10 : 70 000h	Ø 10 : 4 000h Ø ≥ 12,5 : 5 000h	Ø 10 : 6 000h Ø ≥ 12,5 : 7 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 60°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency		50/60Hz	120Hz	1kHz	10kHz	50kHz	100kHz
Coefficient	1,0 ~ 10µF	0,8	1	1,75	2,0	2,4	2,5
	22 ~ 47µF	0,8	1	1,6	1,8	1,9	2,0
	56 ~ 220µF	0,8	1	1,3	1,4	1,55	1,6

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and RECh compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{MAX} Equivalent Series Resistance 20°C 120Hz	ESR_{TYP} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code
(V)	(μF)	(Ω)	(Ω)		(mA)	(mA _{RMS})	(mm)	Details: Page 33
160 (200) 2C	10	15,9	7,0	0,12	0,118	95	10 x 12,5	ECR2CFK100M◇◇501012
	22	7,2	3,5	0,12	0,176	145	10 x 16	ECR2CFK220M◇◇501016
	33	4,8	2,2	0,12	0,228	190	10 x 20	ECR2CFK330M◇◇501020
	47	3,4	1,5	0,12	0,296	280	12,5 x 20	ECR2CFK470M◇◇501220
	100	1,6	0,7	0,12	0,550	380	16 x 25,5	ECR2CFK101M◇◇751625
		1,6	0,7	0,12	0,550	380	18 x 20	ECR2CFK101M◇◇751820
	220	0,7	0,3	0,12	1,126	630	16 x 35,5	ECR2CFK221M◇◇751635
200 (250) 2D	4,7	33,9	14,0	0,12	0,096	60	10 x 12,5	ECR2DFK4R7M◇◇501012
	10	15,9	7,0	0,12	0,130	95	10 x 16	ECR2DFK100M◇◇501016
	22	7,2	3,5	0,12	0,202	145	10 x 20	ECR2DFK220M◇◇501020
	33	4,8	2,2	0,12	0,268	190	12,5 x 20	ECR2DFK330M◇◇501220
	47	3,4	1,5	0,12	0,352	280	12,5 x 25	ECR2DFK470M◇◇501225
		3,4	1,5	0,12	0,352	280	16 x 20	ECR2DFK470M◇◇751620
	100	1,6	0,7	0,12	0,670	410	16 x 25,5	ECR2DFK101M◇◇751625
		1,6	0,7	0,12	0,670	410	18 x 20	ECR2DFK101M◇◇751820
250 (300) 2E	4,7	33,9	14,0	0,12	0,105	60	10 x 12,5	ECR2EFK4R7M◇◇501012
	10	15,9	7,0	0,12	0,145	105	10 x 16	ECR2EFK100M◇◇501016
	22	7,2	3,5	0,12	0,235	180	12,5 x 20	ECR2EFK220M◇◇501220
	33	4,8	2,2	0,12	0,318	250	12,5 x 25	ECR2EFK330M◇◇501225
		4,8	2,2	0,12	0,318	250	16 x 20	ECR2EFK330M◇◇751620
	47	3,4	1,5	0,12	0,423	300	16 x 25,5	ECR2EFK470M◇◇751625
		3,4	1,5	0,12	0,423	300	18 x 20	ECR2EFK470M◇◇751820
	100	1,6	0,7	0,12	0,820	410	16 x 31,5	ECR2EFK101M◇◇751631
		1,6	0,7	0,12	0,820	410	18 x 25,5	ECR2EFK101M◇◇751825
	150	1,1	0,5	0,12	1,195	500	18 x 25,5	ECR2EFK151M◇◇751825
	220	0,7	0,3	0,12	1,720	700	18 x 36	ECR2EFK221M◇◇751836
350 (400) 2V	4,7	42,3	19,0	0,15	0,119	65	10 x 16	ECR2VFK4R7M◇◇501016
	10	19,9	10,0	0,15	0,175	120	10 x 20	ECR2VFK100M◇◇501020
	22	9,0	4,0	0,15	0,301	180	12,5 x 20	ECR2VFK220M◇◇501220
	33	6,0	2,5	0,15	0,417	210	12,5 x 25	ECR2VFK330M◇◇501225
	47	4,2	1,8	0,15	0,564	300	16 x 25,5	ECR2VFK470M◇◇751625
		4,2	1,8	0,15	0,564	300	18 x 20	ECR2VFK470M◇◇751820
	100	2,0	0,8	0,15	1,120	528	18 x 31,5	ECR2VFK101M◇◇751831
400 (450) 2G	2,2	90,5	40,0	0,15	0,093	40	10 x 12,5	ECR2GFK2R2M◇◇501012
	3,3	60,3	28,0	0,15	0,110	50	10 x 16	ECR2GFK3R3M◇◇501016
	4,7	42,3	19,0	0,15	0,126	70	10 x 20	ECR2GFK4R7M◇◇501020
	10	19,9	10,0	0,15	0,190	120	12,5 x 20	ECR2GFK100M◇◇501220
	22	9,0	4,0	0,15	0,334	200	12,5 x 25	ECR2GFK220M◇◇501225
	33	6,0	2,5	0,15	0,466	245	16 x 25,5	ECR2GFK330M◇◇751625
		6,0	2,5	0,15	0,466	245	18 x 20	ECR2GFK330M◇◇751820
	47	4,2	1,8	0,15	0,634	380	16 x 31,5	ECR2GFK470M◇◇751631
		4,2	1,8	0,15	0,634	380	18 x 25,5	ECR2GFK470M◇◇751825
	68	2,9	1,2	0,15	0,886	500	18 x 25,5	ECR2GFK680M◇◇751825
	82	2,4	1,0	0,15	1,054	610	18 x 31,5	ECR2GFK820M◇◇751831
	100	2,0	0,8	0,15	1,270	700	18 x 36	ECR2GFK101M◇◇751836
	120	1,7	0,6	0,15	1,510	785	18 x 40	ECR2GFK121M◇◇751840
	150	1,3	0,5	0,15	1,870	840	20 x 41	ECR2GFK151M◇◇△△2041
450 (500) 2W	1	266	80,0	0,20	0,067	30	10 x 12,5	ECR2WFK010M◇◇501012
	2,2	121	40,0	0,20	0,099	45	10 x 16	ECR2WFK2R2M◇◇501016
	3,3	80,4	24,0	0,20	0,115	65	10 x 20	ECR2WFK3R3M◇◇501020
	4,7	56,5	17,0	0,20	0,133	80	12,5 x 20	ECR2WFK4R7M◇◇501220
	10	26,5	8,0	0,20	0,205	140	12,5 x 25	ECR2WFK100M◇◇501225
	22	12,1	3,5	0,20	0,367	220	16 x 25,5	ECR2WFK220M◇◇751625
	33	8,0	2,5	0,20	0,516	280	16 x 31,5	ECR2WFK330M◇◇751631
	47	5,6	2,0	0,20	0,705	420	16 x 31,5	ECR2WFK470M◇◇751631
	56	4,7	1,7	0,20	0,826	470	18 x 25,5	ECR2WFK560M◇◇751825
	68	3,9	1,4	0,20	0,988	610	18 x 31,5	ECR2WFK680M◇◇751831
	82	3,2	1,1	0,20	1,177	680	18 x 31,5	ECR2WFK820M◇◇751831
	100	2,7	0,9	0,20	1,420	800	18 x 36	ECR2WFK101M◇◇751836
	120	2,2	0,8	0,20	1,690	875	18 x 40	ECR2WFK121M◇◇751840
	150	1,8	0,6	0,20	2,095	935	20 x 41	ECR2WFK151M◇◇△△2041
	180	1,5	0,5	0,20	2,500	1100	22 x 41	ECR2WFK181M◇◇102241
	220	1,2	0,4	0,20	3,010	1200	22 x 45	ECR2WFK221M◇◇102245

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{MAX} Equivalent Series Resistance 20°C 120Hz	ESR_{TYP} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)	(Ω)		(mA)	(mA _{rms})	(mm)	
500 (550) 2H	1	265	106	0,20	0,070	32	10 x 12,5	ECR2HFK010M◇◇501012
	2,2	121	48,0	0,20	0,103	49	10 x 16	ECR2HFK2R2M◇◇501016
	3,3	80,4	32,0	0,20	0,120	68	10 x 20	ECR2HFK3R3M◇◇501020
	4,7	56,5	22,6	0,20	0,141	84	12,5 x 20	ECR2HFK4R7M◇◇501220
	10	26,5	10,6	0,20	0,220	145	12,5 x 25	ECR2HFK100M◇◇501225
	22	12,1	4,8	0,20	0,400	230	16 x 25,5	ECR2HFK220M◇◇751625
	33	8,0	3,2	0,20	0,565	295	16 x 31,5	ECR2HFK330M◇◇751631
	47	5,6	2,3	0,20	0,775	415	18 x 31,5	ECR2HFK470M◇◇751831
	56	4,7	1,9	0,20	0,910	470	18 x 31,5	ECR2HFK560M◇◇751831
	68	3,9	1,6	0,20	1,090	620	18 x 36	ECR2HFK680M◇◇751836
	82	3,2	1,3	0,20	1,300	680	18 x 36	ECR2HFK820M◇◇751836
	100	2,7	1,1	0,20	1,570	860	18 x 46	ECR2HFK101M◇◇751846
		2,7	1,1	0,20	1,570	860	20 x 41	ECR2HFK101M◇◇△△2041
	120	2,2	0,9	0,20	1,870	900	22 x 45	ECR2HFK121M◇◇102245
	150	1,8	0,7	0,20	2,320	980	22 x 45	ECR2HFK151M◇◇102245

550V capacitors available on request.

6 000 ~ 10 000h
at 105°C

- Slim Type
- High Ripple Current

CD 263 BK
3 000h
105°C
Standard

slim line

CD 26H XH
10 000h 105°C
High Voltage
Slim Case

ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-25 ~ +105
Voltage Range (V)	200 ~ 500
Capacitance Range (μF)	12 ~ 220
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (μA) After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	200 ~ 250	400 ~ 500
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	3	8

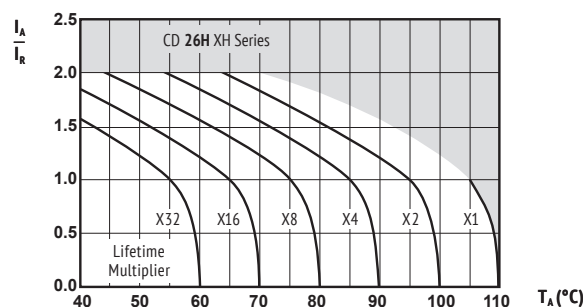
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	$\emptyset \leq 10$: 6 000h $\emptyset > 10$: 10 000h	$\geq 100\ 000\text{h}$	$\emptyset \leq 10$: 3 000h $\emptyset > 10$: 5 000h	$\emptyset \leq 10$: 4 000h $\emptyset > 10$: 5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 300% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,2 \times I_R$ 60°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Coefficient (V)	50/60Hz	120Hz	500Hz	1kHz	>10kHz
200 ~ 250	0,8	1,0	1,20	1,30	1,40
400 ~ 500	0,8	1,0	1,25	1,40	1,50

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{MAX} Equivalent Series Resistance 20°C 120Hz	ESR_{TYP} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω)	(Ω)		(mA)	(mA _{RMS})	(mm)	
200 (250) 2D	82	1,95	1,1	0,12	0,328	420	10 x 36	ECR2DXH820M◇◇△△1036
	100	1,60	0,9	0,12	0,400	480	10 x 40	ECR2DXH101M◇◇△△1040
	120	1,33	0,7	0,12	0,480	540	10 x 45	ECR2DXH121M◇◇△△1045
	150	1,10	0,6	0,12	0,600	650	12,5 x 36	ECR2DXH151M◇◇△△1236
	180	0,90	0,5	0,12	0,720	730	12,5 x 42	ECR2DXH181M◇◇△△1242
	220	0,73	0,4	0,12	0,880	840	12,5 x 45	ECR2DXH221M◇◇△△1245
250 (300) 2E	47	4,20	2,3	0,15	0,235	310	8 x 50	ECR2EXH470M◇◇△△0850
	68	2,93	1,6	0,15	0,340	340	10 x 36	ECR2EXH680M◇◇△△1036
	82	2,43	1,3	0,15	0,410	440	10 x 43	ECR2EXH820M◇◇△△1043
	100	2,00	1,1	0,15	0,500	500	10 x 50	ECR2EXH101M◇◇△△1050
	120	1,70	0,9	0,15	0,600	580	12,5 x 40	ECR2EXH121M◇◇△△1240
	150	1,33	0,7	0,15	0,750	680	12,5 x 45	ECR2EXH151M◇◇△△1245
	180	1,11	0,6	0,15	0,900	760	12,5 x 50	ECR2EXH181M◇◇△△1250
	220	0,91	0,5	0,15	1,100	880	12,5 x 61	ECR2EXH221M◇◇△△1261
400 (450) 2G	33	6,04	3,3	0,15	0,264	290	10 x 40	ECR2GXH330M◇◇△△1040
	47	4,24	2,3	0,15	0,376	390	10 x 50	ECR2GXH470M◇◇△△1050
		4,24	2,3	0,15	0,376	390	12,5 x 35	ECR2GXH470M◇◇△△1235
	56	3,60	2,0	0,15	0,448	440	12,5 x 40	ECR2GXH560M◇◇△△1240
	68	2,93	1,6	0,15	0,544	500	12,5 x 45	ECR2GXH680M◇◇△△1245
	82	2,43	1,3	0,15	0,656	540	12,5 x 61	ECR2GXH820M◇◇△△1261
	100	2,00	1,1	0,15	0,800	610	12,5 x 61	ECR2GXH101M◇◇△△1261
420 (470) 2X	39	5,10	2,8	0,15	0,328	320	10 x 45	ECR2XXH390M◇◇△△1045
	47	4,20	2,3	0,15	0,395	370	10 x 50	ECR2XXH470M◇◇△△1050
	56	3,60	2,0	0,15	0,471	450	12,5 x 40	ECR2XXH560M◇◇△△1240
	68	2,90	1,6	0,15	0,572	520	12,5 x 45	ECR2XXH680M◇◇△△1245
	82	2,40	1,3	0,15	0,689	580	12,5 x 61	ECR2XXH820M◇◇△△1261
450 (500) 2W	12	13,3	7,5	0,12	0,108	130	6,3 x 50	ECR2WXH120M◇◇△△0650
	18	8,80	5,0	0,12	0,162	190	8 x 50	ECR2WXH180M◇◇△△0850
	21	7,60	4,3	0,12	0,189	200	8 x 50	ECR2WXH210M◇◇△△0850
	27	5,90	3,3	0,12	0,243	230	10 x 40	ECR2WXH270M◇◇△△1040
	33	4,83	2,7	0,12	0,297	290	10 x 45	ECR2WXH330M◇◇△△1045
	39	4,10	2,2	0,12	0,351	330	10 x 50	ECR2WXH390M◇◇△△1050
		4,10	2,2	0,12	0,351	330	12,5 x 36	ECR2WXH390M◇◇△△1236
	47	3,40	1,9	0,12	0,423	400	12,5 x 40	ECR2WXH470M◇◇△△1240
	53	3,01	1,7	0,12	0,477	430	12,5 x 45	ECR2WXH530M◇◇△△1245
	56	2,85	1,6	0,12	0,504	460	12,5 x 50	ECR2WXH560M◇◇△△1250
	68	2,35	1,3	0,12	0,612	540	12,5 x 50	ECR2WXH680M◇◇△△1250
	82	1,95	1,1	0,12	0,738	600	12,5 x 61	ECR2WXH820M◇◇△△1261
500 (550) 2H	22	12,1	6,6	0,20	0,220	200	8 x 50	ECR2HXX220M◇◇△△0850
	39	6,80	3,7	0,20	0,390	310	10 x 50	ECR2HXX390M◇◇△△1050
	47	5,65	3,1	0,20	0,470	410	12,5 x 50	ECR2HXX470M◇◇△△1250
	53	5,00	2,8	0,20	0,530	440	12,5 x 61	ECR2HXX530M◇◇△△1261
	56	4,70	2,6	0,20	0,560	470	12,5 x 61	ECR2HXX560M◇◇△△1261

4 000 - 10 000h at 125°C

- High Reliability at High Temperature
- Automotive
- Professional Long-Life Applications

CD 287 GC
10 000h
105°C
Low ESR

125°C

CD 269L HL
10 000h 125°C
High Temperature
Low Voltage

higher
voltage

CD 11GL GL
6 000h 125°C
High Temperature
High Voltage

ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +125
Voltage Range (V)	10 ~ 100
Capacitance Range (µF)	1 ~ 4 700
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (µA) After 1 minute at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	10	16	25	35	50	53	100
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	3				2		
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	6				4		

ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	Ø 8 : 4 000h Ø 10 : 6 000h Ø ≥ 12,5 : 10 000h	> 200 000h	Ø 8 : 2 000h Ø 10 : 3 000h Ø ≥ 12,5 : 5 000h	Ø 8 : 3 000h Ø 10 : 5 000h Ø ≥ 12,5 : 7 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 50% of initial value		Within ± 30% of initial value	Within ± 30% of initial value	Within ± 30% of initial value	
Dissipation Factor	Not more than 500% of specified value		Not more than 300% of specified value	Not more than 300% of specified value	Not more than 300% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 125°C	U_R $1,4 \times I_R$ 50°C	U_R I_R 125°C	U_R $I_R = 0$ 125°C IEC 60384	$U_R = 0$ $I_R = 0$ 125°C	After test: U_R to be applied for 30 min > 24h before measurement

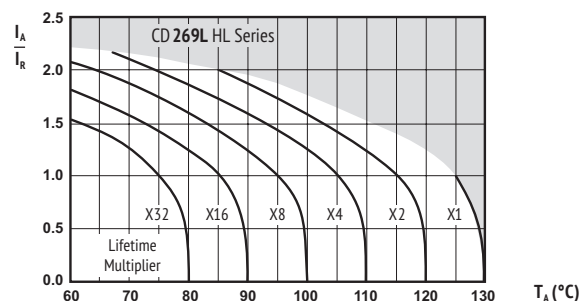
>>>> 135°C capacitors on request!

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (µF) \ Frequency	50/60Hz	120Hz	1kHz	10kHz	100kHz
1 ~ 4,7	0,35	0,42	0,60	0,80	1,00
10 ~ 33	0,45	0,55	0,75	0,90	1,00
47 ~ 330	0,60	0,70	0,85	0,95	1,00
470 ~ 1 500	0,65	0,75	0,90	0,98	1,00
2 200 ~ 4 700	0,75	0,80	0,95	1,00	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 125°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

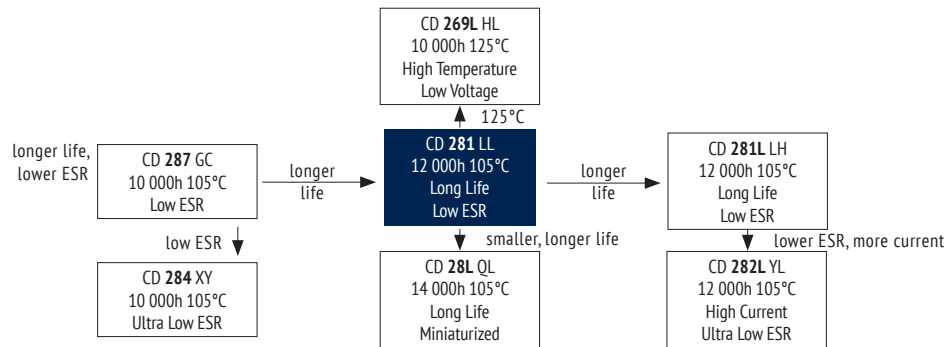
This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE
(V)	(µF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(µA)	125°C 100kHz (mArms)	(mm)	Details: Page 33
10 (13) 1A	330	0,804	0,22	0,44	0,20	99	360	8 x 11,5	ECR1AHL331M◇◇△0811
	470	0,565	0,15	0,30	0,20	141	620	10 x 12,5	ECR1AHL471M◇◇△1012
	1 000	0,265	0,073	0,15	0,20	300	960	10 x 20	ECR1AHL102M◇◇△1020
	2 200	0,133	0,040	0,080	0,22	660	1430	12,5 x 25	ECR1AHL222M◇◇△1225
	3 300	0,097	0,038	0,076	0,24	990	1900	16 x 25	ECR1AHL332M◇◇△1625
	4 700	0,073	0,034	0,068	0,26	1410	2300	16 x 31,5	ECR1AHL472M◇◇△1631
16 (20) 1C	330	0,643	0,22	0,44	0,16	158	360	8 x 11,5	ECR1CHL331M◇◇△0811
	470	0,452	0,15	0,30	0,16	226	620	10 x 12,5	ECR1CHL471M◇◇△1012
	1 000	0,212	0,073	0,15	0,16	480	960	10 x 20	ECR1CHL102M◇◇△1020
	2 200	0,109	0,040	0,080	0,18	1056	1430	12,5 x 25	ECR1CHL222M◇◇△1225
	3 300	0,080	0,034	0,068	0,20	1584	2300	16 x 31,5	ECR1CHL332M◇◇△1631
	4 700	0,062	0,031	0,062	0,22	2256	2550	16 x 35,5	ECR1CHL472M◇◇△1635
25 (32) 1E	220	0,844	0,22	0,44	0,14	165	360	8 x 11,5	ECR1EHL221M◇◇△0811
	330	0,563	0,15	0,30	0,14	248	620	10 x 12,5	ECR1EHL331M◇◇△1012
	470	0,395	0,10	0,20	0,14	353	800	10 x 16	ECR1EHL471M◇◇△1016
	1 000	0,186	0,055	0,11	0,14	750	1100	12,5 x 20	ECR1EHL102M◇◇△1220
	2 200	0,097	0,034	0,068	0,16	1650	2300	16 x 31,5	ECR1EHL222M◇◇△1631
	3 300	0,072	0,031	0,062	0,18	2475	2550	16 x 35,5	ECR1EHL332M◇◇△1635
35 (44) 1V	100	1,592	0,22	0,44	0,12	105	360	8 x 11,5	ECR1VHL101M◇◇△0811
	220	0,724	0,15	0,30	0,12	231	620	10 x 12,5	ECR1VHL221M◇◇△1012
	330	0,483	0,10	0,20	0,12	347	800	10 x 16	ECR1VHL331M◇◇△1016
	470	0,339	0,073	0,15	0,12	494	960	10 x 20	ECR1VHL471M◇◇△1020
	1 000	0,159	0,040	0,080	0,12	1050	1430	12,5 x 25	ECR1VHL102M◇◇△1225
	2 200	0,084	0,031	0,062	0,14	2310	2550	16 x 35,5	ECR1VHL222M◇◇△1635
	3 300	0,064	0,028	0,056	0,16	3465	2800	18 x 36	ECR1VHL332M◇◇△1836
50 (63) 1H	1,0	133	2,5	5,0	0,10	4	35	8 x 11,5	ECR1HHL010M◇◇△0811
	2,2	61,0	1,8	3,6	0,10	4	50	8 x 11,5	ECR1HHL2R2M◇◇△0811
	3,3	41,0	1,3	2,6	0,10	5	70	8 x 11,5	ECR1HHL3R3M◇◇△0811
	4,7	28,3	0,85	1,7	0,10	7	100	8 x 11,5	ECR1HHL4R7M◇◇△0811
	10	13,3	0,60	1,2	0,10	15	200	8 x 11,5	ECR1HHL100M◇◇△0811
	22	6,10	0,35	0,70	0,10	33	260	8 x 11,5	ECR1HHL220M◇◇△0811
	33	4,10	0,28	0,56	0,10	50	300	8 x 11,5	ECR1HHL330M◇◇△0811
	47	2,90	0,28	0,56	0,10	71	300	8 x 11,5	ECR1HHL470M◇◇△0811
	100	1,33	0,18	0,36	0,10	150	520	10 x 12,5	ECR1HHL101M◇◇△1012
	220	0,603	0,082	0,17	0,10	330	890	10 x 20	ECR1HHL221M◇◇△1020
	330	0,402	0,065	0,13	0,10	495	1000	12,5 x 20	ECR1HHL331M◇◇△1220
	470	0,282	0,051	0,11	0,10	705	1200	12,5 x 25	ECR1HHL471M◇◇△1225
	1 000	0,133	0,037	0,074	0,10	1500	2180	16 x 31,5	ECR1HHL102M◇◇△1631
	2 200	0,072	0,029	0,058	0,12	3300	2800	18 x 40	ECR1HHL222M◇◇△1840
63 (79) 1J	33	3,62	0,40	1,2	0,09	62	250	8 x 11,5	ECR1JHL330M◇◇△0811
	47	2,55	0,27	0,81	0,09	89	400	10 x 12,5	ECR1JHL470M◇◇△1012
	100	1,20	0,20	0,60	0,09	189	450	10 x 16	ECR1JHL101M◇◇△1016
	220	0,543	0,10	0,30	0,09	416	820	12,5 x 20	ECR1JHL221M◇◇△1220
	330	0,362	0,072	0,22	0,09	624	1000	12,5 x 25	ECR1JHL331M◇◇△1225
	470	0,254	0,069	0,21	0,09	888	1500	16 x 25	ECR1JHL471M◇◇△1625
	1 000	0,119	0,056	0,17	0,09	1890	1850	16 x 31,5	ECR1JHL102M◇◇△1631
	1 500	0,080	0,043	0,13	0,09	2835	2350	18 x 40	ECR1JHL152M◇◇△1840
100 (125) 2A	4,7	22,6	1,3	5,2	0,08	14	100	8 x 11,5	ECR2AHL4R7M◇◇△0811
	10	10,7	1,0	4,0	0,08	30	200	8 x 11,5	ECR2AHL100M◇◇△0811
	22	4,90	0,67	2,7	0,08	66	220	8 x 11,5	ECR2AHL220M◇◇△0811
	33	3,30	0,45	1,8	0,08	99	260	10 x 12,5	ECR2AHL330M◇◇△1012
	47	2,30	0,33	1,33	0,08	141	330	10 x 16	ECR2AHL470M◇◇△1016
	100	1,07	0,17	0,68	0,08	300	670	12,5 x 20	ECR2AHL101M◇◇△1220
	220	0,483	0,13	0,52	0,08	660	1100	16 x 25	ECR2AHL221M◇◇△1625
	330	0,322	0,10	0,40	0,08	990	1300	16 x 31,5	ECR2AHL331M◇◇△1631
	470	0,226	0,092	0,37	0,08	1410	1600	18 x 31,5	ECR2AHL471M◇◇△1831



**3 000 - 12 000h
at 105°C**

- Longest Lifetime 105°C
- Low Impedance
- Power Supplies
- Smoothing, Buffering, Filtering



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (μF)	0,47 ~ 15 000
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (μA) After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3 ~ 100
	$Z_{-55°C} / Z_{+20°C}$	3

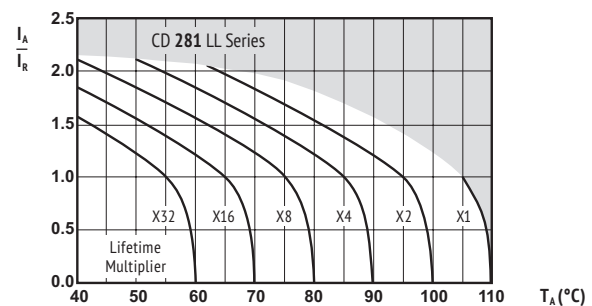
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	Ø 5 : 3 000h Ø 6,3-8 : 5 000h Ø 10 : 7 000h Ø 12,5 : 10 000h Ø ≥ 16 : 12 000h	Ø ≥ 6,3 : > 250 000h	Ø 5 : 2 000h Ø 6,3-8 : 3 000h Ø 10 : 5 000h Ø 12,5 : 7 000h Ø ≥ 16 : 8 000h	Ø 5 : 3 000h Ø 6,3-8 : 4 000h Ø 10 : 6 000h Ø 12,5 : 8 000h Ø ≥ 16 : 10 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (μF) \ Frequency	120Hz	1kHz	10kHz	100kHz
0,47 ~ 4,7	0,40	0,68	0,83	1,00
5,6 ~ 47	0,50	0,76	0,87	1,00
56 ~ 270	0,70	0,85	0,93	1,00
330 ~ 1 000	0,80	0,93	0,98	1,00
1 200 ~ 15 000	0,90	0,95	1,00	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.





U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 20°C 100kHz (mA _{RMS})	(mm)	Details: Page 33
6,3 (7,9) 0J	100	2,92	0,650	1,300	0,22	13	175	5 x 11,5	ECR0JLL101M $\Delta\Delta\Delta$ 0511
	150	1,95	0,460	0,920	0,22	19	235	5 x 15	ECR0JLL151M $\Delta\Delta\Delta$ 0515
	220	1,33	0,300	0,600	0,22	28	290	6,3 x 11,5	ECR0JLL221M $\Delta\Delta\Delta$ 0611
	330	0,885	0,300	0,600	0,22	42	290	6,3 x 11,5	ECR0JLL331M $\Delta\Delta\Delta$ 0611
		0,885	0,200	0,400	0,22	42	400	6,3 x 15	ECR0JLL331M $\Delta\Delta\Delta$ 0615
	470	0,621	0,170	0,340	0,22	60	488	8 x 11,5	ECR0JLL471M $\Delta\Delta\Delta$ 0811
	680	0,429	0,130	0,260	0,22	86	617	8 x 16	ECR0JLL681M $\Delta\Delta\Delta$ 0816
		0,429	0,120	0,240	0,22	86	613	10 x 12,5	ECR0JLL681M $\Delta\Delta\Delta$ 1012
	820	0,356	0,095	0,190	0,22	104	734	10 x 16	ECR0JLL821M $\Delta\Delta\Delta$ 1016
	1 000	0,292	0,095	0,190	0,22	126	800	8 x 20	ECR0JLL102M $\Delta\Delta\Delta$ 0820
	1 200	0,243	0,065	0,130	0,22	152	1010	10 x 20	ECR0JLL122M $\Delta\Delta\Delta$ 1020
		0,243	0,065	0,130	0,22	152	1010	12,5 x 15	ECR0JLL122M $\Delta\Delta\Delta$ 1215
	1 500	0,195	0,055	0,110	0,22	189	1190	10 x 25	ECR0JLL152M $\Delta\Delta\Delta$ 1025
	2 200	0,145	0,045	0,090	0,24	278	1440	10 x 30	ECR0JLL222M $\Delta\Delta\Delta$ 1030
		0,145	0,042	0,084	0,24	278	1400	12,5 x 20	ECR0JLL222M $\Delta\Delta\Delta$ 1220
	2 700	0,118	0,038	0,076	0,24	341	1690	12,5 x 25	ECR0JLL272M $\Delta\Delta\Delta$ 1225
		0,118	0,046	0,092	0,24	341	1310	16 x 15	ECR0JLL272M $\Delta\Delta\Delta$ 1615
	3 300	0,105	0,043	0,086	0,26	416	1460	18 x 15	ECR0JLL332M $\Delta\Delta\Delta$ 1815
	3 900	0,088	0,032	0,064	0,26	492	1950	12,5 x 30	ECR0JLL392M $\Delta\Delta\Delta$ 1230
	4 700	0,079	0,028	0,056	0,28	593	2220	12,5 x 35	ECR0JLL472M $\Delta\Delta\Delta$ 1235
		0,079	0,034	0,068	0,28	593	1660	16 x 20	ECR0JLL472M $\Delta\Delta\Delta$ 1620
	5 600	0,071	0,026	0,052	0,30	706	2390	12,5 x 40	ECR0JLL562M $\Delta\Delta\Delta$ 1240
		0,071	0,028	0,056	0,30	706	2070	16 x 25	ECR0JLL562M $\Delta\Delta\Delta$ 1625
		0,071	0,030	0,060	0,30	706	1850	18 x 20	ECR0JLL562M $\Delta\Delta\Delta$ 1820
	6 800	0,062	0,025	0,050	0,32	857	2350	16 x 31,5	ECR0JLL682M $\Delta\Delta\Delta$ 1631
		0,062	0,027	0,054	0,32	857	2120	18 x 25	ECR0JLL682M $\Delta\Delta\Delta$ 1825
	8 200	0,058	0,022	0,044	0,36	1034	2550	16 x 35,5	ECR0JLL822M $\Delta\Delta\Delta$ 1635
	10 000	0,053	0,023	0,046	0,40	1260	2410	18 x 31,5	ECR0JLL103M $\Delta\Delta\Delta$ 1831
	12 000	0,049	0,020	0,040	0,44	1512	2970	16 x 40	ECR0JLL123M $\Delta\Delta\Delta$ 1640
		0,049	0,020	0,040	0,44	1512	2680	18 x 35,5	ECR0JLL123M $\Delta\Delta\Delta$ 1835
	15 000	0,044	0,019	0,038	0,50	1890	3010	18 x 40	ECR0JLL153M $\Delta\Delta\Delta$ 1840
10 (13) 1A	82	3,08	0,650	1,30	0,19	17	175	5 x 11,5	ECR1ALL820M $\Delta\Delta\Delta$ 0511
	100	2,53	0,460	0,920	0,19	20	235	5 x 15	ECR1ALL101M $\Delta\Delta\Delta$ 0515
	180	1,41	0,300	0,600	0,19	36	290	6,3 x 11,5	ECR1ALL181M $\Delta\Delta\Delta$ 0611
	220	1,15	0,300	0,600	0,19	36	290	6,3 x 11,5	ECR1ALL221M $\Delta\Delta\Delta$ 0611
		1,15	0,200	0,400	0,19	44	400	6,3 x 15	ECR1ALL221M $\Delta\Delta\Delta$ 0615
	330	0,764	0,170	0,340	0,19	66	488	8 x 11,5	ECR1ALL331M $\Delta\Delta\Delta$ 0811
	470	0,536	0,170	0,340	0,19	94	488	8 x 11,5	ECR1ALL471M $\Delta\Delta\Delta$ 0811
		0,536	0,130	0,260	0,19	94	617	8 x 16	ECR1ALL471M $\Delta\Delta\Delta$ 0816
		0,536	0,120	0,240	0,19	94	613	10 x 12,5	ECR1ALL471M $\Delta\Delta\Delta$ 1012
	560	0,450	0,095	0,190	0,19	112	734	10 x 16	ECR1ALL561M $\Delta\Delta\Delta$ 1016
	680	0,371	0,095	0,190	0,19	136	800	8 x 20	ECR1ALL681M $\Delta\Delta\Delta$ 0820
	1 000	0,252	0,095	0,190	0,19	200	734	10 x 16	ECR1ALL102M $\Delta\Delta\Delta$ 1016
		0,252	0,065	0,130	0,19	200	1010	10 x 20	ECR1ALL102M $\Delta\Delta\Delta$ 1020
		0,252	0,065	0,130	0,19	200	1010	12,5 x 15	ECR1ALL102M $\Delta\Delta\Delta$ 1215
	1 200	0,210	0,055	0,110	0,19	240	1190	10 x 25	ECR1ALL122M $\Delta\Delta\Delta$ 1025
	1 500	0,168	0,045	0,090	0,19	300	1440	10 x 30	ECR1ALL152M $\Delta\Delta\Delta$ 1030
	1800	0,140	0,042	0,084	0,19	360	1400	12,5 x 20	ECR1ALL182M $\Delta\Delta\Delta$ 1220
		0,140	0,046	0,092	0,19	360	1310	16 x 15	ECR1ALL182M $\Delta\Delta\Delta$ 1615
	2 200	0,127	0,042	0,084	0,21	440	1400	12,5 x 20	ECR1ALL222M $\Delta\Delta\Delta$ 1220
		0,127	0,038	0,076	0,21	440	1690	12,5 x 25	ECR1ALL222M $\Delta\Delta\Delta$ 1225
		0,127	0,043	0,086	0,21	440	1460	18 x 15	ECR1ALL222M $\Delta\Delta\Delta$ 1815
	2 700	0,103	0,032	0,064	0,21	540	1950	12,5 x 30	ECR1ALL272M $\Delta\Delta\Delta$ 1230
	3 300	0,092	0,028	0,056	0,23	660	2220	12,5 x 35	ECR1ALL332M $\Delta\Delta\Delta$ 1235
		0,092	0,034	0,068	0,23	660	1660	16 x 20	ECR1ALL332M $\Delta\Delta\Delta$ 1620
	3 900	0,078	0,026	0,052	0,23	780	2390	12,5 x 40	ECR1ALL392M $\Delta\Delta\Delta$ 1240
		0,078	0,028	0,056	0,23	780	2070	16 x 25	ECR1ALL392M $\Delta\Delta\Delta$ 1625
		0,078	0,030	0,060	0,23	780	1850	18 x 20	ECR1ALL392M $\Delta\Delta\Delta$ 1820
	4 700	0,071	0,028	0,056	0,25	940	2070	16 x 25	ECR1ALL472M $\Delta\Delta\Delta$ 1625
		0,071	0,027	0,054	0,25	940	2120	18 x 25	ECR1ALL472M $\Delta\Delta\Delta$ 1825
	5 600	0,064	0,025	0,050	0,27	1120	2350	16 x 31,5	ECR1ALL562M $\Delta\Delta\Delta$ 1631
	6 800	0,057	0,022	0,044	0,29	1360	2550	16 x 35,5	ECR1ALL682M $\Delta\Delta\Delta$ 1635
		0,057	0,023	0,046	0,29	1360	2410	18 x 31,5	ECR1ALL682M $\Delta\Delta\Delta$ 1831
	8 200	0,053	0,020	0,040	0,33	1640	2970	16 x 40	ECR1ALL822M $\Delta\Delta\Delta$ 1640
		0,053	0,020	0,040	0,33	1640	2680	18 x 35,5	ECR1ALL822M $\Delta\Delta\Delta$ 1835
	10 000	0,049	0,019	0,038	0,37	2000	3010	18 x 40	ECR1ALL103M $\Delta\Delta\Delta$ 1840

RADIAL



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA rms)	(mm)	◇◇ = pin style & length △△ = pitch code Details: Page 33
16 (20) 1C	47	4,52	0,650	1,30	0,16	15	140	5 x 11,5	ECR1CLL470M◇◇△△0511
	56	3,80	0,650	1,30	0,16	18	175	5 x 11,5	ECR1CLL560M◇◇△△0511
	82	2,59	0,460	0,920	0,16	27	235	5 x 15	ECR1CLL820M◇◇△△0515
	100	2,13	0,650	1,300	0,16	32	175	5 x 11,5	ECR1CLL101M◇◇△△0511
	120	1,77	0,300	0,600	0,16	39	290	6,3 x 11,5	ECR1CLL121M◇◇△△0611
	180	1,18	0,200	0,400	0,16	58	400	6,3 x 15	ECR1CLL181M◇◇△△0615
	220	1,16	0,300	0,600	0,16	71	290	6,3 x 11,5	ECR1CLL221M◇◇△△0611
		1,16	0,280	0,560	0,16	71	380	8 x 11,5	ECR1CLL221M◇◇△△0811
	270	0,786	0,170	0,340	0,16	87	501	8 x 11,5	ECR1CLL271M◇◇△△0811
	330	0,772	0,170	0,340	0,16	106	501	8 x 11,5	ECR1CLL331M◇◇△△0811
		0,643	0,130	0,260	0,16	106	575	8 x 16	ECR1CLL331M◇◇△△0816
		0,643	0,120	0,240	0,16	106	625	10 x 12,5	ECR1CLL331M◇◇△△1012
	390	0,544	0,095	0,190	0,16	125	795	10 x 16	ECR1CLL391M◇◇△△1016
	470	0,452	0,130	0,260	0,16	151	575	8 x 16	ECR1CLL471M◇◇△△0816
		0,452	0,095	0,190	0,16	151	760	8 x 20	ECR1CLL471M◇◇△△0820
	680	0,312	0,065	0,130	0,16	218	1010	10 x 20	ECR1CLL681M◇◇△△1020
		0,312	0,065	0,130	0,16	218	1010	12,5 x 15	ECR1CLL681M◇◇△△1215
	820	0,259	0,055	0,110	0,16	263	1190	10 x 25	ECR1CLL821M◇◇△△1025
	1 000	0,212	0,065	0,130	0,16	320	1010	10 x 20	ECR1CLL102M◇◇△△1020
	1 200	0,177	0,045	0,090	0,16	384	1430	10 x 30	ECR1CLL122M◇◇△△1030
		0,177	0,042	0,084	0,16	384	1400	12,5 x 20	ECR1CLL122M◇◇△△1220
		0,142	0,038	0,076	0,16	480	1690	12,5 x 25	ECR1CLL152M◇◇△△1225
	1 500	0,142	0,046	0,092	0,16	480	1340	16 x 15	ECR1CLL152M◇◇△△1615
		0,142	0,043	0,086	0,16	480	1490	18 x 15	ECR1CLL152M◇◇△△1815
		0,109	0,038	0,076	0,18	704	1690	12,5 x 25	ECR1CLL222M◇◇△△1225
	2 200	0,109	0,032	0,064	0,18	704	1950	12,5 x 30	ECR1CLL222M◇◇△△1230
		0,109	0,034	0,068	0,18	704	1730	16 x 20	ECR1CLL222M◇◇△△1620
		0,088	0,028	0,056	0,18	864	2200	12,5 x 35	ECR1CLL272M◇◇△△1235
	2 700	0,088	0,028	0,056	0,18	864	2070	16 x 25	ECR1CLL272M◇◇△△1625
		0,088	0,030	0,060	0,18	864	1870	18 x 20	ECR1CLL272M◇◇△△1820
	3 300	0,080	0,026	0,052	0,20	1056	2390	12,5 x 40	ECR1CLL332M◇◇△△1240
	3 900	0,068	0,025	0,050	0,20	1248	2350	16 x 31,5	ECR1CLL392M◇◇△△1631
		0,068	0,027	0,054	0,20	1248	2160	18 x 25	ECR1CLL392M◇◇△△1825
	4 700	0,062	0,022	0,044	0,22	1504	2550	16 x 35,5	ECR1CLL472M◇◇△△1635
		0,062	0,023	0,046	0,22	1504	2450	18 x 31,5	ECR1CLL472M◇◇△△1831
	5 600	0,057	0,020	0,040	0,24	1792	2900	16 x 40	ECR1CLL562M◇◇△△1640
	6 800	0,051	0,020	0,040	0,26	2176	2730	18 x 35,5	ECR1CLL682M◇◇△△1835
	8 200	0,049	0,019	0,038	0,30	2624	3060	18 x 40	ECR1CLL822M◇◇△△1840
25 (32) 1E	39	4,77	0,650	1,30	0,14	20	175	5 x 11,5	ECR1ELL390M◇◇△△0511
	47	3,96	0,650	1,30	0,14	24	175	5 x 11,5	ECR1ELL470M◇◇△△0511
	56	3,32	0,460	0,920	0,14	28	235	5 x 15	ECR1ELL560M◇◇△△0515
	82	2,27	0,300	0,600	0,14	41	290	6,3 x 11,5	ECR1ELL820M◇◇△△0611
	100	1,86	0,300	0,600	0,14	50	290	6,3 x 11,5	ECR1ELL101M◇◇△△0611
	120	1,55	0,200	0,400	0,14	60	400	6,3 x 15	ECR1ELL121M◇◇△△0615
	180	1,04	0,170	0,340	0,14	90	503	8 x 11,5	ECR1ELL181M◇◇△△0811
	220	0,844	0,170	0,340	0,14	110	503	8 x 11,5	ECR1ELL221M◇◇△△0811
		0,844	0,130	0,260	0,14	110	575	8 x 16	ECR1ELL221M◇◇△△0816
		0,844	0,120	0,240	0,14	110	629	10 x 12,5	ECR1ELL221M◇◇△△1012
	270	0,688	0,095	0,190	0,14	135	795	10 x 16	ECR1ELL271M◇◇△△1016
	330	0,563	0,095	0,190	0,14	165	751	8 x 20	ECR1ELL331M◇◇△△0820
		0,563	0,120	0,240	0,14	165	629	10 x 12,5	ECR1ELL331M◇◇△△1012
	470	0,395	0,095	0,190	0,14	235	751	8 x 20	ECR1ELL471M◇◇△△0820
		0,395	0,120	0,240	0,14	235	760	10 x 12,5	ECR1ELL471M◇◇△△1012
		0,395	0,065	0,130	0,14	235	1010	10 x 20	ECR1ELL471M◇◇△△1020
		0,395	0,065	0,130	0,14	235	1010	12,5 x 15	ECR1ELL471M◇◇△△1215
	560	0,332	0,055	0,110	0,14	280	1190	10 x 25	ECR1ELL561M◇◇△△1025
	820	0,227	0,045	0,090	0,14	410	1440	10 x 30	ECR1ELL821M◇◇△△1030
		0,227	0,042	0,084	0,14	410	1400	12,5 x 20	ECR1ELL821M◇◇△△1220
		0,227	0,046	0,092	0,14	410	1360	16 x 15	ECR1ELL821M◇◇△△1615
	1 000	0,186	0,042	0,084	0,14	500	1400	12,5 x 20	ECR1ELL102M◇◇△△1220
		0,186	0,038	0,076	0,14	500	1690	12,5 x 25	ECR1ELL102M◇◇△△1225
	1 200	0,155	0,043	0,086	0,14	600	1500	18 x 15	ECR1ELL122M◇◇△△1815
	1 500	0,124	0,032	0,064	0,14	750	1950	12,5 x 30	ECR1ELL152M◇◇△△1230
		0,124	0,034	0,068	0,14	750	1730	16 x 20	ECR1ELL152M◇◇△△1620
	1 800	0,103	0,028	0,056	0,14	900	2200	12,5 x 35	ECR1ELL182M◇◇△△1235
		0,103	0,028	0,056	0,14	900	2070	16 x 25	ECR1ELL182M◇◇△△1625
		0,103	0,030	0,060	0,14	900	1890	18 x 20	ECR1ELL182M◇◇△△1820

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE
(V)	(µF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(µA)	105°C 100kHz (mArms)	(mm)	Details: Page 33
25 (32) 1E	2 200	0,097	0,028	0,056	0,16	1100	2200	12,5 x 35	ECR1ELL222M◊◊◊1235
		0,097	0,026	0,052	0,16	1100	2390	12,5 x 40	ECR1ELL222M◊◊◊1240
	2 700	0,079	0,025	0,050	0,16	1350	2350	16 x 31,5	ECR1ELL272M◊◊◊1631
		0,079	0,027	0,054	0,16	1350	2180	18 x 25	ECR1ELL272M◊◊◊1825
	3300	0,072	0,022	0,044	0,18	1650	2550	16 x 35,5	ECR1ELL332M◊◊◊1635
		0,072	0,023	0,046	0,18	1650	2470	18 x 31,5	ECR1ELL332M◊◊◊1831
	3900	0,061	0,020	0,040	0,18	1950	2900	16 x 40	ECR1ELL392M◊◊◊1640
		0,061	0,020	0,040	0,18	1950	2740	18 x 35,5	ECR1ELL392M◊◊◊1835
	4700	0,056	0,019	0,038	0,20	2350	3070	18 x 40	ECR1ELL472M◊◊◊1840
35 (44) 1V	27	5,90	0,650	1,30	0,12	19	175	5 x 11,5	ECR1VLL270M◊◊◊0511
	39	4,09	0,460	0,920	0,12	28	235	5 x 15	ECR1VLL390M◊◊◊0515
	47	3,39	0,650	1,300	0,12	33	175	5 x 11,5	ECR1VLL470M◊◊◊0511
	56	2,85	0,300	0,600	0,12	40	290	6,3 x 11,5	ECR1VLL560M◊◊◊0611
	82	1,95	0,200	0,400	0,12	58	400	6,3 x 15	ECR1VLL820M◊◊◊0615
	100	1,60	0,200	0,400	0,12	70	420	8 x 11,5	ECR1VLL101M◊◊◊0811
	120	1,33	0,170	0,340	0,12	84	501	8 x 11,5	ECR1VLL121M◊◊◊0811
	150	1,07	0,120	0,240	0,12	105	625	10 x 12,5	ECR1VLL151M◊◊◊1012
	180	0,885	0,130	0,260	0,12	126	575	8 x 16	ECR1VLL181M◊◊◊0816
		0,885	0,095	0,190	0,12	126	795	10 x 16	ECR1VLL181M◊◊◊1016
	220	0,724	0,130	0,260	0,12	154	575	8 x 16	ECR1VLL221M◊◊◊0816
		0,724	0,095	0,190	0,12	154	760	8 x 20	ECR1VLL221M◊◊◊0820
	330	0,483	0,095	0,190	0,12	231	795	10 x 16	ECR1VLL331M◊◊◊1016
		0,483	0,065	0,130	0,12	231	1010	10 x 20	ECR1VLL331M◊◊◊1020
		0,483	0,065	0,130	0,12	231	1010	12,5 x 15	ECR1VLL331M◊◊◊1215
	390	0,408	0,055	0,110	0,12	273	1190	10 x 25	ECR1VLL391M◊◊◊1025
	470	0,339	0,065	0,130	0,12	329	1010	10 x 20	ECR1VLL471M◊◊◊1020
		0,284	0,045	0,090	0,12	392	1450	10 x 30	ECR1VLL561M◊◊◊1030
	560	0,284	0,042	0,084	0,12	392	1400	12,5 x 20	ECR1VLL561M◊◊◊1220
		0,284	0,046	0,092	0,12	392	1360	16 x 15	ECR1VLL561M◊◊◊1615
		0,234	0,038	0,076	0,12	476	1690	12,5 x 25	ECR1VLL681M◊◊◊1225
	680	0,234	0,043	0,086	0,12	476	1520	18 x 15	ECR1VLL681M◊◊◊1815
		0,159	0,042	0,084	0,12	700	1500	12,5 x 20	ECR1VLL102M◊◊◊1220
	1 000	0,159	0,038	0,076	0,12	700	1690	12,5 x 25	ECR1VLL102M◊◊◊1225
		0,159	0,032	0,064	0,12	700	1950	12,5 x 30	ECR1VLL102M◊◊◊1230
		0,159	0,034	0,068	0,12	700	1730	16 x 20	ECR1VLL102M◊◊◊1620
		0,133	0,028	0,056	0,12	840	2200	12,5 x 35	ECR1VLL122M◊◊◊1235
	1 200	0,133	0,028	0,056	0,12	840	2070	16 x 25	ECR1VLL122M◊◊◊1625
		0,133	0,030	0,060	0,12	840	1900	18 x 20	ECR1VLL122M◊◊◊1820
		0,106	0,026	0,052	0,12	1050	2390	12,5 x 40	ECR1VLL152M◊◊◊1240
	1 800	0,088	0,025	0,050	0,12	1260	2350	16 x 31,5	ECR1VLL182M◊◊◊1631
		0,088	0,027	0,054	0,12	1260	2200	18 x 25	ECR1VLL182M◊◊◊1825
	2 200	0,084	0,022	0,044	0,14	1540	2550	16 x 35,5	ECR1VLL222M◊◊◊1635
		0,084	0,023	0,046	0,14	1540	2490	18 x 31,5	ECR1VLL222M◊◊◊1831
	2 700	0,069	0,020	0,040	0,14	1890	2900	16 x 40	ECR1VLL272M◊◊◊1640
		0,069	0,020	0,040	0,14	1890	2770	18 x 35,5	ECR1VLL272M◊◊◊1835
	3 300	0,064	0,019	0,038	0,16	2310	3110	18 x 40	ECR1VLL332M◊◊◊1840
50 (63) 1H	0,47	283	3,90	7,80	0,10	3	22	5 x 11,5	ECR1HLLR47M◊◊◊0511
	1,0	133	3,50	7,00	0,10	3	36	5 x 11,5	ECR1HLL010M◊◊◊0511
	2,2	60,4	3,00	6,00	0,10	3	54	5 x 11,5	ECR1HLL2R2M◊◊◊0511
	3,3	40,3	2,60	5,20	0,10	4	63	5 x 11,5	ECR1HLL3R3M◊◊◊0511
	4,7	28,3	2,20	4,40	0,10	5	75	5 x 11,5	ECR1HLL4R7M◊◊◊0511
	10	13,3	1,40	2,80	0,10	10	110	5 x 11,5	ECR1HLL100M◊◊◊0511
	18	7,38	0,950	1,90	0,10	18	120	5 x 11,5	ECR1HLL180M◊◊◊0511
	27	4,92	0,550	1,10	0,10	27	135	5 x 15	ECR1HLL270M◊◊◊0515
	39	3,41	0,360	0,720	0,10	39	148	6,3 x 11,5	ECR1HLL390M◊◊◊0611
	56	2,37	0,280	0,560	0,10	56	153	6,3 x 15	ECR1HLL560M◊◊◊0615
	68	1,951	0,200	0,400	0,10	68	360	8 x 11,5	ECR1HLL680M◊◊◊0811
		1,618	0,180	0,360	0,10	82	460	8 x 16	ECR1HLL820M◊◊◊0816
	82	1,618	0,180	0,360	0,10	82	443	10 x 12,5	ECR1HLL820M◊◊◊1012
		1,327	0,150	0,300	0,10	100	553	10 x 16	ECR1HLL101M◊◊◊1016
	100	1,106	0,130	0,260	0,10	120	670	8 x 20	ECR1HLL121M◊◊◊0820
	180	0,737	0,095	0,190	0,10	180	676	10 x 20	ECR1HLL181M◊◊◊1020
		0,737	0,105	0,210	0,10	180	745	12,5 x 15	ECR1HLL181M◊◊◊1215
	220	0,603	0,080	0,160	0,10	220	876	10 x 25	ECR1HLL221M◊◊◊1025

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RADIAL

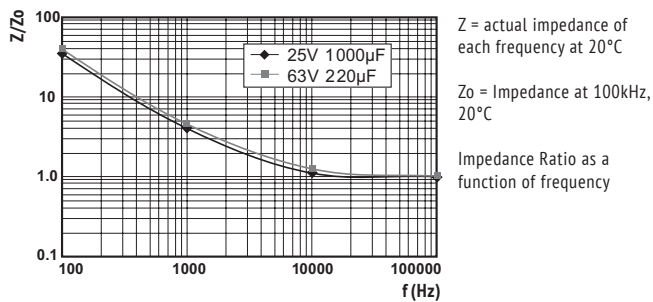
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	◇◇ = pin style & length △△ = pitch code
Details: Page 33									
50 (63) 1H	330	0,402	0,065	0,130	0,10	330	1010	10 x 30	ECR1HLL331M◇◇△△1030
		0,402	0,070	0,140	0,10	330	979	12,5 x 20	ECR1HLL331M◇◇△△1220
		0,402	0,075	0,150	0,10	330	982	16 x 15	ECR1HLL331M◇◇△△1615
	470	0,282	0,054	0,108	0,10	470	1180	12,5 x 25	ECR1HLL471M◇◇△△1225
		0,282	0,058	0,116	0,10	470	1180	18 x 15	ECR1HLL471M◇◇△△1815
	560	0,237	0,050	0,100	0,10	560	1310	12,5 x 30	ECR1HLL561M◇◇△△1230
	680	0,195	0,046	0,092	0,10	680	1470	12,5 x 35	ECR1HLL681M◇◇△△1235
		0,195	0,050	0,100	0,10	680	1210	16 x 20	ECR1HLL681M◇◇△△1620
	820	0,162	0,044	0,088	0,10	820	1590	12,5 x 40	ECR1HLL821M◇◇△△1240
		0,162	0,048	0,096	0,10	820	1490	16 x 25	ECR1HLL821M◇◇△△1625
		0,162	0,046	0,092	0,10	820	1450	18 x 20	ECR1HLL821M◇◇△△1820
	1 000	0,133	0,040	0,080	0,10	1000	1890	16 x 31,5	ECR1HLL102M◇◇△△1631
		0,133	0,040	0,080	0,10	1000	1720	18 x 25	ECR1HLL102M◇◇△△1825
	1 200	0,111	0,032	0,064	0,10	1200	2140	16 x 35,5	ECR1HLL122M◇◇△△1635
	1 500	0,088	0,026	0,052	0,10	1500	2410	16 x 40	ECR1HLL152M◇◇△△1640
		0,088	0,026	0,052	0,10	1500	1970	18 x 31,5	ECR1HLL152M◇◇△△1831
	1 800	0,074	0,025	0,050	0,10	1800	2310	18 x 35,5	ECR1HLL182M◇◇△△1835
	2 200	0,072	0,024	0,048	0,12	2200	2530	18 x 40	ECR1HLL222M◇◇△△1840

63 (79) 1J	12	9,952	1,20	3,60	0,09	16	120	5 x 11,5	ECR1JLL120M◇◇△△0511
	18	6,635	0,850	2,60	0,09	23	135	5 x 15	ECR1JLL180M◇◇△△0515
	27	4,423	0,550	1,70	0,09	34	148	6,3 x 11,5	ECR1JLL270M◇◇△△0611
	39	3,062	0,380	1,10	0,09	50	153	6,3 x 15	ECR1JLL390M◇◇△△0615
	47	2,541	0,320	0,960	0,09	60	360	8 x 11,5	ECR1JLL470M◇◇△△0811
	56	2,133	0,230	0,690	0,09	71	448	10 x 12,5	ECR1JLL560M◇◇△△1012
	68	1,756	0,240	0,720	0,09	86	469	8 x 16	ECR1JLL680M◇◇△△0816
		1,756	0,170	0,510	0,09	86	553	10 x 16	ECR1JLL680M◇◇△△1016
	82	1,456	0,170	0,510	0,09	104	682	8 x 20	ECR1JLL820M◇◇△△0820
	120	0,995	0,120	0,360	0,09	152	676	10 x 20	ECR1JLL121M◇◇△△1020
	150	0,796	0,100	0,300	0,09	189	876	10 x 25	ECR1JLL151M◇◇△△1025
		0,796	0,110	0,330	0,09	189	745	12,5 x 15	ECR1JLL151M◇◇△△1215
	180	0,663	0,085	0,260	0,09	227	1020	10 x 30	ECR1JLL181M◇◇△△1030
	220	0,543	0,075	0,230	0,09	278	979	12,5 x 20	ECR1JLL221M◇◇△△1220
		0,543	0,080	0,240	0,09	278	928	16 x 15	ECR1JLL221M◇◇△△1615
	270	0,442	0,065	0,200	0,09	341	1180	12,5 x 25	ECR1JLL271M◇◇△△1225
	330	0,362	0,065	0,200	0,09	416	1200	18 x 15	ECR1JLL331M◇◇△△1815
	390	0,306	0,055	0,170	0,09	492	1310	12,5 x 30	ECR1JLL391M◇◇△△1230
		0,306	0,057	0,170	0,09	492	1210	16 x 20	ECR1JLL391M◇◇△△1620
	470	0,254	0,048	0,140	0,09	593	1470	12,5 x 35	ECR1JLL471M◇◇△△1235
		0,254	0,052	0,160	0,09	593	1490	16 x 25	ECR1JLL471M◇◇△△1625
		0,254	0,058	0,170	0,09	593	1460	18 x 20	ECR1JLL471M◇◇△△1820
	560	0,213	0,042	0,130	0,09	706	1590	12,5 x 40	ECR1JLL561M◇◇△△1240
	680	0,176	0,042	0,130	0,09	857	1890	16 x 31,5	ECR1JLL681M◇◇△△1631
		0,176	0,050	0,150	0,09	857	1740	18 x 25	ECR1JLL681M◇◇△△1825
	820	0,146	0,036	0,110	0,09	1034	2140	16 x 35,5	ECR1JLL821M◇◇△△1635
		0,146	0,042	0,130	0,09	1034	1990	18 x 31,5	ECR1JLL821M◇◇△△1831
	1 000	0,119	0,032	0,096	0,09	1260	2410	16 x 40	ECR1JLL102M◇◇△△1640
		0,119	0,035	0,110	0,09	1260	2340	18 x 35,5	ECR1JLL102M◇◇△△1835
	1 200	0,100	0,032	0,096	0,09	1512	2560	18 x 40	ECR1JLL122M◇◇△△1840

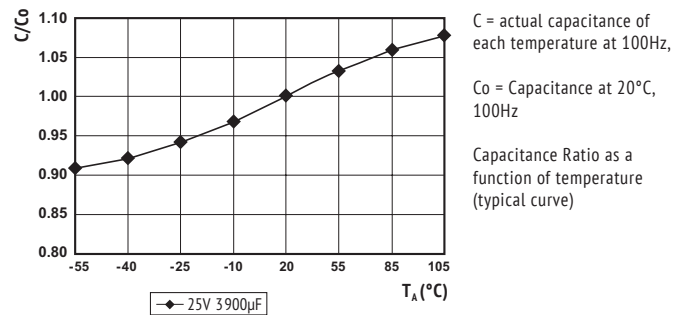
100 (125) 2A	5,6	19,0	1,90	7,60	0,08	12	57	5 x 11,5	ECR2ALL5R6M◇◇△△0511
	8,2	13,0	1,30	5,20	0,08	17	74	5 x 15	ECR2ALL8R2M◇◇△△0515
	12	8,85	1,10	4,40	0,08	24	78	6,3 x 11,5	ECR2ALL120M◇◇△△0611
	18	5,90	0,620	2,50	0,08	36	85	6,3 x 15	ECR2ALL180M◇◇△△0615
	22	4,83	0,530	2,10	0,08	44	275	8 x 11,5	ECR2ALL220M◇◇△△0811
	27	3,94	0,470	1,90	0,08	54	319	10 x 12,5	ECR2ALL270M◇◇△△1012
	33	3,22	0,350	1,40	0,08	66	360	8 x 16	ECR2ALL330M◇◇△△0816
		3,22	0,320	1,30	0,08	66	424	10 x 16	ECR2ALL330M◇◇△△1016
	39	2,73	0,270	1,10	0,08	78	490	8 x 20	ECR2ALL390M◇◇△△0820
	56	1,90	0,250	1,00	0,08	112	499	10 x 20	ECR2ALL560M◇◇△△1020
	68	1,57	0,180	0,720	0,08	136	634	10 x 25	ECR2ALL680M◇◇△△1025
		1,57	0,200	0,800	0,08	136	613	12,5 x 15	ECR2ALL680M◇◇△△1215
	100	1,07	0,150	0,600	0,08	200	739	10 x 30	ECR2ALL101M◇◇△△1030
		1,07	0,130	0,520	0,08	200	805	12,5 x 20	ECR2ALL101M◇◇△△1220
	120	0,885	0,110	0,440	0,08	240	857	12,5 x 25	ECR2ALL121M◇◇△△1225
		0,885	0,130	0,500	0,08	240	706	16 x 15	ECR2ALL121M◇◇△△1615
	150	0,708	0,120	0,480	0,08	300	871	18 x 15	ECR2ALL151M◇◇△△1815
	180	0,590	0,090	0,360	0,08	360	1120	12,5 x 30	ECR2ALL181M◇◇△△1230
		0,590	0,110	0,440	0,08	360	916	16 x 20	ECR2ALL181M◇◇△△1620

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	
100 (125) 2A	220	0,483	0,075	0,300	0,08	440	1240	12,5 x 35	ECR2ALL221M◇◇△△1235
		0,483	0,081	0,320	0,08	440	1290	16 x 25	ECR2ALL221M◇◇△△1625
	270	0,393	0,060	0,240	0,08	540	1330	12,5 x 40	ECR2ALL271M◇◇△△1240
		0,393	0,085	0,340	0,08	540	1170	18 x 20	ECR2ALL271M◇◇△△1820
	330	0,322	0,059	0,230	0,08	660	1630	16 x 31,5	ECR2ALL331M◇◇△△1631
		0,322	0,071	0,280	0,08	660	1500	18 x 25	ECR2ALL331M◇◇△△1825
	390	0,272	0,052	0,210	0,08	780	1750	16 x 35,5	ECR2ALL391M◇◇△△1635
		0,272	0,058	0,230	0,08	780	1630	18 x 31,5	ECR2ALL391M◇◇△△1831
	470	0,226	0,045	0,180	0,08	940	1920	16 x 40	ECR2ALL471M◇◇△△1640
	560	0,190	0,054	0,220	0,08	1120	1920	18 x 35,5	ECR2ALL561M◇◇△△1835
	680	0,156	0,041	0,160	0,08	1360	2100	18 x 40	ECR2ALL681M◇◇△△1840

IMPEDANCE RATIO

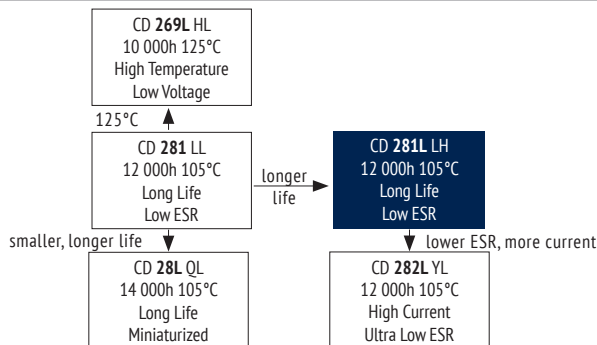


CAPACITANCE RATIO



6 000 - 12 000h
at 105°C

- Low impedance
- Switching Power Supplies
- Excellent ripple current capability
- High reliability at high temperature



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (μF)	0,47 ~ 15 000
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (μA) After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3 ~ 100
	$Z_{-55^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	3

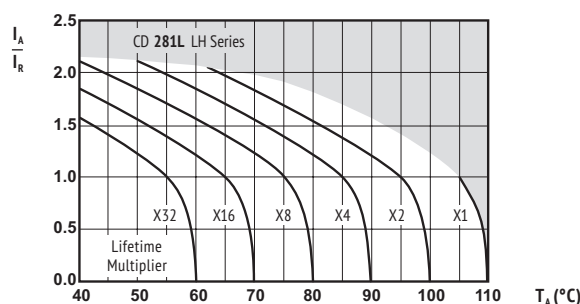
ITEM	USEFUL LIFE			LOAD LIFE		ENDURANCE TEST		SHELF LIFE	
		6,3~10V:	16~100V:		6,3~10V: 16~100V:	6,3~10V: 16~100V:			
Lifetime	Ø 5-6,3: Ø 8-10: Ø 12,5-18:	6 000h 8 000h 10 000h	7 000h 9 000h 12 000h	> 200 000h	4 000h 5 000h 6 000h 7 000h 8 000h 10 000h	4 000h 5 000h 6 000h 7 000h 8 000h 10 000h		1 000h	
Leakage Current	Not more than specified value			Not more than specified value		Not more than specified value		Not more than specified value	
Capacitance Change	Within ± 40% of initial value			Within ± 25% of initial value		Within ± 25% of initial value		Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value			Not more than 200% of specified value		Not more than 200% of specified value		Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C			U_R I_R 105°C		U_R $I_R = 0$ 105°C IEC 60384		$U_R = 0$ $I_R = 0$ 105°C	
								After test: U_R to be applied for 30 min > 24h before measurement	

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (μF) \ Frequency	120Hz	1kHz	10kHz	100kHz
0,47 ~ 4,7	0,40	0,68	0,78	1,00
5,6 ~ 47	0,50	0,76	0,87	1,00
56 ~ 270	0,70	0,85	0,93	1,00
330 ~ 1 000	0,80	0,93	0,98	1,00
1 200 ~ 15 000	0,90	0,95	1,00	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	Details: Page 33
6,3 (7,9) 0J	100	2,92	0,65	1,3	0,22	13	175	5 x 11,5	ECR0JLH101M $\Delta\Delta\Delta$ 0511
	150	1,95	0,46	0,92	0,22	19	235	5 x 15	ECR0JLH151M $\Delta\Delta\Delta$ 0515
	220	1,33	0,30	0,60	0,22	28	290	6,3 x 11,5	ECR0JLH221M $\Delta\Delta\Delta$ 0611
	330	0,885	0,30	0,60	0,22	42	290	6,3 x 11,5	ECR0JLH331M $\Delta\Delta\Delta$ 0611
		0,885	0,30	0,60	0,22	42	400	6,3 x 15	ECR0JLH331M $\Delta\Delta\Delta$ 0615
	470	0,621	0,17	0,34	0,22	60	488	8 x 11,5	ECR0JLH471M $\Delta\Delta\Delta$ 0811
	680	0,429	0,13	0,26	0,22	86	617	8 x 16	ECR0JLH681M $\Delta\Delta\Delta$ 0816
		0,429	0,12	0,24	0,22	86	613	10 x 12,5	ECR0JLH681M $\Delta\Delta\Delta$ 1012
	820	0,356	0,095	0,19	0,22	104	734	10 x 16	ECR0JLH821M $\Delta\Delta\Delta$ 1016
	1 000	0,292	0,095	0,19	0,22	126	800	8 x 20	ECR0JLH102M $\Delta\Delta\Delta$ 0820
	1 200	0,243	0,065	0,13	0,22	152	1010	10 x 20	ECR0JLH122M $\Delta\Delta\Delta$ 1020
		0,243	0,065	0,13	0,22	152	1010	12,5 x 15	ECR0JLH122M $\Delta\Delta\Delta$ 1215
	1 500	0,195	0,055	0,11	0,22	189	1190	10 x 25	ECR0JLH152M $\Delta\Delta\Delta$ 1025
	2 200	0,145	0,045	0,09	0,24	278	1440	10 x 30	ECR0JLH222M $\Delta\Delta\Delta$ 1030
		0,145	0,042	0,084	0,24	278	1400	12,5 x 20	ECR0JLH222M $\Delta\Delta\Delta$ 1220
	2 700	0,118	0,038	0,076	0,24	341	1690	12,5 x 25	ECR0JLH272M $\Delta\Delta\Delta$ 1225
		0,118	0,046	0,092	0,24	341	1310	16 x 15	ECR0JLH272M $\Delta\Delta\Delta$ 1615
	3 300	0,105	0,043	0,086	0,26	416	1460	18 x 15	ECR0JLH332M $\Delta\Delta\Delta$ 1815
	3 900	0,088	0,032	0,064	0,26	492	1950	12,5 x 30	ECR0JLH392M $\Delta\Delta\Delta$ 1230
	4 700	0,079	0,028	0,056	0,28	593	2220	12,5 x 35	ECR0JLH472M $\Delta\Delta\Delta$ 1235
		0,079	0,034	0,068	0,28	593	1660	16 x 20	ECR0JLH472M $\Delta\Delta\Delta$ 1620
	5 600	0,071	0,026	0,052	0,30	706	2390	12,5 x 40	ECR0JLH562M $\Delta\Delta\Delta$ 1240
		0,071	0,028	0,056	0,30	706	2070	16 x 25	ECR0JLH562M $\Delta\Delta\Delta$ 1625
		0,071	0,030	0,060	0,30	706	1850	18 x 20	ECR0JLH562M $\Delta\Delta\Delta$ 1820
	6 800	0,062	0,025	0,050	0,32	857	2350	16 x 31,5	ECR0JLH682M $\Delta\Delta\Delta$ 1631
		0,062	0,027	0,054	0,32	857	2120	18 x 25	ECR0JLH682M $\Delta\Delta\Delta$ 1825
	8 200	0,058	0,022	0,044	0,36	1034	2550	16 x 35,5	ECR0JLH822M $\Delta\Delta\Delta$ 1635
	10 000	0,053	0,023	0,046	0,40	1260	2410	18 x 31,5	ECR0JLH103M $\Delta\Delta\Delta$ 1831
	12 000	0,049	0,020	0,040	0,44	1512	2970	16 x 40	ECR0JLH123M $\Delta\Delta\Delta$ 1640
		0,049	0,020	0,040	0,44	1512	2680	18 x 35,5	ECR0JLH123M $\Delta\Delta\Delta$ 1835
	15 000	0,044	0,019	0,038	0,50	1890	3010	18 x 40	ECR0JLH153M $\Delta\Delta\Delta$ 1840
10 (13) 1A	82	3,08	0,65	1,3	0,19	17	175	5 x 11,5	ECR1ALH820M $\Delta\Delta\Delta$ 0511
	100	2,53	0,46	0,92	0,19	20	235	5 x 15	ECR1ALH101M $\Delta\Delta\Delta$ 0515
	180	1,41	0,30	0,60	0,19	36	290	6,3 x 11,5	ECR1ALH181M $\Delta\Delta\Delta$ 0611
	220	1,15	0,30	0,60	0,19	44	290	6,3 x 11,5	ECR1ALH221M $\Delta\Delta\Delta$ 0611
		1,15	0,20	0,40	0,19	44	400	6,3 x 15	ECR1ALH221M $\Delta\Delta\Delta$ 0615
	330	0,764	0,17	0,34	0,19	66	488	8 x 11,5	ECR1ALH331M $\Delta\Delta\Delta$ 0811
	470	0,536	0,17	0,34	0,19	94	488	8 x 11,5	ECR1ALH471M $\Delta\Delta\Delta$ 0811
		0,536	0,13	0,26	0,19	94	617	8 x 16	ECR1ALH471M $\Delta\Delta\Delta$ 0816
		0,536	0,12	0,24	0,19	94	613	10 x 12,5	ECR1ALH471M $\Delta\Delta\Delta$ 1012
	560	0,450	0,095	0,19	0,19	112	734	10 x 16	ECR1ALH561M $\Delta\Delta\Delta$ 1016
	680	0,374	0,095	0,19	0,19	136	800	8 x 20	ECR1ALH681M $\Delta\Delta\Delta$ 0820
	1 000	0,252	0,095	0,19	0,19	200	734	10 x 16	ECR1ALH102M $\Delta\Delta\Delta$ 1016
		0,252	0,065	0,13	0,19	200	1010	10 x 20	ECR1ALH102M $\Delta\Delta\Delta$ 1020
		0,252	0,065	0,13	0,19	200	1010	12,5 x 15	ECR1ALH102M $\Delta\Delta\Delta$ 1215
	1 200	0,210	0,055	0,11	0,19	240	1190	10 x 25	ECR1ALH122M $\Delta\Delta\Delta$ 1025
	1 500	0,168	0,045	0,090	0,19	300	1440	10 x 30	ECR1ALH152M $\Delta\Delta\Delta$ 1030
	1 800	0,140	0,042	0,084	0,19	360	1400	12,5 x 20	ECR1ALH182M $\Delta\Delta\Delta$ 1220
		0,140	0,046	0,092	0,19	360	1310	16 x 15	ECR1ALH182M $\Delta\Delta\Delta$ 1615
	2 200	0,127	0,042	0,084	0,21	440	1400	12,5 x 20	ECR1ALH222M $\Delta\Delta\Delta$ 1220
		0,127	0,038	0,076	0,21	440	1690	12,5 x 25	ECR1ALH222M $\Delta\Delta\Delta$ 1225
		0,127	0,043	0,086	0,21	440	1460	18 x 15	ECR1ALH222M $\Delta\Delta\Delta$ 1815
	2 700	0,103	0,032	0,064	0,21	540	1950	12,5 x 30	ECR1ALH272M $\Delta\Delta\Delta$ 1230
	3 300	0,092	0,028	0,056	0,23	660	2220	12,5 x 35	ECR1ALH332M $\Delta\Delta\Delta$ 1235
		0,092	0,034	0,068	0,23	660	1660	16 x 20	ECR1ALH332M $\Delta\Delta\Delta$ 1620
	3 900	0,078	0,026	0,052	0,23	780	2390	12,5 x 40	ECR1ALH392M $\Delta\Delta\Delta$ 1240
		0,078	0,028	0,056	0,23	780	2070	16 x 25	ECR1ALH392M $\Delta\Delta\Delta$ 1625
		0,078	0,030	0,060	0,23	780	1850	18 x 20	ECR1ALH392M $\Delta\Delta\Delta$ 1820
	47 00	0,071	0,028	0,056	0,25	940	2070	16 x 25	ECR1ALH472M $\Delta\Delta\Delta$ 1625
		0,071	0,027	0,054	0,25	940	2120	18 x 25	ECR1ALH472M $\Delta\Delta\Delta$ 1825
	5 600	0,064	0,025	0,050	0,27	1120	2350	16 x 31,5	ECR1ALH562M $\Delta\Delta\Delta$ 1631
	6 800	0,057	0,022	0,044	0,29	1360	2550	16 x 35,5	ECR1ALH682M $\Delta\Delta\Delta$ 1635
		0,057	0,023	0,046	0,29	1360	2410	18 x 31,5	ECR1ALH682M $\Delta\Delta\Delta$ 1831
	8 200	0,053	0,020	0,040	0,33	1640	2970	16 x 40	ECR1ALH822M $\Delta\Delta\Delta$ 1640
		0,053	0,020	0,040	0,33	1640	2680	18 x 35,5	ECR1ALH822M $\Delta\Delta\Delta$ 1835
	10 000	0,049	0,019	0,038	0,37	2000	3010	18 x 40	ECR1ALH103M $\Delta\Delta\Delta$ 1840

RADIAL



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA rms)	(mm)	$\diamond\diamond$ = pin style & length $\Delta\Delta$ = pitch code Details: Page 33
16 (20) 1C	47	4,52	0,65	1,3	0,16	15	140	5 x 11,5	ECR1CLH470M $\diamond\diamond\Delta\Delta$ 0511
	56	3,80	0,65	1,3	0,16	18	175	5 x 11,5	ECR1CLH560M $\diamond\diamond\Delta\Delta$ 0511
	82	2,59	0,46	0,92	0,16	27	235	5 x 15	ECR1CLH820M $\diamond\diamond\Delta\Delta$ 0515
	100	2,13	0,65	1,3	0,16	32	175	5 x 11,5	ECR1CLH101M $\diamond\diamond\Delta\Delta$ 0511
	120	1,77	0,30	0,60	0,16	39	290	6,3 x 11,5	ECR1CLH121M $\diamond\diamond\Delta\Delta$ 0611
	180	1,18	0,20	0,40	0,16	58	400	6,3 x 15	ECR1CLH181M $\diamond\diamond\Delta\Delta$ 0615
	220	1,16	0,30	0,60	0,16	71	290	6,3 x 11,5	ECR1CLH221M $\diamond\diamond\Delta\Delta$ 0611
		1,16	0,28	0,56	0,16	71	380	8 x 11,5	ECR1CLH221M $\diamond\diamond\Delta\Delta$ 0811
	270	0,786	0,17	0,34	0,16	87	501	8 x 11,5	ECR1CLH271M $\diamond\diamond\Delta\Delta$ 0811
	330	0,772	0,17	0,34	0,16	106	501	8 x 11,5	ECR1CLH331M $\diamond\diamond\Delta\Delta$ 0811
		0,643	0,13	0,26	0,16	106	575	8 x 16	ECR1CLH331M $\diamond\diamond\Delta\Delta$ 0816
		0,643	0,12	0,24	0,16	106	625	10 x 12,5	ECR1CLH331M $\diamond\diamond\Delta\Delta$ 1012
	390	0,544	0,095	0,19	0,16	125	795	10 x 16	ECR1CLH391M $\diamond\diamond\Delta\Delta$ 1016
	470	0,452	0,13	0,26	0,16	151	575	8 x 16	ECR1CLH471M $\diamond\diamond\Delta\Delta$ 0816
		0,452	0,095	0,19	0,16	151	760	8 x 20	ECR1CLH471M $\diamond\diamond\Delta\Delta$ 0820
	680	0,312	0,065	0,13	0,16	218	1010	10 x 20	ECR1CLH681M $\diamond\diamond\Delta\Delta$ 1020
		0,312	0,065	0,13	0,16	218	1010	12,5 x 15	ECR1CLH681M $\diamond\diamond\Delta\Delta$ 1215
	820	0,259	0,055	0,11	0,16	263	1190	10 x 25	ECR1CLH821M $\diamond\diamond\Delta\Delta$ 1025
	1 000	0,212	0,065	0,13	0,16	320	1010	10 x 20	ECR1CLH102M $\diamond\diamond\Delta\Delta$ 1020
	1 200	0,177	0,045	0,090	0,16	384	1430	10 x 30	ECR1CLH122M $\diamond\diamond\Delta\Delta$ 1030
		0,177	0,042	0,084	0,16	384	1400	12,5 x 20	ECR1CLH122M $\diamond\diamond\Delta\Delta$ 1220
		0,142	0,038	0,076	0,16	480	1690	12,5 x 25	ECR1CLH152M $\diamond\diamond\Delta\Delta$ 1225
	1 500	0,142	0,046	0,092	0,16	480	1340	16 x 15	ECR1CLH152M $\diamond\diamond\Delta\Delta$ 1615
		0,142	0,043	0,086	0,16	480	1490	18 x 15	ECR1CLH152M $\diamond\diamond\Delta\Delta$ 1815
		0,109	0,038	0,064	0,18	704	1690	12,5 x 25	ECR1CLH222M $\diamond\diamond\Delta\Delta$ 1225
		0,109	0,032	0,064	0,18	704	1950	12,5 x 30	ECR1CLH222M $\diamond\diamond\Delta\Delta$ 1230
	2 200	0,109	0,034	0,068	0,18	704	1730	16 x 20	ECR1CLH222M $\diamond\diamond\Delta\Delta$ 1620
		0,088	0,028	0,056	0,18	864	2200	12,5 x 35	ECR1CLH272M $\diamond\diamond\Delta\Delta$ 1235
		0,088	0,028	0,056	0,18	864	2070	16 x 25	ECR1CLH272M $\diamond\diamond\Delta\Delta$ 1625
		0,088	0,030	0,060	0,18	864	1870	18 x 20	ECR1CLH272M $\diamond\diamond\Delta\Delta$ 1820
	3 300	0,080	0,026	0,052	0,20	1056	2390	12,5 x 40	ECR1CLH332M $\diamond\diamond\Delta\Delta$ 1240
	3 900	0,068	0,025	0,050	0,20	1248	2350	16 x 31,5	ECR1CLH392M $\diamond\diamond\Delta\Delta$ 1631
		0,068	0,027	0,054	0,20	1248	2160	18 x 25	ECR1CLH392M $\diamond\diamond\Delta\Delta$ 1825
	4 700	0,062	0,022	0,044	0,22	1504	2550	16 x 35,5	ECR1CLH472M $\diamond\diamond\Delta\Delta$ 1635
		0,062	0,023	0,046	0,22	1504	2450	18 x 31,5	ECR1CLH472M $\diamond\diamond\Delta\Delta$ 1831
	5 600	0,057	0,020	0,040	0,24	1792	2900	16 x 40	ECR1CLH562M $\diamond\diamond\Delta\Delta$ 1640
	6 800	0,051	0,020	0,040	0,26	2176	2730	18 x 35,5	ECR1CLH682M $\diamond\diamond\Delta\Delta$ 1835
	8 200	0,049	0,019	0,038	0,30	2624	3060	18 x 40	ECR1CLH822M $\diamond\diamond\Delta\Delta$ 1840
25 (32) 1E	39	4,77	0,65	1,3	0,14	20	175	5 x 11,5	ECR1ELH390M $\diamond\diamond\Delta\Delta$ 0511
	47	3,96	0,65	1,3	0,14	24	175	5 x 11,5	ECR1ELH470M $\diamond\diamond\Delta\Delta$ 0511
	56	3,32	0,46	0,92	0,14	28	235	5 x 15	ECR1ELH560M $\diamond\diamond\Delta\Delta$ 0515
	82	2,27	0,30	0,60	0,14	41	290	6,3 x 11,5	ECR1ELH820M $\diamond\diamond\Delta\Delta$ 0611
	100	1,86	0,30	0,60	0,14	50	290	6,3 x 11,5	ECR1ELH101M $\diamond\diamond\Delta\Delta$ 0611
	120	1,55	0,20	0,40	0,14	60	400	6,3 x 15	ECR1ELH121M $\diamond\diamond\Delta\Delta$ 0615
	180	1,04	0,17	0,34	0,14	90	503	8 x 11,5	ECR1ELH181M $\diamond\diamond\Delta\Delta$ 0811
	220	0,844	0,17	0,34	0,14	110	503	8 x 11,5	ECR1ELH221M $\diamond\diamond\Delta\Delta$ 0811
		0,844	0,13	0,26	0,14	110	575	8 x 16	ECR1ELH221M $\diamond\diamond\Delta\Delta$ 0816
		0,844	0,12	0,24	0,14	110	629	10 x 12,5	ECR1ELH221M $\diamond\diamond\Delta\Delta$ 1012
	270	0,688	0,095	0,19	0,14	135	795	10 x 16	ECR1ELH271M $\diamond\diamond\Delta\Delta$ 1016
	330	0,563	0,095	0,19	0,14	165	751	8 x 20	ECR1ELH331M $\diamond\diamond\Delta\Delta$ 0820
		0,563	0,12	0,24	0,14	165	629	10 x 12,5	ECR1ELH331M $\diamond\diamond\Delta\Delta$ 1012
		0,395	0,095	0,19	0,14	235	751	8 x 20	ECR1ELH471M $\diamond\diamond\Delta\Delta$ 0820
	470	0,395	0,12	0,24	0,14	235	760	10 x 12,5	ECR1ELH471M $\diamond\diamond\Delta\Delta$ 1012
		0,395	0,065	0,13	0,14	235	1010	10 x 20	ECR1ELH471M $\diamond\diamond\Delta\Delta$ 1020
		0,395	0,065	0,13	0,14	235	1010	12,5 x 15	ECR1ELH471M $\diamond\diamond\Delta\Delta$ 1215
		0,332	0,055	0,11	0,14	280	1190	10 x 25	ECR1ELH561M $\diamond\diamond\Delta\Delta$ 1025
	820	0,227	0,045	0,090	0,14	410	1440	10 x 30	ECR1ELH821M $\diamond\diamond\Delta\Delta$ 1030
		0,227	0,042	0,084	0,14	410	1400	12,5 x 20	ECR1ELH821M $\diamond\diamond\Delta\Delta$ 1220
		0,227	0,046	0,092	0,14	410	1360	16 x 15	ECR1ELH821M $\diamond\diamond\Delta\Delta$ 1615
	1 000	0,186	0,042	0,084	0,14	500	1400	12,5 x 20	ECR1ELH102M $\diamond\diamond\Delta\Delta$ 1220
		0,186	0,038	0,076	0,14	500	1690	12,5 x 25	ECR1ELH102M $\diamond\diamond\Delta\Delta$ 1225
	1 200	0,155	0,043	0,086	0,14	600	1500	18 x 15	ECR1ELH122M $\diamond\diamond\Delta\Delta$ 1815
	1 500	0,124	0,032	0,064	0,14	750	1950	12,5 x 30	ECR1ELH152M $\diamond\diamond\Delta\Delta$ 1230
		0,124	0,034	0,068	0,14	750	1730	16 x 20	ECR1ELH152M $\diamond\diamond\Delta\Delta$ 1620
	1 800	0,103	0,028	0,056	0,14	900	2200	12,5 x 35	ECR1ELH182M $\diamond\diamond\Delta\Delta$ 1235
		0,103	0,028	0,056	0,14	900	2070	16 x 25	ECR1ELH182M $\diamond\diamond\Delta\Delta$ 1625
		0,103	0,030	0,060	0,14	900	1890	18 x 20	ECR1ELH182M $\diamond\diamond\Delta\Delta$ 1820



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE
(V)	(µF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(µA)	105°C 100kHz (mArms)	(mm)	Details: Page 33
25 (32) 1E	2200	0,097	0,028	0,056	0,16	1100	2200	12,5 x 35	ECR1ELH222M◇◇◇1235
		0,097	0,026	0,052	0,16	1100	2390	12,5 x 40	ECR1ELH222M◇◇◇1240
	2700	0,079	0,025	0,050	0,16	1350	2350	16 x 31,5	ECR1ELH272M◇◇◇1631
		0,079	0,027	0,054	0,16	1350	2180	18 x 25	ECR1ELH272M◇◇◇1825
	3300	0,072	0,022	0,044	0,18	1650	2550	16 x 35,5	ECR1ELH332M◇◇◇1635
		0,072	0,023	0,046	0,18	1650	2470	18 x 31,5	ECR1ELH332M◇◇◇1831
	3900	0,061	0,020	0,040	0,18	1950	2900	16 x 40	ECR1ELH392M◇◇◇1640
		0,061	0,020	0,040	0,18	1950	2740	18 x 35,5	ECR1ELH392M◇◇◇1835
	4700	0,056	0,019	0,038	0,20	2350	3070	18 x 40	ECR1ELH472M◇◇◇1840
35 (44) 1V	27	5,90	0,65	1,3	0,12	19	175	5 x 11,5	ECR1VLH270M◇◇◇0511
	39	4,09	0,46	0,92	0,12	28	235	5 x 15	ECR1VLH390M◇◇◇0515
	47	3,39	0,65	1,3	0,12	33	175	5 x 11,5	ECR1VLH470M◇◇◇0511
	56	2,85	0,30	0,60	0,12	40	290	6,3 x 11,5	ECR1VLH560M◇◇◇0611
	82	1,95	0,20	0,40	0,12	58	400	6,3 x 15	ECR1VLH820M◇◇◇0615
	100	1,60	0,20	0,40	0,12	70	420	8 x 11,5	ECR1VLH101M◇◇◇0811
	120	1,33	0,17	0,34	0,12	84	501	8 x 11,5	ECR1VLH121M◇◇◇0811
	150	1,07	0,12	0,24	0,12	105	625	10 x 12,5	ECR1VLH151M◇◇◇1012
	180	0,885	0,13	0,26	0,12	126	575	8 x 16	ECR1VLH181M◇◇◇0816
		0,885	0,095	0,19	0,12	126	795	10 x 16	ECR1VLH181M◇◇◇1016
	220	0,724	0,13	0,26	0,12	154	575	8 x 16	ECR1VLH221M◇◇◇0816
		0,724	0,095	0,19	0,12	154	760	8 x 20	ECR1VLH221M◇◇◇0820
	330	0,483	0,095	0,19	0,12	231	795	10 x 16	ECR1VLH331M◇◇◇1016
		0,483	0,065	0,13	0,12	231	1010	10 x 20	ECR1VLH331M◇◇◇1020
		0,483	0,065	0,13	0,12	231	1010	12,5 x 15	ECR1VLH331M◇◇◇1215
	390	0,408	0,055	0,11	0,12	273	1190	10 x 25	ECR1VLH391M◇◇◇1025
	470	0,339	0,065	0,13	0,12	330	1010	10 x 20	ECR1VLH471M◇◇◇1020
	560	0,284	0,045	0,090	0,12	392	1450	10 x 30	ECR1VLH561M◇◇◇1030
		0,284	0,042	0,084	0,12	392	1400	12,5 x 20	ECR1VLH561M◇◇◇1220
		0,284	0,046	0,092	0,12	392	1360	16 x 15	ECR1VLH561M◇◇◇1615
	680	0,234	0,038	0,076	0,12	476	1690	12,5 x 25	ECR1VLH681M◇◇◇1225
		0,234	0,043	0,086	0,12	476	1520	18 x 15	ECR1VLH681M◇◇◇1815
	1 000	0,150	0,042	0,084	0,12	700	1500	12,5 x 20	ECR1VLH102M◇◇◇1220
		0,159	0,038	0,076	0,12	700	1690	12,5 x 25	ECR1VLH102M◇◇◇1225
		0,159	0,032	0,064	0,12	700	1950	12,5 x 30	ECR1VLH102M◇◇◇1230
		0,159	0,034	0,068	0,12	700	1730	16 x 20	ECR1VLH102M◇◇◇1620
	1 200	0,133	0,028	0,056	0,12	840	2200	12,5 x 35	ECR1VLH122M◇◇◇1235
		0,133	0,028	0,056	0,12	840	2070	16 x 25	ECR1VLH122M◇◇◇1625
		0,133	0,030	0,060	0,12	840	1900	18 x 20	ECR1VLH122M◇◇◇1820
	1 500	0,106	0,026	0,052	0,12	1050	2390	12,5 x 40	ECR1VLH152M◇◇◇1240
	1 800	0,088	0,025	0,050	0,12	1260	2350	16 x 31,5	ECR1VLH182M◇◇◇1631
		0,088	0,027	0,054	0,12	1260	2200	18 x 25	ECR1VLH182M◇◇◇1825
	2 200	0,084	0,022	0,044	0,14	1540	2550	16 x 35,5	ECR1VLH222M◇◇◇1635
		0,084	0,023	0,046	0,14	1540	2490	18 x 31,5	ECR1VLH222M◇◇◇1831
	2 700	0,069	0,020	0,040	0,14	1890	2900	16 x 40	ECR1VLH272M◇◇◇1640
		0,069	0,020	0,040	0,14	1890	2770	18 x 35,5	ECR1VLH272M◇◇◇1835
	3 300	0,064	0,019	0,038	0,16	2310	3110	18 x 40	ECR1VLH332M◇◇◇1840
50 (63) 1H	0,47	283	3,9	7,8	0,10	3	22	5 x 11,5	ECR1HLHR47M◇◇◇0511
	1,0	133	3,5	7,0	0,10	3	36	5 x 11,5	ECR1HLH010M◇◇◇0511
	2,2	60,3	3,0	6,0	0,10	3	54	5 x 11,5	ECR1HLH2R2M◇◇◇0511
	3,3	40,2	2,6	5,2	0,10	4	63	5 x 11,5	ECR1HLH3R3M◇◇◇0511
	4,7	28,3	2,2	4,4	0,10	5	75	5 x 11,5	ECR1HLH4R7M◇◇◇0511
	10	13,3	1,4	2,8	0,10	10	110	5 x 11,5	ECR1HLH100M◇◇◇0511
	18	7,38	0,95	1,9	0,10	18	120	5 x 11,5	ECR1HLH180M◇◇◇0511
	27	4,92	0,55	1,1	0,10	27	135	5 x 15	ECR1HLH270M◇◇◇0515
	39	3,41	0,36	0,72	0,10	39	148	6,3 x 11,5	ECR1HLH390M◇◇◇0611
	56	2,37	0,28	0,56	0,10	56	153	6,3 x 15	ECR1HLH560M◇◇◇0615
	68	1,96	0,20	0,40	0,10	68	360	8 x 11,5	ECR1HLH680M◇◇◇0811
	82	1,62	0,18	0,36	0,10	82	460	8 x 16	ECR1HLH820M◇◇◇0816
		1,62	0,18	0,36	0,10	82	443	10 x 12,5	ECR1HLH820M◇◇◇1012
	100	1,33	0,15	0,30	0,10	100	553	10 x 16	ECR1HLH101M◇◇◇1016
	120	1,11	0,13	0,26	0,10	120	670	8 x 20	ECR1HLH121M◇◇◇0820
	180	0,737	0,095	0,19	0,10	180	676	10 x 20	ECR1HLH181M◇◇◇1020
		0,737	0,105	0,21	0,10	180	745	12,5 x 15	ECR1HLH181M◇◇◇1215
	220	0,603	0,080	0,16	0,10	220	876	10 x 25	ECR1HLH221M◇◇◇1025

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U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	◇◇ = pin style & length △△ = pitch code
Details: Page 33									
50 (63) 1H	330	0,402	0,065	0,13	0,10	330	1010	10 x 30	ECR1HLH331M◇◇△△1030
		0,402	0,070	0,14	0,10	330	979	12,5 x 20	ECR1HLH331M◇◇△△1220
		0,402	0,075	0,15	0,10	330	982	16 x 15	ECR1HLH331M◇◇△△1615
	470	0,282	0,054	0,108	0,10	470	1180	12,5 x 25	ECR1HLH471M◇◇△△1225
		0,282	0,058	0,116	0,10	470	1180	18 x 15	ECR1HLH471M◇◇△△1815
	560	0,237	0,050	0,100	0,10	560	1310	12,5 x 30	ECR1HLH561M◇◇△△1230
	680	0,195	0,046	0,092	0,10	680	1470	12,5 x 35	ECR1HLH681M◇◇△△1235
		0,195	0,050	0,100	0,10	680	1210	16 x 20	ECR1HLH681M◇◇△△1620
	820	0,162	0,044	0,088	0,10	820	1590	12,5 x 40	ECR1HLH821M◇◇△△1240
		0,162	0,048	0,096	0,10	820	1490	16 x 25	ECR1HLH821M◇◇△△1625
		0,162	0,046	0,092	0,10	820	1450	18 x 20	ECR1HLH821M◇◇△△1820
	1 000	0,133	0,040	0,080	0,10	1000	1890	16 x 31,5	ECR1HLH102M◇◇△△1631
		0,133	0,040	0,080	0,10	1000	1720	18 x 25	ECR1HLH102M◇◇△△1825
	1 200	0,111	0,032	0,064	0,10	1200	2140	16 x 35,5	ECR1HLH122M◇◇△△1635
	1 500	0,088	0,026	0,052	0,10	1500	2410	16 x 40	ECR1HLH152M◇◇△△1640
		0,088	0,026	0,052	0,10	1500	1970	18 x 31,5	ECR1HLH152M◇◇△△1831
	1 800	0,074	0,025	0,050	0,10	1800	2310	18 x 35,5	ECR1HLH182M◇◇△△1835
	2 200	0,072	0,024	0,048	0,12	2200	2530	18 x 40	ECR1HLH222M◇◇△△1840

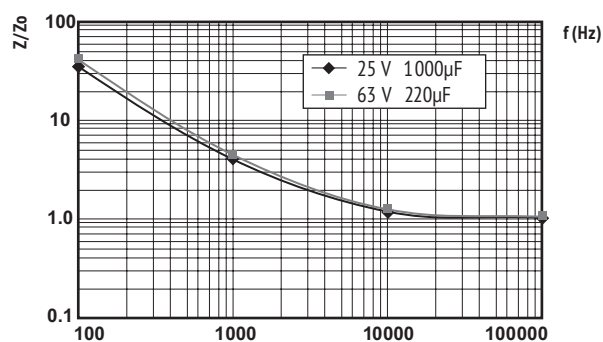
63 (79) 1J	12	9,96	1,2	3,6	0,09	16	120	5 x 11,5	ECR1JLH120M◇◇△△0511
	18	6,64	0,85	2,6	0,09	23	135	5 x 15	ECR1JLH180M◇◇△△0515
	27	4,43	0,55	1,7	0,09	34	148	6,3 x 11,5	ECR1JLH270M◇◇△△0611
	39	3,07	0,38	1,1	0,09	50	153	6,3 x 15	ECR1JLH390M◇◇△△0615
	47	2,55	0,32	0,96	0,09	60	360	8 x 11,5	ECR1JLH470M◇◇△△0811
	56	2,14	0,23	0,69	0,09	71	448	10 x 12,5	ECR1JLH560M◇◇△△1012
	68	1,76	0,24	0,72	0,09	86	469	8 x 16	ECR1JLH680M◇◇△△0816
		1,76	0,17	0,51	0,09	86	553	10 x 16	ECR1JLH680M◇◇△△1016
	82	1,46	0,17	0,51	0,09	104	682	8 x 20	ECR1JLH820M◇◇△△0820
	120	0,995	0,12	0,36	0,09	152	676	10 x 20	ECR1JLH121M◇◇△△1020
	150	0,796	0,10	0,30	0,09	189	876	10 x 25	ECR1JLH151M◇◇△△1025
		0,796	0,11	0,33	0,09	189	745	12,5 x 15	ECR1JLH151M◇◇△△1215
	180	0,663	0,085	0,26	0,09	227	1020	10 x 30	ECR1JLH181M◇◇△△1030
	220	0,543	0,075	0,23	0,09	278	979	12,5 x 20	ECR1JLH221M◇◇△△1220
		0,543	0,080	0,24	0,09	278	928	16 x 15	ECR1JLH221M◇◇△△1615
	270	0,442	0,065	0,20	0,09	341	1180	12,5 x 25	ECR1JLH271M◇◇△△1225
	330	0,362	0,065	0,20	0,09	416	1200	18 x 15	ECR1JLH331M◇◇△△1815
	390	0,306	0,055	0,17	0,09	492	1310	12,5 x 30	ECR1JLH391M◇◇△△1230
		0,306	0,057	0,17	0,09	492	1210	16 x 20	ECR1JLH391M◇◇△△1620
	470	0,254	0,048	0,14	0,09	593	1470	12,5 x 35	ECR1JLH471M◇◇△△1235
		0,254	0,052	0,16	0,09	593	1490	16 x 25	ECR1JLH471M◇◇△△1625
		0,254	0,058	0,17	0,09	593	1460	18 x 20	ECR1JLH471M◇◇△△1820
	560	0,213	0,042	0,13	0,09	706	1590	12,5 x 40	ECR1JLH561M◇◇△△1240
	680	0,176	0,042	0,13	0,09	857	1890	16 x 31,5	ECR1JLH681M◇◇△△1631
		0,176	0,050	0,15	0,09	857	1740	18 x 25	ECR1JLH681M◇◇△△1825
	820	0,146	0,036	0,11	0,09	1034	2140	16 x 35,5	ECR1JLH821M◇◇△△1635
		0,146	0,042	0,13	0,09	1034	1990	18 x 31,5	ECR1JLH821M◇◇△△1831
		0,119	0,032	0,096	0,09	1260	2410	16 x 40	ECR1JLH102M◇◇△△1640
	1 000	0,119	0,035	0,110	0,09	1260	2340	18 x 35,5	ECR1JLH102M◇◇△△1835
	1 200	0,100	0,032	0,096	0,09	1512	2560	18 x 40	ECR1JLH122M◇◇△△1840

100 (125) 2A	5,6	19,0	1,9	7,6	0,08	12	57	5 x 11,5	ECR2ALH5R6M◇◇△△0511
	8,2	13,0	1,3	5,2	0,08	17	74	5 x 15	ECR2ALH8R2M◇◇△△0515
	12	8,85	1,1	4,4	0,08	24	78	6,3 x 11,5	ECR2ALH120M◇◇△△0611
	18	5,90	0,62	2,5	0,08	36	85	6,3 x 15	ECR2ALH180M◇◇△△0615
	22	4,83	0,53	2,1	0,08	44	275	8 x 11,5	ECR2ALH220M◇◇△△0811
	27	3,94	0,47	1,9	0,08	54	319	10 x 12,5	ECR2ALH270M◇◇△△1012
	33	3,22	0,35	1,4	0,08	66	360	8 x 16	ECR2ALH330M◇◇△△0816
		3,22	0,32	1,3	0,08	66	424	10 x 16	ECR2ALH330M◇◇△△1016
	39	2,73	0,27	1,1	0,08	78	490	8 x 20	ECR2ALH390M◇◇△△0820
	56	1,90	0,25	1,0	0,08	112	499	10 x 20	ECR2ALH560M◇◇△△1020
	68	1,57	0,18	0,72	0,08	136	634	10 x 25	ECR2ALH680M◇◇△△1025
		1,57	0,20	0,80	0,08	136	613	12,5 x 15	ECR2ALH680M◇◇△△1215
	100	1,07	0,15	0,60	0,08	200	739	10 x 30	ECR2ALH101M◇◇△△1030
		1,07	0,13	0,52	0,08	200	805	12,5 x 20	ECR2ALH101M◇◇△△1220
	120	0,885	0,11	0,44	0,08	240	857	12,5 x 25	ECR2ALH121M◇◇△△1225
		0,885	0,13	0,50	0,08	240	706	16 x 15	ECR2ALH121M◇◇△△1615
	150	0,708	0,12	0,48	0,08	300	871	18 x 15	ECR2ALH151M◇◇△△1815



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	
100 (125) 2A	180	0,590	0,090	0,36	0,08	360	1120	12,5 x 30	ECR2ALH181M◇◇△△1230
		0,590	0,11	0,44	0,08	360	916	16 x 20	ECR2ALH181M◇◇△△1620
	220	0,483	0,075	0,30	0,08	440	1240	12,5 x 35	ECR2ALH221M◇◇△△1235
		0,483	0,081	0,32	0,08	440	1290	16 x 25	ECR2ALH221M◇◇△△1625
	270	0,393	0,060	0,24	0,08	540	1330	12,5 x 40	ECR2ALH271M◇◇△△1240
		0,393	0,085	0,34	0,08	540	1170	18 x 20	ECR2ALH271M◇◇△△1820
	330	0,322	0,059	0,23	0,08	660	1630	16 x 31,5	ECR2ALH331M◇◇△△1631
		0,322	0,071	0,28	0,08	660	1500	18 x 25	ECR2ALH331M◇◇△△1825
	390	0,272	0,052	0,21	0,08	780	1750	16 x 35,5	ECR2ALH391M◇◇△△1635
		0,272	0,058	0,23	0,08	780	1630	18 x 31,5	ECR2ALH391M◇◇△△1831
	470	0,226	0,045	0,18	0,08	940	1920	16 x 40	ECR2ALH471M◇◇△△1640
	560	0,190	0,054	0,22	0,08	1120	1920	18 x 35,5	ECR2ALH561M◇◇△△1835
	680	0,156	0,041	0,16	0,08	1360	2100	18 x 40	ECR2ALH681M◇◇△△1840

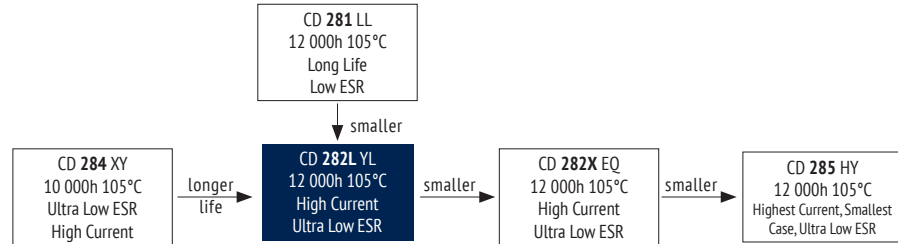
IMPEDANCE RATIO



Z = actual impedance of each frequency at 20°C,
 Z_o = Impedance at 100kHz, 20°C
 Impedance Ratio as a function of frequency

4 000 - 10 000h
at 105°C

- Ultra Low Impedance
- High Ripple Current
- Switching Power Supplies



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (μF)	6,8 ~ 18 000
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (μA) After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3	10	16	25	35	50	63	100
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		4	3				2		
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		8	6	4			3		

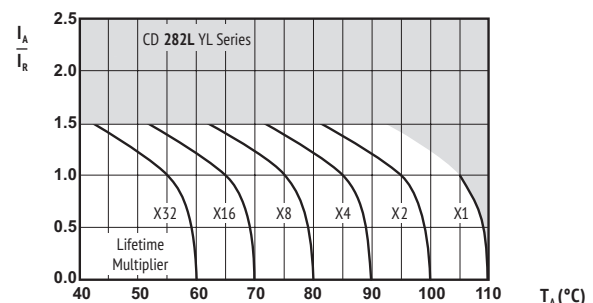
ITEM	USEFUL LIFE			LOAD LIFE		ENDURANCE TEST		SHELF LIFE	
	6,3~10V:	16~100V:		6,3~10V:	16~100V:	6,3~10V:	16~100V:		
Lifetime	Ø 5~6,3: Ø 8~10: Ø 12,5~18:	6 000h 8 000h 10 000h	7 000h 9 000h 12 000h	> 250 000h	4 000h 6 000h 8 000h	5 000h 7 000h 10 000h	6 000h 8 000h 10 000h	7 000h 9 000h 12 000h	1 000h
Leakage Current	Not more than specified value			Not more than specified value		Not more than specified value		Not more than specified value	
Capacitance Change	Within ± 40% of initial value			Within ± 25% of initial value		Within ± 25% of initial value		Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value			Not more than 200% of specified value		Not more than 200% of specified value		Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C			U_R I_R 105°C		U_R $I_R = 0$ 105°C IEC 60384		$U_R = 0$ $I_R = 0$ 105°C	
								After test: U_R to be applied for 30 min > 24h before measurement	

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (μF)	Frequency	120Hz	1kHz	10kHz	100kHz
6,8 ~ 33		0,42	0,70	0,90	1,00
39 ~ 270		0,50	0,73	0,92	1,00
330 ~ 680		0,55	0,77	0,94	1,00
820 ~ 1 800		0,60	0,80	0,96	1,00
2 200 ~ 18 000		0,70	0,85	0,98	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE
(V)	(µF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(µA)	105°C 100kHz (mArms)	(mm)	Details: Page 33
6,3 (7,2) 0J	150	1,95	0,580	2,30	0,22	10	210	5 x 11,5	ECR0JYL151M◊◊◊0511
	330	0,884	0,220	0,870	0,22	21	340	6,3 x 11,5	ECR0JYL331M◊◊◊0611
	680	0,429	0,130	0,520	0,22	43	640	8 x 11,5	ECR0JYL681M◊◊◊0811
	820	0,356	0,080	0,320	0,22	52	865	10 x 12,5	ECR0JYL821M◊◊◊1012
	1 000	0,292	0,087	0,350	0,22	63	840	8 x 16	ECR0JYL102M◊◊◊0816
	1 200	0,243	0,069	0,270	0,22	76	1050	8 x 20	ECR0JYL122M◊◊◊0820
		0,243	0,060	0,240	0,22	76	1210	10 x 16	ECR0JYL122M◊◊◊1016
	1 500	0,195	0,046	0,180	0,22	95	1400	10 x 20	ECR0JYL152M◊◊◊1020
	1 800	0,162	0,049	0,160	0,22	114	1450	12,5 x 16	ECR0JYL182M◊◊◊1216
	2 200	0,145	0,042	0,170	0,24	139	1650	10 x 25	ECR0JYL222M◊◊◊1025
	2 700	0,118	0,031	0,120	0,24	171	1910	10 x 30	ECR0JYL272M◊◊◊1030
		0,118	0,042	0,120	0,24	171	1940	16 x 16	ECR0JYL272M◊◊◊1616
	3 300	0,104	0,035	0,120	0,26	208	1900	12,5 x 20	ECR0JYL332M◊◊◊1220
	3 900	0,088	0,027	0,089	0,26	246	2230	12,5 x 25	ECR0JYL392M◊◊◊1225
		0,088	0,043	0,110	0,26	246	2210	18 x 16	ECR0JYL392M◊◊◊1816
	4 700	0,079	0,024	0,078	0,28	297	2650	12,5 x 30	ECR0JYL472M◊◊◊1230
	5 600	0,071	0,020	0,065	0,30	353	2880	12,5 x 35	ECR0JYL562M◊◊◊1235
		0,071	0,027	0,078	0,30	353	2530	16 x 20	ECR0JYL562M◊◊◊1620
	6 800	0,062	0,017	0,056	0,32	429	3350	12,5 x 40	ECR0JYL682M◊◊◊1240
		0,062	0,021	0,060	0,32	429	2930	16 x 25	ECR0JYL682M◊◊◊1625
		0,062	0,026	0,067	0,32	429	2860	18 x 20	ECR0JYL682M◊◊◊1820
	8 200	0,058	0,017	0,050	0,36	517	3450	16 x 31,5	ECR0JYL822M◊◊◊1631
	10 000	0,053	0,015	0,044	0,40	630	3610	16 x 35,5	ECR0JYL103M◊◊◊1635
		0,053	0,019	0,049	0,40	630	3140	18 x 25	ECR0JYL103M◊◊◊1825
	12 000	0,049	0,013	0,038	0,44	756	4080	16 x 40	ECR0JYL123M◊◊◊1640
		0,049	0,015	0,040	0,44	756	4170	18 x 31,5	ECR0JYL123M◊◊◊1831
	15 000	0,044	0,014	0,038	0,50	945	4220	18 x 35,5	ECR0JYL153M◊◊◊1835
	18 000	0,041	0,012	0,032	0,56	1.134	4280	18 x 40	ECR0JYL183M◊◊◊1840
10 (13) 1A	100	2,52	0,580	2,30	0,19	10	210	5 x 11,5	ECR1AYL101M◊◊◊0511
	220	1,15	0,220	0,870	0,19	22	340	6,3 x 11,5	ECR1AYL221M◊◊◊0611
	470	0,536	0,130	0,520	0,19	47	640	8 x 11,5	ECR1AYL471M◊◊◊0811
	680	0,371	0,087	0,350	0,19	68	840	8 x 16	ECR1AYL681M◊◊◊0816
		0,371	0,080	0,320	0,19	68	865	10 x 12,5	ECR1AYL681M◊◊◊1012
	1 000	0,252	0,069	0,270	0,19	100	1050	8 x 20	ECR1AYL102M◊◊◊0820
		0,252	0,060	0,240	0,19	100	1210	10 x 16	ECR1AYL102M◊◊◊1016
	1 200	0,210	0,460	0,180	0,19	120	1400	10 x 20	ECR1AYL122M◊◊◊1020
	1 500	0,168	0,042	0,170	0,19	150	1650	10 x 25	ECR1AYL152M◊◊◊1025
		0,168	0,049	0,160	0,19	150	1450	12,5 x 16	ECR1AYL152M◊◊◊1216
	2 200	0,127	0,031	0,120	0,21	220	1910	10 x 30	ECR1AYL222M◊◊◊1030
		0,127	0,035	0,120	0,21	220	1900	12,5 x 20	ECR1AYL222M◊◊◊1220
		0,127	0,042	0,120	0,21	220	1940	16 x 16	ECR1AYL222M◊◊◊1616
	2 700	0,103	0,043	0,110	0,21	270	2210	18 x 16	ECR1AYL272M◊◊◊1816
	3 300	0,092	0,027	0,089	0,23	330	2230	12,5 x 25	ECR1AYL332M◊◊◊1225
	3 900	0,078	0,024	0,078	0,23	390	2650	12,5 x 30	ECR1AYL392M◊◊◊1230
		0,078	0,027	0,078	0,23	390	2530	16 x 20	ECR1AYL392M◊◊◊1620
	4 700	0,071	0,020	0,065	0,25	470	2880	12,5 x 35	ECR1AYL472M◊◊◊1235
	5 600	0,064	0,017	0,056	0,27	560	3350	12,5 x 40	ECR1AYL562M◊◊◊1240
		0,064	0,021	0,060	0,27	560	2930	16 x 25	ECR1AYL562M◊◊◊1625
		0,064	0,026	0,067	0,27	560	2860	18 x 20	ECR1AYL562M◊◊◊1820
	6 800	0,057	0,017	0,050	0,29	680	3450	16 x 31,5	ECR1AYL682M◊◊◊1631
		0,057	0,019	0,049	0,29	680	3140	18 x 25	ECR1AYL682M◊◊◊1825
	8 200	0,053	0,015	0,044	0,33	820	3610	16 x 35,5	ECR1AYL822M◊◊◊1635
		0,053	0,015	0,040	0,33	820	4170	18 x 31,5	ECR1AYL822M◊◊◊1831
	10 000	0,049	0,013	0,038	0,37	1.000	4080	16 x 40	ECR1AYL103M◊◊◊1640
		0,049	0,014	0,038	0,37	1.000	4220	18 x 35,5	ECR1AYL103M◊◊◊1835
	12 000	0,045	0,012	0,032	0,41	1.200	4280	18 x 40	ECR1AYL123M◊◊◊1840
16 (20) 1C	56	3,79	0,580	2,30	0,16	9	210	5 x 11,5	ECR1CYL560M◊◊◊0511
	120	1,77	0,220	0,870	0,16	20	340	6,3 x 11,5	ECR1CYL121M◊◊◊0611
	330	0,643	0,130	0,520	0,16	53	640	8 x 11,5	ECR1CYL331M◊◊◊0811
	470	0,452	0,087	0,350	0,16	76	840	8 x 16	ECR1CYL471M◊◊◊0816
		0,452	0,080	0,320	0,16	76	865	10 x 12,5	ECR1CYL471M◊◊◊1012
	680	0,312	0,069	0,270	0,16	109	1050	8 x 20	ECR1CYL681M◊◊◊0820
		0,312	0,060	0,240	0,16	109	1210	10 x 16	ECR1CYL681M◊◊◊1016

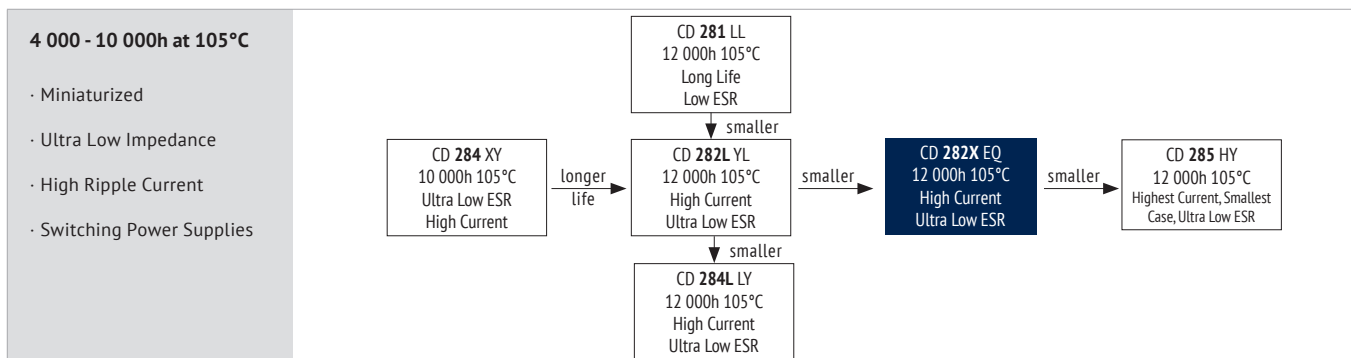
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U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA rms)	(mm)	$\diamond\diamond$ = pin style & length $\Delta\Delta$ = pitch code
Details: Page 33									
16 (20) 1C	1 000	0,212	0,046	0,180	0,16	160	1400	10 x 20	ECR1CYL102M $\diamond\diamond\Delta\Delta$ 1020
		0,212	0,049	0,160	0,16	160	1450	12,5 x 16	ECR1CYL102M $\diamond\diamond\Delta\Delta$ 1216
		0,177	0,042	0,170	0,16	192	1650	10 x 25	ECR1CYL122M $\diamond\diamond\Delta\Delta$ 1025
	1 500	0,141	0,031	0,120	0,16	240	1910	10 x 30	ECR1CYL152M $\diamond\diamond\Delta\Delta$ 1030
		0,141	0,035	0,120	0,16	240	1900	12,5 x 20	ECR1CYL152M $\diamond\diamond\Delta\Delta$ 1220
		0,141	0,042	0,120	0,16	240	1940	16 x 16	ECR1CYL152M $\diamond\diamond\Delta\Delta$ 1616
	2 200	0,109	0,027	0,089	0,18	352	2230	12,5 x 25	ECR1CYL222M $\diamond\diamond\Delta\Delta$ 1225
		0,107	0,043	0,110	0,18	352	2210	18 x 16	ECR1CYL222M $\diamond\diamond\Delta\Delta$ 1816
	2 700	0,088	0,024	0,078	0,18	432	2650	12,5 x 30	ECR1CYL272M $\diamond\diamond\Delta\Delta$ 1230
		0,088	0,027	0,078	0,18	432	2530	16 x 20	ECR1CYL272M $\diamond\diamond\Delta\Delta$ 1620
	3 300	0,080	0,020	0,065	0,20	528	2880	12,5 x 35	ECR1CYL332M $\diamond\diamond\Delta\Delta$ 1235
	3 900	0,068	0,017	0,056	0,20	624	3350	12,5 x 40	ECR1CYL392M $\diamond\diamond\Delta\Delta$ 1240
		0,068	0,021	0,060	0,20	624	2930	16 x 25	ECR1CYL392M $\diamond\diamond\Delta\Delta$ 1625
		0,068	0,026	0,037	0,20	624	2860	18 x 20	ECR1CYL392M $\diamond\diamond\Delta\Delta$ 1820
	4 700	0,062	0,017	0,050	0,22	752	3450	16 x 31,5	ECR1CYL472M $\diamond\diamond\Delta\Delta$ 1631
		0,062	0,019	0,049	0,22	752	3140	18 x 25	ECR1CYL472M $\diamond\diamond\Delta\Delta$ 1825
	5 600	0,057	0,015	0,044	0,24	896	3610	16 x 35,5	ECR1CYL562M $\diamond\diamond\Delta\Delta$ 1635
		0,057	0,015	0,040	0,24	896	4170	18 x 31,5	ECR1CYL562M $\diamond\diamond\Delta\Delta$ 1831
	6 800	0,051	0,013	0,038	0,26	1.088	4080	16 x 40	ECR1CYL682M $\diamond\diamond\Delta\Delta$ 1640
	8 200	0,049	0,014	0,038	0,30	1.312	4220	18 x 35,5	ECR1CYL822M $\diamond\diamond\Delta\Delta$ 1835
	10 000	0,045	0,012	0,033	0,34	1.600	4280	18 x 40	ECR1CYL103M $\diamond\diamond\Delta\Delta$ 1840
25 (32) 1E	47	3,96	0,580	2,30	0,14	12	210	5 x 11,5	ECR1EYL470M $\diamond\diamond\Delta\Delta$ 0511
	100	1,86	0,220	0,870	0,14	25	340	6,3 x 11,5	ECR1EYL101M $\diamond\diamond\Delta\Delta$ 0611
	220	0,844	0,130	0,520	0,14	55	640	8 x 11,5	ECR1EYL221M $\diamond\diamond\Delta\Delta$ 0811
	330	0,563	0,087	0,350	0,14	83	840	8 x 16	ECR1EYL331M $\diamond\diamond\Delta\Delta$ 0816
		0,563	0,080	0,320	0,14	83	865	10 x 12,5	ECR1EYL331M $\diamond\diamond\Delta\Delta$ 1012
	470	0,395	0,069	0,270	0,14	118	1050	8 x 20	ECR1EYL471M $\diamond\diamond\Delta\Delta$ 0820
		0,395	0,060	0,240	0,14	118	1210	10 x 16	ECR1EYL471M $\diamond\diamond\Delta\Delta$ 1016
	680	0,273	0,046	0,180	0,14	170	1400	10 x 20	ECR1EYL681M $\diamond\diamond\Delta\Delta$ 1020
		0,273	0,049	0,160	0,14	170	1450	12,5 x 16	ECR1EYL681M $\diamond\diamond\Delta\Delta$ 1216
	820	0,226	0,042	0,170	0,14	205	1650	10 x 25	ECR1EYL821M $\diamond\diamond\Delta\Delta$ 1025
	1 000	0,186	0,031	0,120	0,14	250	1910	10 x 30	ECR1EYL102M $\diamond\diamond\Delta\Delta$ 1030
		0,186	0,035	0,120	0,14	250	1900	12,5 x 20	ECR1EYL102M $\diamond\diamond\Delta\Delta$ 1220
		0,186	0,042	0,120	0,14	250	1940	16 x 16	ECR1EYL102M $\diamond\diamond\Delta\Delta$ 1616
	1 200	0,155	0,043	0,110	0,14	300	2210	18 x 16	ECR1EYL122M $\diamond\diamond\Delta\Delta$ 1816
	1 500	0,124	0,027	0,089	0,14	375	2230	12,5 x 25	ECR1EYL152M $\diamond\diamond\Delta\Delta$ 1225
	1 800	0,103	0,024	0,078	0,14	450	2650	12,5 x 30	ECR1EYL182M $\diamond\diamond\Delta\Delta$ 1230
		0,103	0,027	0,078	0,14	450	2530	16 x 20	ECR1EYL182M $\diamond\diamond\Delta\Delta$ 1620
	2 200	0,096	0,020	0,065	0,16	550	2880	12,5 x 35	ECR1EYL222M $\diamond\diamond\Delta\Delta$ 1235
		0,096	0,026	0,067	0,16	550	2860	18 x 20	ECR1EYL222M $\diamond\diamond\Delta\Delta$ 1820
	2 700	0,079	0,017	0,056	0,16	675	3350	12,5 x 40	ECR1EYL272M $\diamond\diamond\Delta\Delta$ 1240
		0,079	0,021	0,060	0,16	675	2930	16 x 25	ECR1EYL272M $\diamond\diamond\Delta\Delta$ 1625
	3 300	0,072	0,017	0,050	0,18	825	3450	16 x 31,5	ECR1EYL332M $\diamond\diamond\Delta\Delta$ 1631
		0,072	0,019	0,049	0,18	825	3140	18 x 25	ECR1EYL332M $\diamond\diamond\Delta\Delta$ 1825
	3 900	0,061	0,015	0,044	0,18	975	3610	16 x 35,5	ECR1EYL392M $\diamond\diamond\Delta\Delta$ 1635
		0,061	0,015	0,040	0,18	975	4170	18 x 31,5	ECR1EYL392M $\diamond\diamond\Delta\Delta$ 1831
	4 700	0,056	0,013	0,038	0,20	1.175	4080	16 x 40	ECR1EYL472M $\diamond\diamond\Delta\Delta$ 1640
		0,056	0,014	0,038	0,20	1.175	4220	18 x 35,5	ECR1EYL472M $\diamond\diamond\Delta\Delta$ 1835
	5 600	0,052	0,012	0,032	0,22	1.400	4280	18 x 40	ECR1EYL562M $\diamond\diamond\Delta\Delta$ 1840
35 (44) 1V	33	4,83	0,580	2,30	0,12	12	210	5 x 11,5	ECR1VYL330M $\diamond\diamond\Delta\Delta$ 0511
	56	2,85	0,220	0,870	0,12	20	340	6,3 x 11,5	ECR1VYL560M $\diamond\diamond\Delta\Delta$ 0611
	150	1,07	0,130	0,520	0,12	53	640	8 x 11,5	ECR1VYL151M $\diamond\diamond\Delta\Delta$ 0811
	220	0,723	0,087	0,350	0,12	77	840	8 x 16	ECR1VYL221M $\diamond\diamond\Delta\Delta$ 0816
		0,723	0,080	0,320	0,12	77	865	10 x 12,5	ECR1VYL221M $\diamond\diamond\Delta\Delta$ 1012
	270	0,589	0,069	0,270	0,12	95	1050	8 x 20	ECR1VYL271M $\diamond\diamond\Delta\Delta$ 0820
	330	0,482	0,060	0,240	0,12	116	1210	10 x 16	ECR1VYL331M $\diamond\diamond\Delta\Delta$ 1016
	470	0,339	0,046	0,180	0,12	165	1400	10 x 20	ECR1VYL471M $\diamond\diamond\Delta\Delta$ 1020
		0,339	0,049	0,160	0,12	165	1450	12,5 x 16	ECR1VYL471M $\diamond\diamond\Delta\Delta$ 1216
	560	0,284	0,042	0,170	0,12	196	1650	10 x 25	ECR1VYL561M $\diamond\diamond\Delta\Delta$ 1025
	680	0,234	0,031	0,120	0,12	238	1910	10 x 30	ECR1VYL681M $\diamond\diamond\Delta\Delta$ 1030
		0,234	0,035	0,120	0,12	238	1900	12,5 x 20	ECR1VYL681M $\diamond\diamond\Delta\Delta$ 1220
		0,234	0,042	0,120	0,12	238	1940	16 x 16	ECR1VYL681M $\diamond\diamond\Delta\Delta$ 1616
	1 000	0,159	0,027	0,089	0,12	350	2230	12,5 x 25	ECR1VYL102M $\diamond\diamond\Delta\Delta$ 1225
		0,159	0,043	0,110	0,12	350	2210	18 x 16	ECR1VYL102M $\diamond\diamond\Delta\Delta$ 1816
	1 200	0,133	0,024	0,078	0,12	420	2650	12,5 x 30	ECR1VYL122M $\diamond\diamond\Delta\Delta$ 1230
		0,133	0,027	0,078	0,12	420	2530	16 x 20	ECR1VYL122M $\diamond\diamond\Delta\Delta$ 1620

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE
(V)	(µF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(µA)	105°C 100kHz (mA _{rms})	(mm)	Details: Page 33
35 (44) 1V	1 500	0,106	0,020	0,065	0,12	525	2880	12,5 x 35	ECR1VYL152M00001235
		0,088	0,017	0,056	0,12	630	3350	12,5 x 40	ECR1VYL182M00001240
	1 800	0,088	0,024	0,060	0,12	630	2930	16 x 25	ECR1VYL182M00001625
		0,088	0,026	0,067	0,12	630	2860	18 x 20	ECR1VYL182M00001820
	2 200	0,084	0,017	0,050	0,14	770	3450	16 x 31,5	ECR1VYL222M00001631
		0,084	0,019	0,049	0,14	770	3140	18 x 25	ECR1VYL222M00001825
	2 700	0,069	0,015	0,044	0,14	945	3610	16 x 35,5	ECR1VYL272M00001635
		0,069	0,015	0,040	0,14	945	4170	18 x 31,5	ECR1VYL272M00001831
	3 300	0,064	0,013	0,038	0,16	1.155	4080	16 x 40	ECR1VYL332M00001640
		0,064	0,014	0,038	0,16	1.155	4220	18 x 35,5	ECR1VYL332M00001835
	3 900	0,054	0,012	0,032	0,16	1.365	4280	18 x 40	ECR1VYL392M00001840
50 (63) 1V	22	6,03	0,700	2,80	0,10	11	180	5 x 11,5	ECR1HYL220M00000511
	56	2,37	0,300	1,20	0,10	28	295	6,3 x 11,5	ECR1HYL560M00000611
	100	1,33	0,170	0,680	0,10	50	555	8 x 11,5	ECR1HYL101M00000811
	120	1,11	0,120	0,480	0,10	60	730	8 x 16	ECR1HYL121M00000816
	150	0,884	0,120	0,480	0,10	75	760	10 x 12,5	ECR1HYL151M00001012
	180	0,737	0,091	0,360	0,10	90	910	8 x 20	ECR1HYL181M00000820
	220	0,603	0,084	0,340	0,10	110	1050	10 x 16	ECR1HYL221M0000016E
	270	0,491	0,060	0,240	0,10	135	1220	10 x 20	ECR1HYL271M00001020
		0,491	0,061	0,200	0,10	135	1260	12,5 x 16	ECR1HYL271M00001216
	330	0,402	0,055	0,220	0,10	165	1440	10 x 25	ECR1HYL331M00001025
		0,282	0,043	0,170	0,10	235	1690	10 x 30	ECR1HYL471M00001030
	470	0,282	0,045	0,150	0,10	235	1660	12,5 x 20	ECR1HYL471M00001220
		0,282	0,055	0,170	0,10	235	1690	16 x 16	ECR1HYL471M00001616
		0,237	0,034	0,110	0,10	280	1950	12,5 x 25	ECR1HYL561M00001225
	560	0,237	0,054	0,150	0,10	280	1930	18 x 16	ECR1HYL561M00001816
		0,195	0,030	0,100	0,10	340	2310	12,5 x 30	ECR1HYL681M00001230
	820	0,162	0,025	0,083	0,10	410	2510	12,5 x 35	ECR1HYL821M00001235
		0,162	0,034	0,100	0,10	410	2210	16 x 20	ECR1HYL821M00001620
	1 000	0,133	0,021	0,069	0,10	500	2920	12,5 x 40	ECR1HYL102M00001240
		0,133	0,025	0,075	0,10	500	2555	16 x 25	ECR1HYL102M00001625
		0,133	0,036	0,097	0,10	500	2490	18 x 20	ECR1HYL102M00001820
		0,111	0,022	0,066	0,10	600	3010	16 x 31,5	ECR1HYL122M00001631
	1 200	0,111	0,026	0,070	0,10	600	2740	18 x 25	ECR1HYL122M00001825
		0,088	0,019	0,057	0,10	750	3150	16 x 35,5	ECR1HYL152M00001635
	1 800	0,074	0,016	0,048	0,10	900	3710	16 x 40	ECR1HYL182M00001640
		0,074	0,021	0,057	0,10	900	3635	18 x 31,5	ECR1HYL182M00001831
	2 200	0,072	0,017	0,046	0,12	1.100	3680	18 x 35,5	ECR1HYL222M00001835
	2 700	0,059	0,014	0,038	0,12	1.350	3880	18 x 40	ECR1HYL272M00001840
	3 300	0,056	0,014	0,038	0,14	1.650	3800	18 x 40	ECR1HYL332M00001840
63 (79) 1V	15	7,96	1,80	7,30	0,09	10	61	5 x 11,5	ECR1JYL150M00000511
	33	3,62	1,00	4,10	0,09	21	126	6,3 x 11,5	ECR1JYL330M00000611
	56	2,14	0,500	2,20	0,09	36	260	8 x 11,5	ECR1JYL560M00000811
	82	1,46	0,360	1,70	0,09	52	335	8 x 16	ECR1JYL820M00000816
		1,46	0,340	1,40	0,09	52	325	10 x 12,5	ECR1JYL820M00001012
	120	0,995	0,260	1,30	0,09	76	408	8 x 20	ECR1JYL121M00000820
		0,995	0,250	1,20	0,09	76	400	10 x 16	ECR1JYL121M00001016
	180	0,663	0,170	0,760	0,09	114	518	10 x 20	ECR1JYL181M00001020
		0,663	0,180	0,860	0,09	114	527	12,5 x 16	ECR1JYL181M00001216
	220	0,543	0,160	0,670	0,09	139	595	10 x 25	ECR1JYL221M00001025
	270	0,442	0,120	0,570	0,09	171	740	10 x 30	ECR1JYL271M00001030
		0,442	0,130	0,520	0,09	171	765	12,5 x 20	ECR1JYL271M00001220
		0,442	0,110	0,520	0,09	171	895	16 x 16	ECR1JYL271M00001616
	330	0,362	0,096	0,360	0,09	208	875	12,5 x 25	ECR1JYL331M00001225
	390	0,306	0,096	0,400	0,09	246	1030	18 x 16	ECR1JYL391M00001816
	470	0,254	0,080	0,340	0,09	297	1010	12,5 x 30	ECR1JYL471M00001230
		0,254	0,077	0,320	0,09	297	1130	16 x 20	ECR1JYL471M00001620
	560	0,213	0,070	0,300	0,09	353	1140	12,5 x 35	ECR1JYL561M00001235
	680	0,176	0,060	0,250	0,09	429	1280	12,5 x 40	ECR1JYL681M00001240
		0,176	0,062	0,230	0,09	429	1350	16 x 25	ECR1JYL681M00001625
		0,176	0,072	0,270	0,09	429	1300	18 x 20	ECR1JYL681M00001820
	820	0,146	0,049	0,180	0,09	517	1650	16 x 31,5	ECR1JYL821M00001631
		0,146	0,052	0,190	0,09	517	1560	18 x 25	ECR1JYL821M00001825
	1 000	0,119	0,040	0,150	0,09	630	1900	16 x 35,5	ECR1JYL102M00001635
		0,119	0,042	0,150	0,09	630	1720	18 x 31,5	ECR1JYL102M00001831

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U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω) 20°C 120Hz	(Ω) 20°C 100kHz	(Ω) -10°C 100kHz	(Ω) 20°C 120Hz	(μA)	(mA _{RMS}) 105°C 100kHz	(mm)	
63 (79) 1J	1 200	0,099	0,036	0,130	0,09	756	2130	16 x 40	ECR1JYL122M◇◇△△1640
		0,099	0,036	0,130	0,09	756	1890	18 x 35,5	ECR1JYL122M◇◇△△1835
	1 500	0,080	0,032	0,120	0,09	945	2470	18 x 40	ECR1JYL152M◇◇△△1840
	2 700	0,055	0,025	0,100	0,11	1 701	2900	18 x 40	ECR1JYL272M◇◇△△1840
	3 300	0,053	0,022	0,100	0,13	2 079	3200	18 x 40	ECR1JYL332M◇◇△△1840
100 (125) 2A	6,8	15,6	1,80	7,30	0,08	7	62	5 x 11,5	ECR2AYL6R8M◇◇△△0511
	15	7,08	1,00	4,10	0,08	15	126	6,3 x 11,5	ECR2AYL150M◇◇△△0611
	27	3,93	0,500	2,20	0,08	27	260	8 x 11,5	ECR2AYL270M◇◇△△0811
	39	2,73	0,360	1,70	0,08	39	335	8 x 16	ECR2AYL390M◇◇△△0816
	47	2,26	0,340	1,40	0,08	47	325	10 x 12,5	ECR2AYL470M◇◇△△1012
	56	1,90	0,260	1,30	0,08	56	408	8 x 20	ECR2AYL560M◇◇△△0820
	68	1,56	0,250	1,20	0,08	68	400	10 x 16	ECR2AYL680M◇◇△△1016
	82	1,30	0,170	0,760	0,08	82	518	10 x 20	ECR2AYL820M◇◇△△1020
		1,30	0,180	0,860	0,08	82	527	12,5 x 16	ECR2AYL820M◇◇△△1216
	100	1,07	0,160	0,670	0,08	100	595	10 x 25	ECR2AYL101M◇◇△△1025
	120	0,884	0,120	0,570	0,08	120	740	10 x 30	ECR2AYL121M◇◇△△1030
		0,884	0,130	0,520	0,08	120	765	12,5 x 20	ECR2AYL121M◇◇△△1220
	150	0,707	0,110	0,520	0,08	150	895	16 x 16	ECR2AYL151M◇◇△△1616
	180	0,589	0,096	0,360	0,08	180	875	12,5 x 25	ECR2AYL181M◇◇△△1225
		0,589	0,096	0,400	0,08	180	1030	18 x 16	ECR2AYL181M◇◇△△1816
	220	0,482	0,080	0,340	0,08	220	1010	12,5 x 30	ECR2AYL221M◇◇△△1230
		0,482	0,077	0,320	0,08	220	1130	16 x 20	ECR2AYL221M◇◇△△1620
	270	0,393	0,070	0,300	0,08	270	1140	12,5 x 35	ECR2AYL271M◇◇△△1235
		0,393	0,062	0,230	0,08	270	1350	16 x 25	ECR2AYL271M◇◇△△1625
	330	0,322	0,060	0,250	0,08	330	1280	12,5 x 40	ECR2AYL331M◇◇△△1240
		0,322	0,072	0,270	0,08	330	1300	18 x 20	ECR2AYL331M◇◇△△1820
	390	0,272	0,049	0,180	0,08	390	1650	16 x 31,5	ECR2AYL391M◇◇△△1631
		0,272	0,052	0,190	0,08	390	1560	18 x 25	ECR2AYL391M◇◇△△1825
	470	0,226	0,040	0,150	0,08	470	1900	16 x 35,5	ECR2AYL471M◇◇△△1635
		0,226	0,042	0,150	0,08	470	1720	18 x 31,5	ECR2AYL471M◇◇△△1831
	560	0,189	0,036	0,130	0,08	560	2130	16 x 40	ECR2AYL561M◇◇△△1640
	680	0,156	0,036	0,130	0,08	680	1890	18 x 35,5	ECR2AYL681M◇◇△△1835
	820	0,129	0,032	0,120	0,08	820	2470	18 x 40	ECR2AYL821M◇◇△△1840



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (µF)	1 ~ 15 000
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (µA) After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

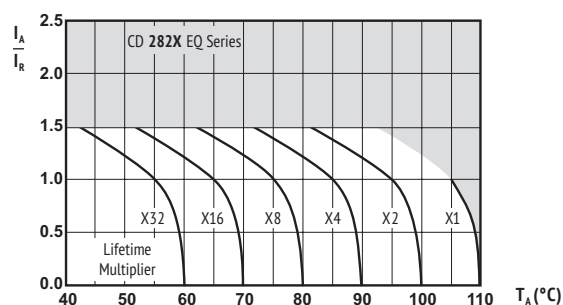
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3	10	16	25	35	50	63	100
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		4	3				2		
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		8	6	4			3		

ITEM	USEFUL LIFE		LOAD LIFE		ENDURANCE TEST		SHELF LIFE	
	6,3~10V:	16~100V:			6,3~10V:	16~100V:		
Lifetime	Ø 5: Ø 6,3-8: Ø 10-18:	6 000h 8 000h 10 000h	7 000h 9 000h 12 000h	> 250 000h	4 000h 6 000h 8 000h	5 000h 7 000h 10 000h	6 000h 8 000h 10 000h	7 000h 9 000h 12 000h
Leakage Current	Not more than specified value		Not more than specified value		Not more than specified value		Not more than specified value	
Capacitance Change	Within ± 40% of initial value		Within ± 25% of initial value		Within ± 25% of initial value		Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value		Not more than 200% of specified value		Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C		U_R $I_R = 0$ 105°C IEC 60384		$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT) MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)

Capacitance (µF) \ Frequency	120Hz	1kHz	10kHz	100kHz
1	0,35	0,60	0,80	1,00
2,2 ~ 10	0,42	0,60	0,80	1,00
22 ~ 47	0,55	0,75	0,90	1,00
100 ~ 330	0,70	0,85	0,95	1,00
470 ~ 1 000	0,75	0,90	0,98	1,00
2 200 ~ 15 000	0,80	0,95	1,00	1,00

Multipliers for typical operating conditions.



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL SAFETY FACTOR

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA rms)	(mm)	$\diamond\diamond$ = pin style & length $\Delta\Delta$ = pitch code Details: Page 33
6,3 (7,9) 0J	100	2,92	0,900	3,60	0,22	7	150	5 x 11,5	ECR0JEQ101M $\diamond\Delta\Delta$ 0511
	180	1,63	0,400	1,20	0,22	12	250	5 x 11,5	ECR0JEQ181M $\diamond\Delta\Delta$ 0511
	220	1,33	0,400	1,20	0,22	14	250	5 x 11,5	ECR0JEQ221M $\diamond\Delta\Delta$ 0511
	330	0,884	0,220	0,870	0,22	21	340	6,3 x 11,5	ECR0JEQ331M $\diamond\Delta\Delta$ 0611
	470	0,621	0,220	0,870	0,22	30	400	6,3 x 11,5	ECR0JEQ471M $\diamond\Delta\Delta$ 0611
	1 000	0,292	0,130	0,520	0,22	63	640	8 x 11,5	ECR0JEQ102M $\diamond\Delta\Delta$ 0811
	1 200	0,244	0,087	0,350	0,22	76	840	8 x 16	ECR0JEQ122M $\diamond\Delta\Delta$ 0816
		0,244	0,080	0,320	0,22	76	865	10 x 12,5	ECR0JEQ122M $\diamond\Delta\Delta$ 1012
	1 500	0,195	0,069	0,270	0,22	65	1050	8 x 20	ECR0JEQ152M $\diamond\Delta\Delta$ 0820
	2 200	0,145	0,062	0,250	0,24	139	1300	10 x 16	ECR0JEQ222M $\diamond\Delta\Delta$ 1016
	3 300	0,104	0,046	0,180	0,26	208	1400	10 x 20	ECR0JEQ332M $\diamond\Delta\Delta$ 1020
	3 900	0,089	0,041	0,140	0,26	246	1900	12,5 x 20	ECR0JEQ392M $\diamond\Delta\Delta$ 1220
	4 700	0,079	0,032	0,110	0,28	297	2230	12,5 x 25	ECR0JEQ472M $\diamond\Delta\Delta$ 1225
	6 800	0,062	0,032	0,110	0,32	429	2230	12,5 x 25	ECR0JEQ682M $\diamond\Delta\Delta$ 1225
	10 000	0,053	0,021	0,060	0,40	630	2930	16 x 25	ECR0JEQ103M $\diamond\Delta\Delta$ 1625
	12 000	0,049	0,019	0,056	0,44	756	3450	16 x 31,5	ECR0JEQ123M $\diamond\Delta\Delta$ 1631
	15 000	0,044	0,015	0,044	0,50	945	3610	16 x 35,5	ECR0JEQ153M $\diamond\Delta\Delta$ 1635

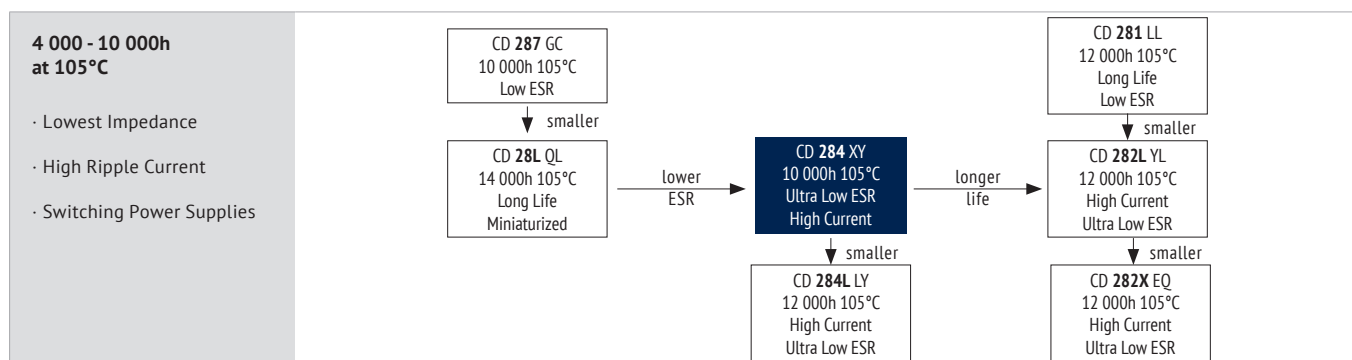
10 (13) 1A	100	2,52	0,900	3,60	0,19	10	150	5 x 11,5	ECR1AEQ101M $\diamond\Delta\Delta$ 0511
	120	2,10	0,400	1,60	0,19	12	250	5 x 11,5	ECR1AEQ121M $\diamond\Delta\Delta$ 0511
	220	1,15	0,400	1,20	0,19	22	250	5 x 11,5	ECR1AEQ221M $\diamond\Delta\Delta$ 0511
	330	0,764	0,220	0,870	0,19	33	400	6,3 x 11,5	ECR1AEQ331M $\diamond\Delta\Delta$ 0611
	470	0,536	0,220	0,870	0,19	47	400	6,3 x 11,5	ECR1AEQ471M $\diamond\Delta\Delta$ 0611
	560	0,451	0,130	0,520	0,19	56	640	8 x 11,5	ECR1AEQ561M $\diamond\Delta\Delta$ 0811
	820	0,310	0,087	0,350	0,19	82	840	8 x 16	ECR1AEQ821M $\diamond\Delta\Delta$ 0816
		0,310	0,080	0,320	0,19	82	865	10 x 12,5	ECR1AEQ821M $\diamond\Delta\Delta$ 1012
	1 000	0,252	0,080	0,320	0,19	100	865	10 x 12,5	ECR1AEQ102M $\diamond\Delta\Delta$ 1012
	1 200	0,220	0,069	0,270	0,19	120	1050	8 x 20	ECR1AEQ122M $\diamond\Delta\Delta$ 0820
		0,211	0,062	0,250	0,19	120	1300	10 x 16	ECR1AEQ122M $\diamond\Delta\Delta$ 1016
	1 800	0,141	0,046	0,180	0,19	180	1400	10 x 20	ECR1AEQ182M $\diamond\Delta\Delta$ 1020
	2 200	0,127	0,046	0,180	0,21	220	1400	10 x 20	ECR1AEQ222M $\diamond\Delta\Delta$ 1020
	3 300	0,092	0,041	0,140	0,23	330	1900	12,5 x 20	ECR1AEQ332M $\diamond\Delta\Delta$ 1220
	4 700	0,071	0,032	0,110	0,25	470	2230	12,5 x 25	ECR1AEQ472M $\diamond\Delta\Delta$ 1225
	6 800	0,057	0,021	0,060	0,29	680	2930	16 x 25	ECR1AEQ682M $\diamond\Delta\Delta$ 1625
	10 000	0,049	0,019	0,056	0,37	1000	3450	16 x 31,5	ECR1AEQ103M $\diamond\Delta\Delta$ 1631
	12 000	0,046	0,015	0,044	0,41	1200	3610	16 x 35,5	ECR1AEQ123M $\diamond\Delta\Delta$ 1635

16 (20) 1C	47	4,52	0,400	1,20	0,16	8	250	5 x 11,5	ECR1CEQ470M $\diamond\Delta\Delta$ 0511
	100	2,13	0,400	1,20	0,16	16	250	5 x 11,5	ECR1CEQ101M $\diamond\Delta\Delta$ 0511
	220	0,965	0,220	0,870	0,16	36	400	6,3 x 11,5	ECR1CEQ221M $\diamond\Delta\Delta$ 0611
	330	0,643	0,220	0,870	0,16	53	400	6,3 x 11,5	ECR1CEQ331M $\diamond\Delta\Delta$ 0611
	470	0,452	0,130	0,520	0,16	76	640	8 x 11,5	ECR1CEQ471M $\diamond\Delta\Delta$ 0811
	680	0,313	0,087	0,350	0,16	109	840	8 x 16	ECR1CEQ681M $\diamond\Delta\Delta$ 0816
		0,313	0,080	0,320	0,16	41	865	10 x 12,5	ECR1CEQ681M $\diamond\Delta\Delta$ 1012
	820	0,259	0,069	0,270	0,16	132	1050	8 x 20	ECR1CEQ821M $\diamond\Delta\Delta$ 0820
	1 000	0,212	0,062	0,250	0,16	160	1210	10 x 16	ECR1CEQ102M $\diamond\Delta\Delta$ 1016
	1 500	0,142	0,046	0,180	0,16	240	1400	10 x 20	ECR1CEQ152M $\diamond\Delta\Delta$ 1020
	1 800	0,118	0,042	0,170	0,16	288	1650	10 x 25	ECR1CEQ182M $\diamond\Delta\Delta$ 1025
	2 200	0,109	0,041	0,140	0,18	352	1900	12,5 x 20	ECR1CEQ222M $\diamond\Delta\Delta$ 1220
	3 300	0,080	0,032	0,110	0,20	528	2230	12,5 x 25	ECR1CEQ332M $\diamond\Delta\Delta$ 1225
	4 700	0,062	0,021	0,060	0,22	752	2930	16 x 25	ECR1CEQ472M $\diamond\Delta\Delta$ 1625
	5 600	0,057	0,021	0,060	0,24	896	2930	16 x 25	ECR1CEQ562M $\diamond\Delta\Delta$ 1625
	6 800	0,051	0,019	0,056	0,26	1088	3450	16 x 31,5	ECR1CEQ682M $\diamond\Delta\Delta$ 1631
	8 200	0,049	0,019	0,056	0,30	1312	3450	16 x 31,5	ECR1CEQ822M $\diamond\Delta\Delta$ 1631
	10 000	0,046	0,015	0,044	0,34	1600	3610	16 x 35,5	ECR1CEQ103M $\diamond\Delta\Delta$ 1635

25 (32) 1E	33	5,63	0,400	1,20	0,14	9	250	5 x 11,5	ECR1EEQ330M $\diamond\Delta\Delta$ 0511
	47	3,96	0,400	1,20	0,14	12	250	5 x 11,5	ECR1EEQ470M $\diamond\Delta\Delta$ 0511
	68	2,73	0,400	1,20	0,14	17	250	5 x 11,5	ECR1EEQ680M $\diamond\Delta\Delta$ 0511
	100	1,86	0,400	1,20	0,14	25	250	5 x 11,5	ECR1EEQ101M $\diamond\Delta\Delta$ 0511
	150	1,24	0,220	0,870	0,14	38	400	6,3 x 11,5	ECR1EEQ151M $\diamond\Delta\Delta$ 0611
	220	0,844	0,220	0,870	0,14	55	400	6,3 x 11,5	ECR1EEQ221M $\diamond\Delta\Delta$ 0611
	330	0,563	0,130	0,520	0,14	83	640	8 x 11,5	ECR1EEQ331M $\diamond\Delta\Delta$ 0811
	390	0,477	0,087	0,350	0,14	98	840	8 x 16	ECR1EEQ391M $\diamond\Delta\Delta$ 0816
	470	0,395	0,080	0,320	0,14	118	865	10 x 12,5	ECR1EEQ471M $\diamond\Delta\Delta$ 1012
	560	0,332	0,069	0,270	0,14	140	1050	8 x 20	ECR1EEQ561M $\diamond\Delta\Delta$ 0820
	680	0,274	0,062	0,250	0,14	170	1300	10 x 16	ECR1EEQ681M $\diamond\Delta\Delta$ 1016
	1 000	0,186	0,046	0,180	0,14	250	1400	10 x 20	ECR1EEQ102M $\diamond\Delta\Delta$ 1020

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE
(V)	(µF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(µA)	105°C 100kHz (mArms)	(mm)	◇◇ = pin style & length ΔΔ = pitch code Details: Page 33
25 (32) 1E	1 200	0,155	0,042	0,170	0,14	300	1650	10 x 25	ECR1EEQ122M◇◇ΔΔ1025
	1 500	0,124	0,041	0,140	0,14	375	1900	12,5 x 20	ECR1EEQ152M◇◇ΔΔ1220
	2 200	0,096	0,032	0,110	0,16	550	2230	12,5 x 25	ECR1EEQ222M◇◇ΔΔ1225
	3 300	0,072	0,021	0,060	0,18	825	2930	16 x 25	ECR1EEQ332M◇◇ΔΔ1625
	4 700	0,056	0,019	0,056	0,20	1175	3450	16 x 31,5	ECR1EEQ472M◇◇ΔΔ1631
	5 600	0,053	0,015	0,044	0,22	1400	3610	16 x 35,5	ECR1EEQ562M◇◇ΔΔ1635
35 (44) 1V	33	4,83	0,400	1,20	0,12	12	250	5 x 11,5	ECR1VEQ330M◇◇ΔΔ0511
	47	3,39	0,400	1,20	0,12	17	250	5 x 11,5	ECR1VEQ470M◇◇ΔΔ0511
	100	1,60	0,220	0,870	0,12	35	400	6,3 x 11,5	ECR1VEQ101M◇◇ΔΔ0611
	220	0,723	0,130	0,520	0,12	77	640	8 x 11,5	ECR1VEQ221M◇◇ΔΔ0811
	270	0,590	0,087	0,350	0,12	95	840	8 x 16	ECR1VEQ271M◇◇ΔΔ0816
	330	0,482	0,080	0,320	0,12	116	865	10 x 12,5	ECR1VEQ331M◇◇ΔΔ1012
	390	0,409	0,069	0,270	0,12	137	1050	8 x 20	ECR1VEQ391M◇◇ΔΔ0820
	470	0,339	0,062	0,250	0,12	165	1210	10 x 16	ECR1VEQ471M◇◇ΔΔ1016
	680	0,235	0,046	0,180	0,12	238	1400	10 x 20	ECR1VEQ681M◇◇ΔΔ1020
	820	0,195	0,042	0,170	0,12	287	1650	10 x 25	ECR1VEQ821M◇◇ΔΔ1025
	1 000	0,159	0,041	0,140	0,12	350	1900	12,5 x 20	ECR1VEQ102M◇◇ΔΔ1220
	1 500	0,107	0,032	0,110	0,12	525	2230	12,5 x 25	ECR1VEQ152M◇◇ΔΔ1225
	2 200	0,084	0,021	0,060	0,14	770	2930	16 x 25	ECR1VEQ222M◇◇ΔΔ1625
	2 700	0,069	0,021	0,060	0,14	945	2930	16 x 25	ECR1VEQ272M◇◇ΔΔ1625
	3 300	0,064	0,019	0,056	0,16	1155	3450	16 x 31,5	ECR1VEQ332M◇◇ΔΔ1631
	3 900	0,055	0,015	0,044	0,16	1365	3610	16 x 35,5	ECR1VEQ392M◇◇ΔΔ1635
50 (63) 1H	1,0	133	4,00	8,00	0,10	3	30	5 x 11,5	ECR1HEQ010M◇◇ΔΔ0511
	2,2	60,3	2,50	6,00	0,10	3	43	5 x 11,5	ECR1HEQ2R2M◇◇ΔΔ0511
	3,3	40,2	2,20	5,60	0,10	3	53	5 x 11,5	ECR1HEQ3R3M◇◇ΔΔ0511
	4,7	28,3	1,90	5,00	0,10	3	88	5 x 11,5	ECR1HEQ4R7M◇◇ΔΔ0511
	10	13,3	1,50	4,00	0,10	5	100	5 x 11,5	ECR1HEQ100M◇◇ΔΔ0511
	22	6,03	0,700	2,80	0,10	11	180	5 x 11,5	ECR1HEQ220M◇◇ΔΔ0511
	33	4,02	0,700	2,80	0,10	17	250	5 x 11,5	ECR1HEQ330M◇◇ΔΔ0511
	47	3,02	0,300	1,20	0,10	24	295	6,3 x 11,5	ECR1HEQ470M◇◇ΔΔ0611
	56	2,37	0,300	1,20	0,10	28	295	6,3 x 11,5	ECR1HEQ560M◇◇ΔΔ0611
	100	1,33	0,170	0,680	0,10	50	555	8 x 11,5	ECR1HEQ101M◇◇ΔΔ0811
	150	0,885	0,120	0,480	0,10	75	730	8 x 16	ECR1HEQ151M◇◇ΔΔ0816
	180	0,737	0,091	0,360	0,10	90	910	8 x 20	ECR1HEQ181M◇◇ΔΔ0820
		0,737	0,120	0,480	0,10	90	760	10 x 12,5	ECR1HEQ181M◇◇ΔΔ1012
	220	0,603	0,084	0,340	0,10	110	1050	10 x 16	ECR1HEQ221M◇◇ΔΔ1016
	330	0,402	0,060	0,240	0,10	165	1220	10 x 20	ECR1HEQ331M◇◇ΔΔ1020
	470	0,283	0,055	0,220	0,10	235	1440	10 x 25	ECR1HEQ471M◇◇ΔΔ1025
		0,282	0,045	0,150	0,10	235	1660	12,5 x 20	ECR1HEQ471M◇◇ΔΔ1220
	560	0,237	0,045	0,150	0,10	280	1660	12,5 x 20	ECR1HEQ561M◇◇ΔΔ1220
	820	0,162	0,034	0,110	0,10	410	1950	12,5 x 25	ECR1HEQ821M◇◇ΔΔ1225
	1 000	0,133	0,032	0,096	0,10	500	2730	16 x 25	ECR1HEQ102M◇◇ΔΔ1625
	1 200	0,111	0,025	0,075	0,10	600	2730	16 x 25	ECR1HEQ122M◇◇ΔΔ1625
	1 800	0,074	0,022	0,066	0,10	900	3010	16 x 31,5	ECR1HEQ182M◇◇ΔΔ1631
	2 200	0,072	0,019	0,057	0,12	1100	3150	16 x 35,5	ECR1HEQ222M◇◇ΔΔ1635
63 (79) 1J	10	12,0	0,880	3,50	0,09	7	173	5 x 11,5	ECR1JEQ100M◇◇ΔΔ0511
	22	5,43	0,880	3,50	0,09	14	173	5 x 11,5	ECR1JEQ220M◇◇ΔΔ0511
	33	3,62	0,350	1,40	0,09	21	278	6,3 x 11,5	ECR1JEQ330M◇◇ΔΔ0611
	56	2,14	0,220	0,880	0,09	36	500	8 x 11,5	ECR1JEQ560M◇◇ΔΔ0811
	82	1,46	0,160	0,640	0,09	52	665	8 x 16	ECR1JEQ820M◇◇ΔΔ0816
	100	1,20	0,150	0,600	0,09	63	725	10 x 12,5	ECR1JEQ101M◇◇ΔΔ1012
	120	0,995	0,120	0,480	0,09	76	820	8 x 20	ECR1JEQ121M◇◇ΔΔ0820
	220	0,543	0,078	0,310	0,09	139	1200	10 x 20	ECR1JEQ221M◇◇ΔΔ1020
	330	0,362	0,060	0,190	0,09	208	1570	12,5 x 20	ECR1JEQ331M◇◇ΔΔ1220
	390	0,307	0,060	0,190	0,09	246	1570	12,5 x 20	ECR1JEQ391M◇◇ΔΔ1220
	470	0,254	0,043	0,140	0,09	297	1990	12,5 x 25	ECR1JEQ471M◇◇ΔΔ1225
	560	0,214	0,043	0,140	0,09	353	1990	12,5 x 25	ECR1JEQ561M◇◇ΔΔ1225
	1 000	0,119	0,032	0,096	0,09	630	2730	16 x 25	ECR1JEQ102M◇◇ΔΔ1625
	1 200	0,100	0,021	0,063	0,09	756	2850	16 x 31,5	ECR1JEQ122M◇◇ΔΔ1631
	1 500	0,080	0,019	0,057	0,09	945	2900	16 x 35,5	ECR1JEQ152M◇◇ΔΔ1635
100 (125) 2A	1,0	107	4,50	15,0	0,08	3	20	5 x 11,5	ECR2AEQ010M◇◇ΔΔ0511
	2,2	48,3	3,00	13,0	0,08	3	30	5 x 11,5	ECR2AEQ2R2M◇◇ΔΔ0511
	3,3	32,2	2,70	11,0	0,08	4	40	5 x 11,5	ECR2AEQ3R3M◇◇ΔΔ0511
	4,7	23,6	2,50	10,0	0,08	5	65	5 x 11,5	ECR2AEQ4R7M◇◇ΔΔ0511

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code Details: Page 33
(V)	(μF)	(Ω) 20°C 120Hz	(Ω) 20°C 100kHz	(Ω) -10°C 100kHz	(Ω) 20°C 120Hz	(μA)	(mA _{RMS}) 105°C 100kHz	(mm)	
100 (125) 2A	6,8	15,6	1,40	5,60	0,08	7	125	5 x 11,5	ECR2AEQ6R8M◇◇△△0511
	10	10,7	0,570	2,30	0,08	10	267	6,3 x 11,5	ECR2AEQ100M◇◇△△0611
	22	4,83	0,570	2,30	0,08	22	267	6,3 x 11,5	ECR2AEQ220M◇◇△△0611
	33	3,22	0,360	1,40	0,08	33	462	8 x 11,5	ECR2AEQ330M◇◇△△0811
	47	2,26	0,250	1,00	0,08	47	585	8 x 16	ECR2AEQ470M◇◇△△0816
	56	1,90	0,190	0,760	0,08	56	735	8 x 20	ECR2AEQ560M◇◇△△0820
	68	1,57	0,110	0,470	0,08	68	780	10 x 16	ECR2AEQ680M◇◇△△1016
	100	1,07	0,120	0,520	0,08	100	1040	10 x 20	ECR2AEQ101M◇◇△△1020
	150	0,708	0,110	0,470	0,08	150	1170	10 x 25	ECR2AEQ151M◇◇△△1025
	220	0,482	0,060	0,230	0,08	220	1620	12,5 x 25	ECR2AEQ221M◇◇△△1225
	330	0,322	0,044	0,160	0,08	330	2210	16 x 25	ECR2AEQ331M◇◇△△1625
	470	0,226	0,032	0,095	0,08	470	2400	16 x 31,5	ECR2AEQ471M◇◇△△1631
	560	0,190	0,029	0,086	0,08	560	2600	16 x 35,5	ECR2AEQ561M◇◇△△1635



ITEM	CHARACTERISTICS
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Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (µF)	6,8 ~ 6 800
Capacitance Tolerance (20°C, 120Hz)	± 20%

 The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (μA)	After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
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Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3	10	16	25	35	50	63	80	100
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	4	3	2						
	$Z_{+40^{\circ}\text{C}} / Z_{-20^{\circ}\text{C}}$	12	10	8	6	4	3			

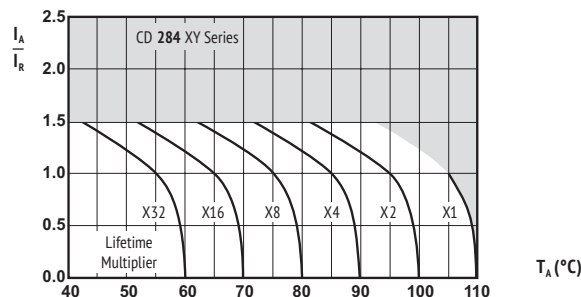
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	$\emptyset \leq 6,3 : 4\,000\text{h}$ $\emptyset 8 : 6\,000\text{h}$ $\emptyset 10 : 8\,000\text{h}$ $\emptyset \geq 12,5 : 10\,000\text{h}$	$\emptyset \geq 8 : > 250\,000\text{h}$	$\emptyset \leq 6,3 : 2\,000\text{h}$ $\emptyset 8 : 3\,000\text{h}$ $\emptyset 10 : 4\,000\text{h}$ $\emptyset \geq 12,5 : 5\,000\text{h}$	$\emptyset \leq 6,3 : 2\,500\text{h}$ $\emptyset 8 : 3\,500\text{h}$ $\emptyset 10 : 5\,000\text{h}$ $\emptyset \geq 12,5 : 6\,000\text{h}$	1000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within $\pm 50\%$ of initial value		Within $\pm 25\%$ of initial value	Within $\pm 25\%$ of initial value	Within $\pm 20\%$ of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (µF) \ Frequency	120Hz	1kHz	10kHz	100kHz
6,8 ~ 33	0,42	0,70	0,90	1,00
39 ~ 270	0,50	0,73	0,92	1,00
330 ~ 680	0,55	0,88	0,98	1,00
820 ~ 1 800	0,66	0,90	0,99	1,00
2 200 ~ 6 800	0,70	0,92	1,00	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

 SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



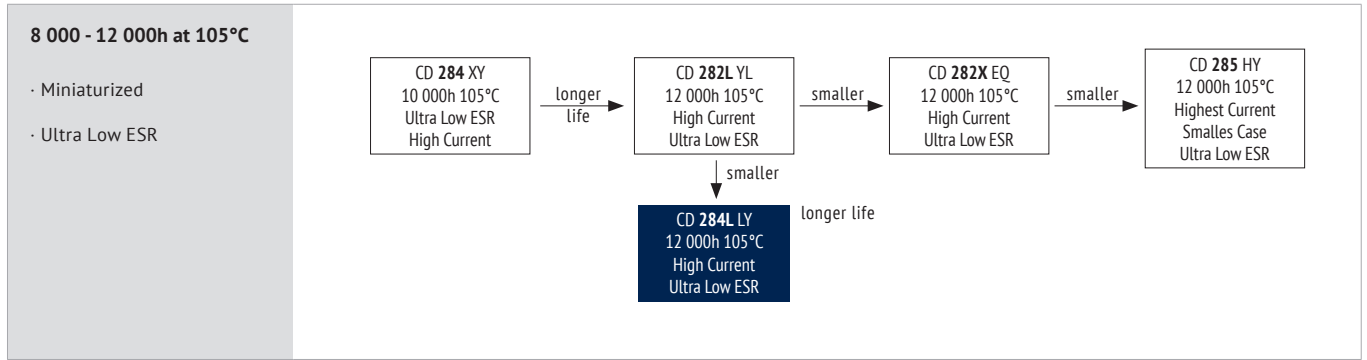
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	$\diamond\diamond$ = pin style & length $\Delta\Delta$ = pitch code Details: Page 33
6,3 (7,9) 0J	150	1,95	0,300	1,00	0,22	10	250	5 x 11,5	ECR0JXY151M $\diamond\diamond\Delta\Delta$ 0511
	330	0,885	0,130	0,410	0,22	21	405	6,3 x 11,5	ECR0JXY331M $\diamond\diamond\Delta\Delta$ 0611
	560	0,522	0,072	0,220	0,22	36	760	8 x 11,5	ECR0JXY561M $\diamond\diamond\Delta\Delta$ 0811
	820	0,356	0,056	0,170	0,22	52	995	8 x 16	ECR0JXY821M $\diamond\diamond\Delta\Delta$ 0816
	1 000	0,292	0,053	0,160	0,22	63	1030	10 x 12,5	ECR0JXY102M $\diamond\diamond\Delta\Delta$ 1012
	1 200	0,244	0,041	0,130	0,22	76	1250	8 x 20	ECR0JXY122M $\diamond\diamond\Delta\Delta$ 0820
		0,244	0,038	0,120	0,22	76	1430	10 x 16	ECR0JXY122M $\diamond\diamond\Delta\Delta$ 1016
	1 500	0,195	0,023	0,069	0,22	95	1820	10 x 20	ECR0JXY152M $\diamond\diamond\Delta\Delta$ 1020
	2 200	0,145	0,022	0,066	0,24	139	2150	10 x 25	ECR0JXY222M $\diamond\diamond\Delta\Delta$ 1025
	3 300	0,105	0,021	0,053	0,26	208	2360	12,5 x 20	ECR0JXY332M $\diamond\diamond\Delta\Delta$ 1220
	3 900	0,089	0,018	0,045	0,26	246	2770	12,5 x 25	ECR0JXY392M $\diamond\diamond\Delta\Delta$ 1225
	4 700	0,080	0,016	0,041	0,28	297	3290	12,5 x 30	ECR0JXY472M $\diamond\diamond\Delta\Delta$ 1230
	5 600	0,072	0,015	0,039	0,30	353	3400	12,5 x 35	ECR0JXY562M $\diamond\diamond\Delta\Delta$ 1235
		0,072	0,018	0,045	0,30	353	3140	16 x 20	ECR0JXY562M $\diamond\diamond\Delta\Delta$ 1620
	6 800	0,063	0,016	0,043	0,32	429	3460	16 x 25	ECR0JXY682M $\diamond\diamond\Delta\Delta$ 1625
10 (13) 1A	100	2,52	0,300	1,00	0,19	10	250	5 x 11,5	ECR1AXY101M $\diamond\diamond\Delta\Delta$ 0511
	220	1,15	0,130	0,410	0,19	22	405	6,3 x 11,5	ECR1AXY221M $\diamond\diamond\Delta\Delta$ 0611
	470	0,537	0,072	0,220	0,19	47	760	8 x 11,5	ECR1AXY471M $\diamond\diamond\Delta\Delta$ 0811
	680	0,371	0,056	0,170	0,19	68	995	8 x 16	ECR1AXY681M $\diamond\diamond\Delta\Delta$ 0816
		0,371	0,053	0,160	0,19	68	1030	10 x 12,5	ECR1AXY681M $\diamond\diamond\Delta\Delta$ 1012
	1 000	0,252	0,041	0,130	0,19	100	1250	8 x 20	ECR1AXY102M $\diamond\diamond\Delta\Delta$ 0820
		0,252	0,038	0,120	0,19	100	1430	10 x 16	ECR1AXY102M $\diamond\diamond\Delta\Delta$ 1016
	1 200	0,210	0,023	0,069	0,19	120	1820	10 x 20	ECR1AXY122M $\diamond\diamond\Delta\Delta$ 1020
	1 500	0,168	0,022	0,066	0,19	150	2150	10 x 25	ECR1AXY152M $\diamond\diamond\Delta\Delta$ 1025
	2 200	0,127	0,021	0,053	0,21	220	2360	12,5 x 20	ECR1AXY222M $\diamond\diamond\Delta\Delta$ 1220
	3 300	0,093	0,018	0,045	0,23	330	2770	12,5 x 25	ECR1AXY332M $\diamond\diamond\Delta\Delta$ 1225
	3 900	0,079	0,016	0,041	0,23	390	3290	12,5 x 30	ECR1AXY392M $\diamond\diamond\Delta\Delta$ 1230
		0,079	0,018	0,045	0,23	390	3140	16 x 20	ECR1AXY392M $\diamond\diamond\Delta\Delta$ 1620
	4 700	0,071	0,015	0,039	0,25	470	3400	12,5 x 35	ECR1AXY472M $\diamond\diamond\Delta\Delta$ 1235
	5 600	0,064	0,016	0,043	0,27	560	3460	16 x 25	ECR1AXY562M $\diamond\diamond\Delta\Delta$ 1625
16 (20) 1C	56	3,79	0,300	1,00	0,16	9	250	5 x 11,5	ECR1CXY560M $\diamond\diamond\Delta\Delta$ 0511
	120	1,77	0,130	0,410	0,16	20	405	6,3 x 11,5	ECR1CXY121M $\diamond\diamond\Delta\Delta$ 0611
	330	0,644	0,072	0,220	0,16	53	760	8 x 11,5	ECR1CXY331M $\diamond\diamond\Delta\Delta$ 0811
	470	0,452	0,056	0,170	0,16	76	995	8 x 16	ECR1CXY471M $\diamond\diamond\Delta\Delta$ 0816
		0,452	0,053	0,160	0,16	76	1030	10 x 12,5	ECR1CXY471M $\diamond\diamond\Delta\Delta$ 1012
	680	0,313	0,041	0,130	0,16	109	1250	8 x 20	ECR1CXY681M $\diamond\diamond\Delta\Delta$ 0820
	680	0,313	0,038	0,120	0,16	109	1430	10 x 16	ECR1CXY681M $\diamond\diamond\Delta\Delta$ 1016
	1 000	0,213	0,023	0,069	0,16	160	1820	10 x 20	ECR1CXY102M $\diamond\diamond\Delta\Delta$ 1020
	1 200	0,177	0,022	0,066	0,16	192	2150	10 x 25	ECR1CXY122M $\diamond\diamond\Delta\Delta$ 1025
	1 500	0,142	0,021	0,053	0,16	240	2360	12,5 x 20	ECR1CXY152M $\diamond\diamond\Delta\Delta$ 1220
	2 200	0,109	0,018	0,045	0,18	352	2770	12,5 x 25	ECR1CXY222M $\diamond\diamond\Delta\Delta$ 1225
	2 700	0,089	0,016	0,041	0,18	432	3290	12,5 x 30	ECR1CXY272M $\diamond\diamond\Delta\Delta$ 1230
		0,089	0,018	0,045	0,18	432	3140	16 x 20	ECR1CXY272M $\diamond\diamond\Delta\Delta$ 1620
	3 300	0,081	0,015	0,039	0,20	528	3400	12,5 x 35	ECR1CXY332M $\diamond\diamond\Delta\Delta$ 1235
	3 900	0,069	0,016	0,043	0,20	624	3460	16 x 25	ECR1CXY392M $\diamond\diamond\Delta\Delta$ 1625
25 (32) 1E	47	3,96	0,300	1,00	0,14	12	250	5 x 11,5	ECR1EXY470M $\diamond\diamond\Delta\Delta$ 0511
	100	1,86	0,130	0,410	0,14	25	405	6,3 x 11,5	ECR1EXY101M $\diamond\diamond\Delta\Delta$ 0611
	220	0,845	0,072	0,220	0,14	55	760	8 x 11,5	ECR1EXY221M $\diamond\diamond\Delta\Delta$ 0811
	330	0,563	0,056	0,170	0,14	83	995	8 x 16	ECR1EXY331M $\diamond\diamond\Delta\Delta$ 0816
		0,563	0,053	0,160	0,14	83	1030	10 x 12,5	ECR1EXY331M $\diamond\diamond\Delta\Delta$ 1012
	470	0,396	0,041	0,130	0,14	118	1250	8 x 20	ECR1EXY471M $\diamond\diamond\Delta\Delta$ 0820
		0,396	0,038	0,120	0,14	118	1430	10 x 16	ECR1EXY471M $\diamond\diamond\Delta\Delta$ 1016
	680	0,274	0,023	0,069	0,14	170	1820	10 x 20	ECR1EXY681M $\diamond\diamond\Delta\Delta$ 1020
	820	0,227	0,022	0,066	0,14	205	2150	10 x 25	ECR1EXY821M $\diamond\diamond\Delta\Delta$ 1025
	1 000	0,186	0,021	0,053	0,14	250	2360	12,5 x 20	ECR1EXY102M $\diamond\diamond\Delta\Delta$ 1220
	1 500	0,124	0,018	0,045	0,14	375	2770	12,5 x 25	ECR1EXY152M $\diamond\diamond\Delta\Delta$ 1225
	1 800	0,104	0,016	0,041	0,14	450	3290	12,5 x 30	ECR1EXY182M $\diamond\diamond\Delta\Delta$ 1230
		0,104	0,018	0,045	0,14	450	3140	16 x 20	ECR1EXY182M $\diamond\diamond\Delta\Delta$ 1620
	2 200	0,097	0,015	0,039	0,16	550	3400	12,5 x 35	ECR1EXY222M $\diamond\diamond\Delta\Delta$ 1235
	2 700	0,079	0,016	0,043	0,16	675	3460	16 x 25	ECR1EXY272M $\diamond\diamond\Delta\Delta$ 1625



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	Details: Page 33
35 (44) 1V	33	4,83	0,300	1,00	0,12	12	250	5 x 11,5	ECR1VXY330M◇◇△△0511
	56	2,85	0,130	0,410	0,12	20	405	6,3 x 11,5	ECR1VXY560M◇◇△△0611
	150	1,07	0,072	0,220	0,12	53	760	8 x 11,5	ECR1VXY151M◇◇△△0811
	220	0,724	0,056	0,170	0,12	77	995	8 x 16	ECR1VXY221M◇◇△△0816
		0,724	0,053	0,160	0,12	77	1030	10 x 12,5	ECR1VXY221M◇◇△△1012
	270	0,590	0,041	0,130	0,12	95	1250	8 x 20	ECR1VXY271M◇◇△△0820
	330	0,483	0,038	0,120	0,12	116	1430	10 x 16	ECR1VXY331M◇◇△△1016
	470	0,339	0,023	0,069	0,12	165	1820	10 x 20	ECR1VXY471M◇◇△△1020
	560	0,285	0,022	0,066	0,12	196	2150	10 x 25	ECR1VXY561M◇◇△△1025
	680	0,235	0,021	0,053	0,12	238	2360	12,5 x 20	ECR1VXY681M◇◇△△1220
	1 000	0,160	0,018	0,045	0,12	350	2770	12,5 x 25	ECR1VXY102M◇◇△△1225
	1 200	0,133	0,016	0,041	0,12	420	3290	12,5 x 30	ECR1VXY122M◇◇△△1230
		0,133	0,018	0,045	0,12	420	3140	16 x 20	ECR1VXY122M◇◇△△1620
	1 500	0,107	0,015	0,039	0,12	525	3400	12,5 x 35	ECR1VXY152M◇◇△△1235
	1 800	0,089	0,016	0,043	0,12	630	3460	16 x 25	ECR1VXY182M◇◇△△1625
50 (63) 1H	22	6,03	0,340	1,18	0,10	11	238	5 x 11,5	ECR1HXY220M◇◇△△0511
	56	2,37	0,140	0,500	0,10	28	385	6,3 x 11,5	ECR1HXY560M◇◇△△0611
	100	1,33	0,074	0,220	0,10	50	724	8 x 11,5	ECR1HXY101M◇◇△△0811
	120	1,11	0,061	0,180	0,10	60	950	8 x 16	ECR1HXY121M◇◇△△0816
	150	0,885	0,061	0,180	0,10	75	979	10 x 12,5	ECR1HXY151M◇◇△△1012
	180	0,737	0,046	0,140	0,10	90	1190	8 x 20	ECR1HXY181M◇◇△△0820
	220	0,603	0,042	0,120	0,10	110	1370	10 x 16	ECR1HXY221M◇◇△△1016
	270	0,492	0,030	0,090	0,10	135	1580	10 x 20	ECR1HXY271M◇◇△△1020
	330	0,402	0,028	0,085	0,10	165	1870	10 x 25	ECR1HXY331M◇◇△△1025
	470	0,283	0,027	0,068	0,10	235	2050	12,5 x 20	ECR1HXY471M◇◇△△1220
	560	0,237	0,023	0,059	0,10	280	2410	12,5 x 25	ECR1HXY561M◇◇△△1225
	680	0,196	0,021	0,052	0,10	340	2860	12,5 x 30	ECR1HXY681M◇◇△△1230
	820	0,162	0,019	0,051	0,10	410	2960	12,5 x 35	ECR1HXY821M◇◇△△1235
		0,162	0,023	0,059	0,10	410	2730	16 x 20	ECR1HXY821M◇◇△△1620
	1 000	0,133	0,021	0,056	0,10	500	3010	16 x 25	ECR1HXY102M◇◇△△1625
63 (79) 1J	15	7,96	0,880	3,50	0,09	10	165	5 x 11,5	ECR1JXY150M◇◇△△0511
	33	3,62	0,350	1,40	0,09	21	265	6,3 x 11,5	ECR1JXY330M◇◇△△0611
	56	2,14	0,220	0,880	0,09	36	500	8 x 11,5	ECR1JXY560M◇◇△△0811
	82	1,46	0,160	0,640	0,09	52	665	8 x 16	ECR1JXY820M◇◇△△0816
		1,46	0,150	0,600	0,09	52	685	10 x 12,5	ECR1JXY820M◇◇△△1012
	120	0,995	0,120	0,480	0,09	76	820	8 x 20	ECR1JXY121M◇◇△△0820
		0,995	0,110	0,440	0,09	76	945	10 x 16	ECR1JXY121M◇◇△△1016
	180	0,664	0,080	0,320	0,09	114	1100	10 x 20	ECR1JXY181M◇◇△△1020
		0,664	0,082	0,270	0,09	114	1135	12,5 x 16	ECR1JXY181M◇◇△△1216
	220	0,543	0,073	0,290	0,09	139	1300	10 x 25	ECR1JXY221M◇◇△△1025
	270	0,443	0,060	0,200	0,09	171	1495	12,5 x 20	ECR1JXY271M◇◇△△1220
	330	0,362	0,043	0,140	0,09	208	1850	12,5 x 25	ECR1JXY331M◇◇△△1225
	470	0,254	0,039	0,130	0,09	297	2250	12,5 x 30	ECR1JXY471M◇◇△△1230
		0,254	0,045	0,140	0,09	297	1990	16 x 20	ECR1JXY471M◇◇△△1620
	560	0,214	0,033	0,110	0,09	353	2500	12,5 x 35	ECR1JXY561M◇◇△△1235
		0,214	0,032	0,096	0,09	353	2550	16 x 25	ECR1JXY561M◇◇△△1625
	680	0,176	0,029	0,096	0,09	429	2780	12,5 x 40	ECR1JXY681M◇◇△△1240
		0,176	0,038	0,100	0,09	429	2450	18 x 20	ECR1JXY681M◇◇△△1820
	820	0,146	0,026	0,078	0,09	517	2810	16 x 31,5	ECR1JXY821M◇◇△△1631
		0,146	0,031	0,084	0,09	517	2780	18 x 25	ECR1JXY821M◇◇△△1825
	1 000	0,120	0,021	0,063	0,09	630	2835	16 x 35,5	ECR1JXY102M◇◇△△1635
	1 200	0,100	0,019	0,057	0,09	756	3400	16 x 40	ECR1JXY122M◇◇△△1640
		0,100	0,020	0,054	0,09	756	3300	18 x 31,5	ECR1JXY122M◇◇△△1831
	1 500	0,080	0,018	0,054	0,09	756	3400	18 x 35,5	ECR1JXY152M◇◇△△1835
	1 800	0,080	0,017	0,051	0,09	1134	3500	18 x 40	ECR1JXY182M◇◇△△1840
80 (100) 1K	68	1,57	0,170	0,660	0,08	55	480	10 x 12,5	ECR1KXY680M◇◇△△1012
	100	1,07	0,110	0,470	0,08	80	600	10 x 16	ECR1KXY101M◇◇△△1016
	120	0,885	0,084	0,340	0,08	96	800	10 x 20	ECR1KXY121M◇◇△△1020
	150	0,708	0,069	0,280	0,08	120	900	10 x 25	ECR1KXY151M◇◇△△1025
		0,708	0,110	0,340	0,08	120	750	12,5 x 16	ECR1KXY151M◇◇△△1216
	220	0,483	0,062	0,180	0,08	176	1100	12,5 x 20	ECR1KXY221M◇◇△△1220
	330	0,322	0,047	0,140	0,08	264	1250	12,5 x 25	ECR1KXY331M◇◇△△1225
		0,322	0,048	0,150	0,08	264	1350	16 x 20	ECR1KXY331M◇◇△△1620
	390	0,272	0,042	0,130	0,08	312	1500	12,5 x 30	ECR1KXY391M◇◇△△1230



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	$\diamond\diamond$ = pin style & length $\Delta\Delta$ = pitch code Details: Page 33
80 (100) 1K	470	0,226	0,036	0,110	0,08	376	1650	12,5 x 35	ECR1KXY471M $\diamond\diamond\Delta\Delta$ 1235
		0,226	0,038	0,120	0,08	376	1700	16 x 25	ECR1KXY471M $\diamond\diamond\Delta\Delta$ 1625
		0,226	0,045	0,140	0,08	376	1500	18 x 20	ECR1KXY471M $\diamond\diamond\Delta\Delta$ 1820
	560	0,490	0,032	0,095	0,08	448	1800	12,5 x 40	ECR1KXY561M $\diamond\diamond\Delta\Delta$ 1240
	680	0,156	0,032	0,095	0,08	544	1850	16 x 31,5	ECR1KXY681M $\diamond\diamond\Delta\Delta$ 1631
		0,156	0,036	0,110	0,08	544	1750	18 x 25	ECR1KXY681M $\diamond\diamond\Delta\Delta$ 1825
	820	0,130	0,029	0,086	0,08	656	2000	16 x 35,5	ECR1KXY821M $\diamond\diamond\Delta\Delta$ 1635
		0,130	0,030	0,090	0,08	656	1900	18 x 31,5	ECR1KXY821M $\diamond\diamond\Delta\Delta$ 1831
	1 000	0,106	0,027	0,081	0,08	800	2200	16 x 40	ECR1KXY102M $\diamond\diamond\Delta\Delta$ 1640
		0,106	0,027	0,081	0,08	800	2200	18 x 35,5	ECR1KXY102M $\diamond\diamond\Delta\Delta$ 1835
	1 200	0,089	0,026	0,077	0,08	960	2700	18 x 40	ECR1KXY122M $\diamond\diamond\Delta\Delta$ 1840
100 (125) 2A	6,8	15,6	1,40	5,60	0,08	7	125	5 x 11,5	ECR2AXY6R8M $\diamond\diamond\Delta\Delta$ 0511
	15	7,08	0,570	2,30	0,08	15	205	6,3 x 11,5	ECR2AXY150M $\diamond\diamond\Delta\Delta$ 0611
	27	3,93	0,360	1,40	0,08	27	355	8 x 11,5	ECR2AXY270M $\diamond\diamond\Delta\Delta$ 0811
	39	2,73	0,250	1,00	0,08	39	450	8 x 16	ECR2AXY390M $\diamond\diamond\Delta\Delta$ 0816
	47	2,26	0,240	0,960	0,08	47	450	10 x 12,5	ECR2AXY470M $\diamond\diamond\Delta\Delta$ 1012
	56	1,90	0,190	0,760	0,08	56	565	8 x 20	ECR2AXY560M $\diamond\diamond\Delta\Delta$ 0820
	68	1,57	0,180	0,720	0,08	68	580	10 x 16	ECR2AXY680M $\diamond\diamond\Delta\Delta$ 1016
	82	1,30	0,130	0,520	0,08	82	750	10 x 20	ECR2AXY820M $\diamond\diamond\Delta\Delta$ 1020
	100	1,07	0,110	0,340	0,08	100	750	12,5 x 16	ECR2AXY101M $\diamond\diamond\Delta\Delta$ 1216
	120	0,885	0,069	0,280	0,08	120	900	10 x 25	ECR2AXY121M $\diamond\diamond\Delta\Delta$ 1025
	150	0,590	0,062	0,180	0,08	150	1100	12,5 x 20	ECR2AXY151M $\diamond\diamond\Delta\Delta$ 1220
	220	0,483	0,047	0,140	0,08	220	1250	12,5 x 25	ECR2AXY221M $\diamond\diamond\Delta\Delta$ 1225
		0,483	0,048	0,150	0,08	220	1350	16 x 20	ECR2AXY221M $\diamond\diamond\Delta\Delta$ 1620
	270	0,393	0,042	0,130	0,08	270	1500	12,5 x 30	ECR2AXY271M $\diamond\diamond\Delta\Delta$ 1230
	330	0,393	0,036	0,110	0,08	330	1650	12,5 x 35	ECR2AXY331M $\diamond\diamond\Delta\Delta$ 1235
		0,393	0,038	0,120	0,08	330	1700	16 x 25	ECR2AXY331M $\diamond\diamond\Delta\Delta$ 1625
		0,393	0,045	0,140	0,08	330	1500	18 x 20	ECR2AXY331M $\diamond\diamond\Delta\Delta$ 1820
	390	0,273	0,049	0,130	0,08	390	1620	18 x 25	ECR2AXY391M $\diamond\diamond\Delta\Delta$ 1825
	470	0,226	0,033	0,100	0,08	470	1850	16 x 31,5	ECR2AXY471M $\diamond\diamond\Delta\Delta$ 1631
		0,226	0,036	0,110	0,08	470	1750	18 x 25	ECR2AXY471M $\diamond\diamond\Delta\Delta$ 1825
	560	0,190	0,029	0,086	0,08	560	2000	16 x 35,5	ECR2AXY561M $\diamond\diamond\Delta\Delta$ 1635
		0,190	0,030	0,090	0,08	560	1900	18 x 31,5	ECR2AXY561M $\diamond\diamond\Delta\Delta$ 1831
	680	0,157	0,027	0,081	0,08	680	2200	16 x 40	ECR2AXY681M $\diamond\diamond\Delta\Delta$ 1640
		0,157	0,027	0,081	0,08	680	2200	18 x 35,5	ECR2AXY681M $\diamond\diamond\Delta\Delta$ 1835
	820	0,156	0,026	0,077	0,08	820	2700	18 x 40	ECR2AXY821M $\diamond\diamond\Delta\Delta$ 1840



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	6,3 ~ 120
Capacitance Range (µF)	8,2 ~ 8 200
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (µA) After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3	10	16	25	35	50	63	80	100	120
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		4	3				2				
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		12	10	8	6	4		3			

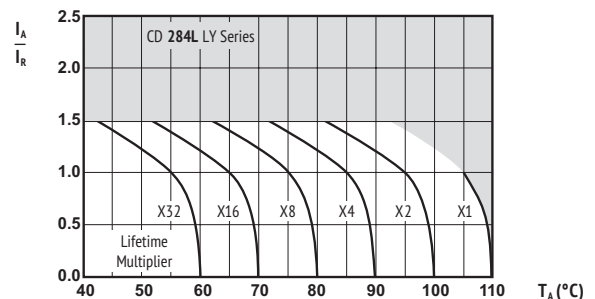
ITEM	USEFUL LIFE	LOAD LIFE	ENDURANCE TEST	SHELF LIFE
Lifetime	$\emptyset \leq 6,3 : 8\ 000\text{h}$ $\emptyset = 8 : 10\ 000\text{h}$ $\emptyset \geq 10 : 12\ 000\text{h}$	$\emptyset \leq 6,3 : 6\ 000\text{h}$ $\emptyset = 8 : 8\ 000\text{h}$ $\emptyset \geq 10 : 10\ 000\text{h}$	$\emptyset \leq 6,3 : 7\ 000\text{h}$ $\emptyset = 8 : 10\ 000\text{h}$ $\emptyset \geq 10 : 12\ 000\text{h}$	500h
Leakage Current	Not more than specified value	Not more than specified value	Not more than specified value	Not more than specified value
Capacitance Change	Within ± 30% of initial value (6,3V, 10V, ± 40%)	Within ± 25% of initial value (6,3V, 10V, ± 30%)	Within ± 25% of initial value (6,3V, 10V, ± 30%)	Within ± 20% of initial value
Dissipation Factor	Not more than 300% of specified value (6,3V, 10V, 400%)	Not more than 200% of specified value (6,3V, 10V, 300%)	Not more than 200% of specified value (6,3V, 10V, 300%)	Not more than 200% of specified value
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 60°C	U_R I_R 105°C	$U_R = 0$ $I_R = 0$ 105°C IEC 60384
				After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (µF) \ Frequency	120Hz	1kHz	10kHz	100kHz
8,2 ~ 33	0,42	0,70	0,90	1,00
47 ~ 270	0,50	0,73	0,92	1,00
330 ~ 680	0,55	0,77	0,94	1,00
820 ~ 1 800	0,60	0,80	0,96	1,00
2 200 ~ 8 200	0,70	0,85	0,98	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA rms)	(mm)	◇◇ = pin style & length △△ = pitch code Details: Page 33
6,3 (7,2) 0J	220	1,33	0,220	0,800	0,22	14	345	5 x 11,5	ECR0JLY221M◇◇△△0511
	470	0,621	0,094	0,350	0,22	30	540	6,3 x 11,5	ECR0JLY471M◇◇△△0611
	820	0,356	0,056	0,190	0,22	52	945	8 x 11,5	ECR0JLY821M◇◇△△0811
	1 200	0,243	0,045	0,150	0,22	76	1250	8 x 16	ECR0JLY122M◇◇△△0816
		0,243	0,039	0,140	0,22	76	1330	10 x 12,5	ECR0JLY122M◇◇△△1012
	1 500	0,195	0,029	0,110	0,22	95	1500	8 x 20	ECR0JLY152M◇◇△△0820
	1 800	0,162	0,028	0,100	0,22	114	1760	10 x 16	ECR0JLY182M◇◇△△1016
	2 200	0,145	0,020	0,060	0,24	139	1960	10 x 20	ECR0JLY222M◇◇△△1020
	2 700	0,118	0,018	0,054	0,24	171	2250	10 x 25	ECR0JLY272M◇◇△△1025
	3 900	0,088	0,017	0,043	0,26	246	2480	12,5 x 20	ECR0JLY392M◇◇△△1220
	4 700	0,079	0,015	0,038	0,28	297	2900	12,5 x 25	ECR0JLY472M◇◇△△1225
	5 600	0,071	0,013	0,033	0,30	353	3450	12,5 x 30	ECR0JLY562M◇◇△△1230
		0,062	0,012	0,031	0,32	429	3570	12,5 x 35	ECR0JLY682M◇◇△△1235
		0,062	0,015	0,038	0,32	429	3250	16 x 20	ECR0JLY682M◇◇△△1620
	8 200	0,058	0,013	0,035	0,36	517	3630	16 x 25	ECR0JLY822M◇◇△△1625
10 (13) 1A	150	1,68	0,220	0,800	0,19	15	345	5 x 11,5	ECR1ALY151M◇◇△△0511
	330	0,764	0,094	0,350	0,19	33	540	6,3 x 11,5	ECR1ALY331M◇◇△△0611
	680	0,371	0,056	0,190	0,19	68	945	8 x 11,5	ECR1ALY681M◇◇△△0811
	1 000	0,252	0,045	0,150	0,19	100	1250	8 x 16	ECR1ALY102M◇◇△△0816
		0,252	0,039	0,140	0,19	100	1330	10 x 12,5	ECR1ALY102M◇◇△△1012
	1 500	0,168	0,029	0,110	0,19	150	1500	8 x 20	ECR1ALY152M◇◇△△0820
		0,168	0,028	0,100	0,19	150	1760	10 x 16	ECR1ALY152M◇◇△△1016
	1 800	0,140	0,020	0,060	0,19	180	1960	10 x 20	ECR1ALY182M◇◇△△1020
	2 200	0,127	0,018	0,054	0,21	220	2250	10 x 25	ECR1ALY222M◇◇△△1025
	3 300	0,092	0,017	0,043	0,23	330	2480	12,5 x 20	ECR1ALY332M◇◇△△1220
	3 900	0,078	0,015	0,038	0,23	390	2900	12,5 x 25	ECR1ALY392M◇◇△△1225
	4 700	0,071	0,013	0,033	0,25	470	3450	12,5 x 30	ECR1ALY472M◇◇△△1230
		0,071	0,015	0,038	0,25	470	3250	16 x 20	ECR1ALY472M◇◇△△1620
	5 600	0,064	0,012	0,031	0,27	560	3570	12,5 x 35	ECR1ALY562M◇◇△△1235
	6 800	0,057	0,013	0,035	0,29	680	3630	16 x 25	ECR1ALY682M◇◇△△1625
16 (20) 1C	100	2,13	0,220	0,800	0,16	16	345	5 x 11,5	ECR1CLY101M◇◇△△0511
	220	0,965	0,094	0,350	0,16	36	540	6,3 x 11,5	ECR1CLY221M◇◇△△0611
	470	0,452	0,056	0,190	0,16	76	945	8 x 11,5	ECR1CLY471M◇◇△△0811
	680	0,312	0,045	0,150	0,16	109	1250	8 x 16	ECR1CLY681M◇◇△△0816
		0,312	0,039	0,140	0,16	109	1330	10 x 12,5	ECR1CLY681M◇◇△△1012
	1 000	0,212	0,029	0,110	0,16	160	1500	8 x 20	ECR1CLY102M◇◇△△0820
		0,212	0,028	0,100	0,16	160	1760	10 x 16	ECR1CLY102M◇◇△△1016
	1 500	0,141	0,020	0,060	0,16	240	1960	10 x 20	ECR1CLY152M◇◇△△1020
	1 800	0,118	0,018	0,054	0,16	288	2250	10 x 25	ECR1CLY182M◇◇△△1025
	2 200	0,109	0,017	0,043	0,18	352	2480	12,5 x 20	ECR1CLY222M◇◇△△1220
	2 700	0,088	0,015	0,038	0,18	432	2900	12,5 x 25	ECR1CLY272M◇◇△△1225
	3 300	0,080	0,013	0,033	0,20	528	3450	12,5 x 30	ECR1CLY332M◇◇△△1230
		0,080	0,015	0,038	0,20	528	3250	16 x 20	ECR1CLY332M◇◇△△1620
	3 900	0,068	0,012	0,031	0,20	624	3570	12,5 x 35	ECR1CLY392M◇◇△△1235
	4 700	0,062	0,013	0,035	0,22	752	3630	16 x 25	ECR1CLY472M◇◇△△1625
25 (32) 1E	68	2,74	0,220	0,800	0,14	17	345	5 x 11,5	ECR1ELY680M◇◇△△0511
	150	1,24	0,094	0,350	0,14	38	540	6,3 x 11,5	ECR1ELY151M◇◇△△0611
	330	0,563	0,056	0,190	0,14	83	945	8 x 11,5	ECR1ELY331M◇◇△△0811
	390	0,476	0,045	0,150	0,14	98	1250	8 x 16	ECR1ELY391M◇◇△△0816
	470	0,395	0,039	0,140	0,14	118	1330	10 x 12,5	ECR1ELY471M◇◇△△1012
	560	0,332	0,029	0,110	0,14	140	1500	8 x 20	ECR1ELY561M◇◇△△0820
	680	0,273	0,028	0,100	0,14	170	1760	10 x 16	ECR1ELY681M◇◇△△1016
	820	0,226	0,020	0,060	0,14	205	1960	10 x 20	ECR1ELY821M◇◇△△1020
	1 000	0,186	0,018	0,054	0,14	250	2250	10 x 25	ECR1ELY102M◇◇△△1025
	1 500	0,124	0,017	0,043	0,14	375	2480	12,5 x 20	ECR1ELY152M◇◇△△1220
	1 800	0,103	0,015	0,038	0,14	450	2900	12,5 x 25	ECR1ELY182M◇◇△△1225
	2 200	0,096	0,013	0,033	0,16	550	3450	12,5 x 30	ECR1ELY222M◇◇△△1230
		0,096	0,015	0,038	0,16	550	3250	16 x 20	ECR1ELY222M◇◇△△1620
	2 700	0,079	0,012	0,031	0,16	675	3570	12,5 x 35	ECR1ELY272M◇◇△△1235
	3 300	0,072	0,013	0,035	0,18	825	3630	16 x 25	ECR1ELY332M◇◇△△1625

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE
(V)	(µF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(µA)	105°C 100kHz (mA _{rms})	(mm)	Details: Page 33
35 (44) 1V	47	3,39	0,220	0,800	0,12	17	345	5 x 11,5	ECR1VLY470M◊◊◊0511
	100	1,60	0,094	0,350	0,12	35	540	6,3 x 11,5	ECR1VLY101M◊◊◊0611
	220	0,723	0,056	0,190	0,12	77	945	8 x 11,5	ECR1VLY221M◊◊◊0811
	270	0,589	0,045	0,150	0,12	95	1250	8 x 16	ECR1VLY271M◊◊◊0816
	330	0,482	0,039	0,140	0,12	116	1330	10 x 12,5	ECR1VLY331M◊◊◊1012
	390	0,408	0,029	0,110	0,12	137	1500	8 x 20	ECR1VLY391M◊◊◊0820
	470	0,339	0,028	0,100	0,12	165	1760	10 x 16	ECR1VLY471M◊◊◊1016
	560	0,284	0,020	0,060	0,12	196	1960	10 x 20	ECR1VLY561M◊◊◊1020
	680	0,234	0,018	0,054	0,12	238	2250	10 x 25	ECR1VLY681M◊◊◊1025
	1 000	0,159	0,017	0,043	0,12	350	2480	12,5 x 20	ECR1VLY102M◊◊◊1220
	1 200	0,133	0,015	0,038	0,12	420	2900	12,5 x 25	ECR1VLY122M◊◊◊1225
	1 500	0,106	0,013	0,033	0,12	525	3450	12,5 x 30	ECR1VLY152M◊◊◊1230
		0,106	0,015	0,038	0,12	525	3250	16 x 20	ECR1VLY152M◊◊◊1620
	1 800	0,088	0,012	0,031	0,12	630	3570	12,5 x 35	ECR1VLY182M◊◊◊1235
	2 200	0,084	0,013	0,035	0,14	770	3630	16 x 25	ECR1VLY222M◊◊◊1625
50 (63) 1H	27	4,92	0,340	1,18	0,10	14	238	5 x 11,5	ECR1HLY270M◊◊◊0511
	56	2,37	0,140	0,500	0,10	28	385	6,3 x 11,5	ECR1HLY560M◊◊◊0611
	100	1,33	0,074	0,220	0,10	50	724	8 x 11,5	ECR1HLY101M◊◊◊0811
	120	1,11	0,061	0,180	0,10	60	950	8 x 16	ECR1HLY121M◊◊◊0816
	150	0,884	0,061	0,180	0,10	75	979	10 x 12,5	ECR1HLY151M◊◊◊1012
	180	0,737	0,046	0,140	0,10	90	1190	8 x 20	ECR1HLY181M◊◊◊0820
	220	0,603	0,042	0,120	0,10	110	1370	10 x 16	ECR1HLY221M◊◊◊1016
	270	0,491	0,030	0,090	0,10	135	1580	10 x 20	ECR1HLY271M◊◊◊1020
	330	0,402	0,028	0,085	0,10	165	1870	10 x 25	ECR1HLY331M◊◊◊1025
	470	0,282	0,027	0,068	0,10	235	2050	12,5 x 20	ECR1HLY471M◊◊◊1220
	560	0,237	0,023	0,059	0,10	280	2410	12,5 x 25	ECR1HLY561M◊◊◊1225
	680	0,195	0,021	0,052	0,10	340	2860	12,5 x 30	ECR1HLY681M◊◊◊1230
	820	0,162	0,019	0,050	0,10	410	2960	12,5 x 35	ECR1HLY821M◊◊◊1235
		0,162	0,023	0,059	0,10	410	2730	16 x 20	ECR1HLY821M◊◊◊1620
	1 000	0,133	0,021	0,056	0,10	500	3010	16 x 25	ECR1HLY102M◊◊◊1625
63 (79) 1J	15	7,96	0,880	3,50	0,09	10	173	5 x 11,5	ECR1JLY150M◊◊◊0511
	33	3,62	0,350	1,40	0,09	21	278	6,3 x 11,5	ECR1JLY330M◊◊◊0611
	82	1,45	0,220	0,880	0,09	52	525	8 x 11,5	ECR1JLY820M◊◊◊0811
	100	1,20	0,160	0,640	0,09	63	688	8 x 16	ECR1JLY101M◊◊◊0816
	120	0,995	0,150	0,600	0,09	76	725	10 x 12,5	ECR1JLY121M◊◊◊1012
	150	0,796	0,120	0,480	0,09	95	861	8 x 20	ECR1JLY151M◊◊◊0820
	180	0,663	0,110	0,440	0,09	114	998	10 x 16	ECR1JLY181M◊◊◊1016
	220	0,543	0,078	0,310	0,09	139	1200	10 x 20	ECR1JLY221M◊◊◊1020
	330	0,362	0,069	0,280	0,09	208	1410	10 x 25	ECR1JLY331M◊◊◊1025
	390	0,306	0,060	0,190	0,09	246	1570	12,5 x 20	ECR1JLY391M◊◊◊1220
	470	0,254	0,043	0,140	0,09	297	1990	12,5 x 25	ECR1JLY471M◊◊◊1225
	560	0,213	0,035	0,130	0,09	353	2410	12,5 x 30	ECR1JLY561M◊◊◊1230
		0,213	0,043	0,140	0,09	353	2100	16 x 20	ECR1JLY561M◊◊◊1620
	680	0,176	0,033	0,110	0,09	429	2620	12,5 x 35	ECR1JLY681M◊◊◊1235
	820	0,146	0,027	0,090	0,09	517	2940	12,5 x 40	ECR1JLY821M◊◊◊1240
		0,146	0,032	0,096	0,09	517	2730	16 x 25	ECR1JLY821M◊◊◊1625
		0,146	0,038	0,100	0,09	517	2500	18 x 20	ECR1JLY821M◊◊◊1820
	1 200	0,099	0,024	0,068	0,09	756	2990	16 x 31,5	ECR1JLY122M◊◊◊1631
		0,099	0,031	0,084	0,09	756	2800	18 x 25	ECR1JLY122M◊◊◊1825
	1 500	0,080	0,021	0,057	0,09	945	3040	16 x 35,5	ECR1JLY152M◊◊◊1635
		0,080	0,025	0,068	0,09	945	3300	18 x 31,5	ECR1JLY152M◊◊◊1831
	1 800	0,066	0,020	0,054	0,09	1134	3570	18 x 35,5	ECR1JLY182M◊◊◊1835
	2 200	0,066	0,018	0,049	0,11	1386	3670	18 x 40	ECR1JLY222M◊◊◊1840
80 (100) 1K	12	8,85	1,40	5,60	0,08	10	163	5 x 11,5	ECR1KLY120M◊◊◊0511
	33	3,22	0,570	2,30	0,08	27	267	6,3 x 11,5	ECR1KLY330M◊◊◊0611
	56	1,90	0,360	1,40	0,08	45	462	8 x 11,5	ECR1KLY560M◊◊◊0811
	68	1,56	0,250	1,00	0,08	55	585	8 x 16	ECR1KLY680M◊◊◊0816
	82	1,30	0,230	0,960	0,08	66	624	10 x 12,5	ECR1KLY820M◊◊◊1012
	100	1,07	0,190	0,760	0,08	80	735	8 x 20	ECR1KLY101M◊◊◊0820
	120	0,884	0,170	0,720	0,08	96	780	10 x 16	ECR1KLY121M◊◊◊1016
	180	0,589	0,120	0,520	0,08	144	1040	10 x 20	ECR1KLY181M◊◊◊1020
	220	0,482	0,110	0,470	0,08	176	1170	10 x 25	ECR1KLY221M◊◊◊1025
	270	0,393	0,085	0,310	0,08	216	1430	12,5 x 20	ECR1KLY271M◊◊◊1220

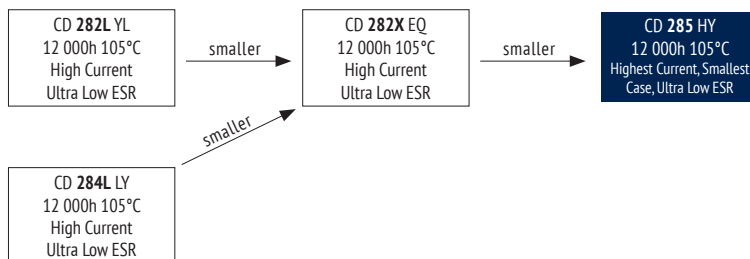
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U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{rms})	(mm)	◇◇ = pin style & length △△ = pitch code Details: Page 33
80 (100) 1K	330	0,322	0,060	0,230	0,08	264	1620	12,5 x 25	ECR1KLY331M◇◇△△1225
	390	0,272	0,051	0,210	0,08	312	1950	12,5 x 30	ECR1KLY391M◇◇△△1230
		0,272	0,058	0,210	0,08	312	1750	16 x 20	ECR1KLY391M◇◇△△1620
	470	0,226	0,043	0,170	0,08	376	2140	12,5 x 35	ECR1KLY471M◇◇△△1235
	560	0,189	0,036	0,150	0,08	448	2340	12,5 x 40	ECR1KLY561M◇◇△△1240
		0,189	0,044	0,160	0,08	448	2210	16 x 25	ECR1KLY561M◇◇△△1625
		0,189	0,054	0,180	0,08	448	1950	18 x 20	ECR1KLY561M◇◇△△1820
	680	0,156	0,033	0,120	0,08	544	2400	16 x 31,5	ECR1KLY681M◇◇△△1631
	820	0,129	0,029	0,100	0,08	656	2600	16 x 35,5	ECR1KLY821M◇◇△△1635
		0,129	0,038	0,130	0,08	656	2270	18 x 25	ECR1KLY821M◇◇△△1825
	1 000	0,106	0,027	0,090	0,08	800	2860	16 x 40	ECR1KLY102M◇◇△△1640
		0,106	0,031	0,110	0,08	800	2470	18 x 31,5	ECR1KLY102M◇◇△△1831
	1 200	0,088	0,027	0,084	0,08	960	2860	18 x 35,5	ECR1KLY122M◇◇△△1835
	1 500	0,071	0,026	0,076	0,08	1200	3510	18 x 40	ECR1KLY152M◇◇△△1840
100 (125) 2A	8,2	13,0	1,40	5,60	0,08	9	163	5 x 11,5	ECR2ALY8R2M◇◇△△0511
	18	5,90	0,570	2,30	0,08	18	267	6,3 x 11,5	ECR2ALY180M◇◇△△0611
	33	3,22	0,360	1,40	0,08	33	462	8 x 11,5	ECR2ALY330M◇◇△△0811
	47	2,26	0,250	1,00	0,08	47	585	8 x 16	ECR2ALY470M◇◇△△0816
	56	1,90	0,230	0,960	0,08	56	624	10 x 12,5	ECR2ALY560M◇◇△△1012
	68	1,56	0,190	0,760	0,08	68	735	8 x 20	ECR2ALY680M◇◇△△0820
	82	1,30	0,170	0,720	0,08	82	780	10 x 16	ECR2ALY820M◇◇△△1016
	100	1,07	0,120	0,520	0,08	100	1040	10 x 20	ECR2ALY101M◇◇△△1020
	120	0,884	0,110	0,470	0,08	120	1170	10 x 25	ECR2ALY121M◇◇△△1025
	150	0,707	0,085	0,310	0,08	150	1430	12,5 x 20	ECR2ALY151M◇◇△△1220
	220	0,482	0,060	0,230	0,08	220	1620	12,5 x 25	ECR2ALY221M◇◇△△1225
	270	0,393	0,051	0,210	0,08	270	1950	12,5 x 30	ECR2ALY271M◇◇△△1230
		0,393	0,058	0,210	0,08	270	1750	16 x 20	ECR2ALY271M◇◇△△1620
	330	0,322	0,043	0,170	0,08	330	2140	12,5 x 35	ECR2ALY331M◇◇△△1235
	390	0,272	0,036	0,150	0,08	390	2340	12,5 x 40	ECR2ALY391M◇◇△△1240
		0,272	0,044	0,160	0,08	390	2210	16 x 25	ECR2ALY391M◇◇△△1625
		0,272	0,054	0,180	0,08	390	1950	18 x 20	ECR2ALY391M◇◇△△1820
	470	0,226	0,033	0,120	0,08	470	2400	16 x 31,5	ECR2ALY471M◇◇△△1631
		0,226	0,038	0,113	0,08	470	2270	18 x 25	ECR2ALY471M◇◇△△1825
	560	0,189	0,029	0,100	0,08	560	2600	16 x 35,5	ECR2ALY561M◇◇△△1635
		0,189	0,031	0,110	0,08	560	2470	18 x 31,5	ECR2ALY561M◇◇△△1831
	680	0,156	0,027	0,090	0,08	680	2860	16 x 40	ECR2ALY681M◇◇△△1640
		0,156	0,027	0,084	0,08	680	2860	18 x 35,5	ECR2ALY681M◇◇△△1835
	820	0,129	0,026	0,076	0,08	820	3510	18 x 40	ECR2ALY821M◇◇△△1840
120 (150) 2B	33	3,22	0,250	1,00	0,08	40	585	8 x 16	ECR2BLY330M◇◇△△0816
	47	2,26	0,190	0,746	0,08	57	735	8 x 20	ECR2BLY470M◇◇△△0820
	56	1,90	0,170	0,720	0,08	68	780	10 x 16	ECR2BLY560M◇◇△△1016
	82	1,30	0,120	0,520	0,08	99	1040	10 x 20	ECR2BLY820M◇◇△△1020
	100	1,07	0,100	0,430	0,08	120	1250	10 x 25	ECR2BLY101M◇◇△△1025
	120	0,885	0,090	0,380	0,08	144	1400	10 x 30	ECR2BLY121M◇◇△△1030
		0,885	0,085	0,310	0,08	144	1430	12,5 x 20	ECR2BLY121M◇◇△△1220
	150	0,708	0,210	0,840	0,08	180	1620	12,5 x 25	ECR2BLY151M◇◇△△1225
	180	0,590	0,180	0,720	0,08	216	1880	12,5 x 30	ECR2BLY181M◇◇△△1230
		0,590	0,170	0,650	0,08	216	1700	16 x 20	ECR2BLY181M◇◇△△1620
	220	0,483	0,150	0,600	0,08	264	2140	12,5 x 35	ECR2BLY221M◇◇△△1235
	270	0,393	0,120	0,480	0,08	324	2340	12,5 x 40	ECR2BLY271M◇◇△△1240
		0,393	0,130	0,490	0,08	324	2100	16 x 25	ECR2BLY271M◇◇△△1625
		0,393	0,140	0,520	0,08	324	1850	18 x 20	ECR2BLY271M◇◇△△1820
	330	0,322	0,100	0,380	0,08	396	2400	16 x 31,5	ECR2BLY331M◇◇△△1631
	390	0,272	0,085	0,320	0,08	468	2600	16 x 35,5	ECR2BLY391M◇◇△△1635
		0,272	0,100	0,370	0,08	468	2270	18 x 25	ECR2BLY391M◇◇△△1825
	470	0,226	0,075	0,290	0,08	564	2860	16 x 40	ECR2BLY471M◇◇△△1640
		0,226	0,080	0,300	0,08	564	2470	18 x 31,5	ECR2BLY471M◇◇△△1831
	560	0,190	0,070	0,260	0,08	672	2860	18 x 35,5	ECR2BLY561M◇◇△△1835
	680	0,156	0,060	0,220	0,08	816	3510	18 x 40	ECR2BLY681M◇◇△△1840



8 000 - 12 000h at 105°C

- Lowest ESR
- Smallest Can Size
- Long Life



ITEM

CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (µF)	8,2 ~ 8 200
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (µA) After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3	10	16	25	35	50	63	80	100
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	2								
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	Ø≤6,3	5		4			3		
		Ø≥8				3				

ITEM

USEFUL LIFE

LOAD LIFE

ENDURANCE TEST

SHELF LIFE

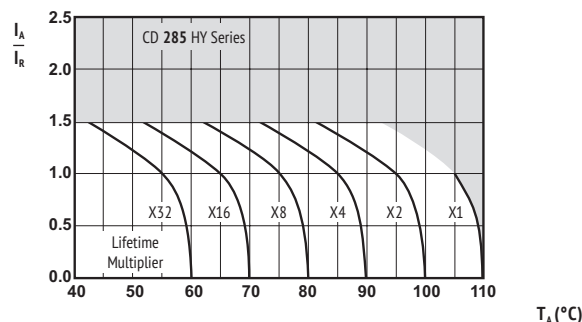
Lifetime	Case Size	Lifetime			Case Size	Lifetime			Case Size	Lifetime			500h
		6,3V _{DC}	10-50V _{DC}	63-100V _{DC}		6,3V _{DC}	10-50V _{DC}	63-100V _{DC}		6,3V _{DC}	10-50V _{DC}	63-100V _{DC}	
	Ø≤6,3	8 000	9 000	8 000	Ø≤6,3	6 000	7 000	6 000	Ø≤6,3	7 000	8 000	9 000	
	8x11,5	10 000	11 000	10 000	8x11,5	8 000	9 000	8 000	8x11,5	10 000	11 000	10 000	
	10x12,5	11 000	11 000	11 000	10x12,5	9 000	9 000	9 000	10x12,5	11 000	11 000	11 000	
	8x16,8x20	11 000	12 000	11 000	8x16,8x20	9 000	10 000	9 000	8x16,8x20	11 000	12 000	11 000	
	10x16, 10x20, 10x25 Ø≥12,5	12 000			10x16, 10x20, 10x25 Ø≥12,5	10 000			10x16, 10x20, 10x25 Ø≥12,5	12 000			
Leakage Current		Not more than specified value			Not more than specified value			Not more than specified value			Not more than specified value		
Capacitance Change		Within ± 30% of initial value (6,3V, 10V: ± 40%)			Within ± 25% of initial value (6,3V, 10V: ± 30%)			Within ± 25% of initial value (6,3V, 10V: ± 30%)			Within ± 20% of initial value		
Dissipation Factor		Not more than 300% of specified value (6,3V, 10V: 400%)			Not more than 200% of specified value (6,3V, 10V: 300%)			Not more than 200% of specified value (6,3V, 10V: 300%)			Not more than 200% of specified value		
Condition: Applied Voltage Applied Current Applied Temperature		U _R I _R 105°C	U _R 1,4 x I _R 60°C		U _R I _R 105°C			U _R I _R = 0 105°C IEC 60384			U _R = 0 I _R = 0 105°C	After test: U _R to be applied for 30 min > 24h before measurement	

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (µF)	Frequency	120Hz	1kHz	10kHz	100kHz
8,2 ~ 33		0,42	0,70	0,90	1,00
47 ~ 270		0,50	0,73	0,92	1,00
330 ~ 680		0,55	0,77	0,94	1,00
820 ~ 1 800		0,60	0,80	0,96	1,00
2 200 ~ 8 200		0,70	0,85	0,98	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

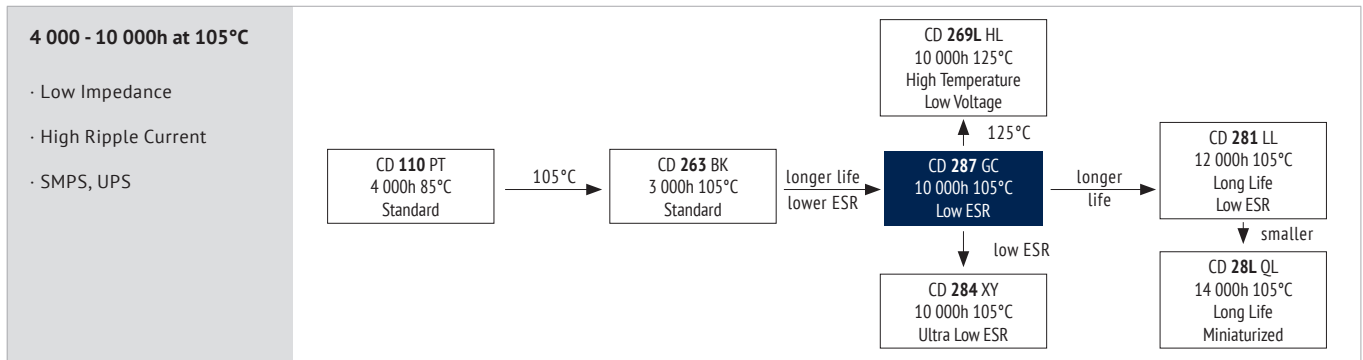
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA rms)	(mm)	◇◇ = pin style & length △△ = pitch code Details: Page 33
6,3 (7,2) 0J	220	1,33	0,400	1,20	0,22	14	345	5 x 11,5	ECR0JHY221M◇◇△△0511
	470	0,621	0,170	0,510	0,22	30	540	6,3 x 11,5	ECR0JHY471M◇◇△△0611
	820	0,356	0,075	0,230	0,22	52	945	8 x 11,5	ECR0JHY821M◇◇△△0811
	1 000	0,292	0,059	0,180	0,22	63	1250	8 x 16	ECR0JHY102M◇◇△△0816
	1 200	0,243	0,053	0,160	0,22	76	1330	10 x 12,5	ECR0JHY122M◇◇△△1012
	1 500	0,195	0,041	0,130	0,22	95	1500	8 x 20	ECR0JHY152M◇◇△△0820
	1 800	0,162	0,038	0,120	0,22	114	1760	10 x 16	ECR0JHY182M◇◇△△1016
	2 700	0,118	0,028	0,084	0,24	171	1960	10 x 20	ECR0JHY272M◇◇△△1020
	3 300	0,104	0,024	0,072	0,26	208	2250	10 x 25	ECR0JHY332M◇◇△△1025
	3 900	0,088	0,025	0,075	0,26	246	2480	12,5 x 20	ECR0JHY392M◇◇△△1220
	4 700	0,079	0,019	0,057	0,28	297	2900	12,5 x 25	ECR0JHY472M◇◇△△1225
	5 600	0,071	0,018	0,054	0,30	353	3450	12,5 x 30	ECR0JHY562M◇◇△△1230
	6 800	0,062	0,016	0,048	0,32	429	3570	12,5 x 35	ECR0JHY682M◇◇△△1235
		0,062	0,021	0,063	0,32	429	3250	16 x 20	ECR0JHY682M◇◇△△1620
	8 200	0,058	0,017	0,051	0,36	517	3630	16 x 25	ECR0JHY822M◇◇△△1625
10 (13) 1A	150	1,68	0,400	1,20	0,19	15	450	5 x 11,5	ECR1AHY151M◇◇△△0511
	330	0,764	0,170	0,510	0,19	33	700	6,3 x 11,5	ECR1AHY331M◇◇△△0611
	560	0,450	0,075	0,230	0,19	56	1200	8 x 11,5	ECR1AHY561M◇◇△△0811
	680	0,371	0,059	0,180	0,19	68	1600	8 x 16	ECR1AHY681M◇◇△△0816
	820	0,307	0,053	0,160	0,19	82	1700	10 x 12,5	ECR1AHY821M◇◇△△1012
	1 000	0,252	0,041	0,130	0,19	100	1960	8 x 20	ECR1AHY102M◇◇△△0820
	1 200	0,210	0,038	0,120	0,19	120	2000	10 x 16	ECR1AHY122M◇◇△△1016
	1 800	0,140	0,028	0,084	0,19	180	2500	10 x 20	ECR1AHY182M◇◇△△1020
	2 200	0,127	0,024	0,072	0,21	220	2900	10 x 25	ECR1AHY222M◇◇△△1025
	2 700	0,103	0,025	0,075	0,21	270	2600	12,5 x 20	ECR1AHY272M◇◇△△1220
	3 300	0,092	0,019	0,057	0,23	330	3200	12,5 x 25	ECR1AHY332M◇◇△△1225
	4 700	0,071	0,018	0,054	0,25	470	3660	12,5 x 30	ECR1AHY472M◇◇△△1230
		0,071	0,021	0,063	0,25	470	3330	16 x 20	ECR1AHY472M◇◇△△1620
	5 600	0,064	0,016	0,048	0,27	560	4120	12,5 x 35	ECR1AHY562M◇◇△△1235
		0,064	0,017	0,051	0,27	560	3810	16 x 25	ECR1AHY562M◇◇△△1625
16 (20) 1C	120	1,77	0,400	1,20	0,16	20	450	5 x 11,5	ECR1CHY121M◇◇△△0511
	270	0,786	0,170	0,510	0,16	44	700	6,3 x 11,5	ECR1CHY271M◇◇△△0611
	470	0,452	0,075	0,230	0,16	76	1200	8 x 11,5	ECR1CHY471M◇◇△△0811
	560	0,379	0,059	0,180	0,16	90	1600	8 x 16	ECR1CHY561M◇◇△△0816
	680	0,312	0,053	0,160	0,16	109	1700	10 x 12,5	ECR1CHY681M◇◇△△1012
	820	0,259	0,041	0,130	0,16	132	1960	8 x 20	ECR1CHY821M◇◇△△0820
	1 000	0,212	0,038	0,120	0,16	160	2000	10 x 16	ECR1CHY102M◇◇△△1016
	1 500	0,141	0,028	0,084	0,16	240	2500	10 x 20	ECR1CHY152M◇◇△△1020
	1 800	0,118	0,024	0,072	0,16	288	2900	10 x 25	ECR1CHY182M◇◇△△1025
	2 200	0,109	0,025	0,075	0,18	352	2600	12,5 x 20	ECR1CHY222M◇◇△△1220
	2 700	0,088	0,019	0,057	0,18	432	3200	12,5 x 25	ECR1CHY272M◇◇△△1225
	3 300	0,080	0,018	0,054	0,20	528	3660	12,5 x 30	ECR1CHY332M◇◇△△1230
		0,080	0,021	0,063	0,20	528	3330	16 x 20	ECR1CHY332M◇◇△△1620
	3 900	0,068	0,016	0,048	0,20	624	4120	12,5 x 35	ECR1CHY392M◇◇△△1235
	4 700	0,062	0,017	0,051	0,22	752	3810	16 x 25	ECR1CHY472M◇◇△△1625
25 (32) 1E	68	2,74	0,400	1,20	0,14	17	450	5 x 11,5	ECR1EHY680M◇◇△△0511
	150	1,24	0,170	0,510	0,14	38	700	6,3 x 11,5	ECR1EHY151M◇◇△△0611
	330	0,563	0,075	0,230	0,14	83	1200	8 x 11,5	ECR1EHY331M◇◇△△0811
	390	0,476	0,059	0,180	0,14	98	1600	8 x 16	ECR1EHY391M◇◇△△0816
	470	0,395	0,053	0,160	0,14	118	1700	10 x 12,5	ECR1EHY471M◇◇△△1012
	560	0,332	0,041	0,130	0,14	140	1960	8 x 20	ECR1EHY561M◇◇△△0820
	680	0,273	0,038	0,120	0,14	170	2000	10 x 16	ECR1EHY681M◇◇△△1016
	1 000	0,186	0,028	0,084	0,14	250	2500	10 x 20	ECR1EHY102M◇◇△△1020
	1 200	0,155	0,024	0,072	0,14	300	2900	10 x 25	ECR1EHY122M◇◇△△1025
	1 500	0,124	0,025	0,075	0,14	375	2600	12,5 x 20	ECR1EHY152M◇◇△△1220
	1 800	0,103	0,019	0,057	0,14	450	3200	12,5 x 25	ECR1EHY182M◇◇△△1225
	2 200	0,096	0,018	0,054	0,16	550	3660	12,5 x 30	ECR1EHY222M◇◇△△1230
		0,096	0,021	0,063	0,16	550	3330	16 x 20	ECR1EHY222M◇◇△△1620
	2 700	0,079	0,016	0,048	0,16	675	4120	12,5 x 35	ECR1EHY272M◇◇△△1235
	3 300	0,072	0,017	0,051	0,18	825	3810	16 x 25	ECR1EHY332M◇◇△△1625
35 (44) 1V	47	3,39	0,400	1,20	0,12	17	450	5 x 11,5	ECR1VHY470M◇◇△△0511
	100	1,60	0,170	0,510	0,12	35	700	6,3 x 11,5	ECR1VHY101M◇◇△△0611
	180	0,884	0,075	0,230	0,12	63	1200	8 x 11,5	ECR1VHY181M◇◇△△0811
	220	0,723	0,059	0,180	0,12	77	1600	8 x 16	ECR1VHY221M◇◇△△0816
	270	0,589	0,053	0,160	0,12	95	1700	10 x 12,5	ECR1VHY271M◇◇△△1012

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mArms)	(mm)	◇◇ = pin style & length △△ = pitch code
Details: Page 33									
35 (44) 1V	330	0,482	0,041	0,130	0,12	116	1960	8 x 20	ECR1VHY331M◇◇△△0820
	390	0,408	0,041	0,130	0,12	137	1960	8 x 20	ECR1VHY391M◇◇△△0820
		0,408	0,038	0,120	0,12	137	2000	10 x 16	ECR1VHY391M◇◇△△1016
	470	0,339	0,038	0,120	0,12	165	2000	10 x 16	ECR1VHY471M◇◇△△1016
	560	0,284	0,028	0,084	0,12	196	2500	10 x 20	ECR1VHY561M◇◇△△1020
	680	0,234	0,024	0,072	0,12	238	2900	10 x 25	ECR1VHY681M◇◇△△1025
	820	0,194	0,025	0,075	0,12	287	2600	12,5 x 20	ECR1VHY821M◇◇△△1220
	1 000	0,159	0,025	0,075	0,12	350	2600	12,5 x 20	ECR1VHY102M◇◇△△1220
	1 200	0,133	0,019	0,057	0,12	420	3200	12,5 x 25	ECR1VHY122M◇◇△△1225
	1 500	0,106	0,018	0,054	0,12	525	3660	12,5 x 30	ECR1VHY152M◇◇△△1230
		0,106	0,021	0,063	0,12	525	3330	16 x 20	ECR1VHY152M◇◇△△1620
	1 800	0,088	0,016	0,048	0,12	630	4120	12,5 x 35	ECR1VHY182M◇◇△△1235
		0,088	0,017	0,051	0,12	630	3810	16 x 25	ECR1VHY182M◇◇△△1625
50 (63) 1H	27	4,92	0,480	1,50	0,10	14	310	5 x 11,5	ECR1HHY270M◇◇△△0511
	56	2,37	0,220	0,660	0,10	28	500	6,3 x 11,5	ECR1HHY560M◇◇△△0611
	100	1,33	0,120	0,360	0,10	50	950	8 x 11,5	ECR1HHY101M◇◇△△0811
	120	1,106	0,110	0,330	0,10	60	950	8 x 11,5	ECR1HHY121M◇◇△△0811
		1,11	0,082	0,250	0,10	60	1230	8 x 16	ECR1HHY121M◇◇△△0816
	150	0,884	0,073	0,220	0,10	75	1280	10 x 12,5	ECR1HHY151M◇◇△△1012
	180	0,737	0,081	0,240	0,10	90	1700	8 x 16	ECR1HHY181M◇◇△△0816
	220	0,603	0,071	0,210	0,10	110	1700	10 x 12,5	ECR1HHY221M◇◇△△1012
	270	0,493	0,058	0,170	0,10	135	2100	8 x 20	ECR1HHY271M◇◇△△0820
	330	0,402	0,052	0,160	0,10	165	2100	10 x 16	ECR1HHY331M◇◇△△1016
	390	0,340	0,032	0,100	0,10	195	2420	10 x 25	ECR1HHY391M◇◇△△1025
	470	0,282	0,037	0,110	0,10	235	2500	10 x 20	ECR1HHY471M◇◇△△1020
		0,282	0,040	0,120	0,10	235	2200	12,5 x 16	ECR1HHY471M◇◇△△1216
	560	0,238	0,031	0,093	0,10	280	2900	10 x 25	ECR1HHY561M◇◇△△1025
		0,195	0,029	0,087	0,10	340	2700	12,5 x 20	ECR1HHY681M◇◇△△1220
	680	0,195	0,025	0,080	0,10	340	2800	12,5 x 25	ECR1HHY681M◇◇△△1225
		0,162	0,023	0,074	0,10	410	3370	12,5 x 30	ECR1HHY821M◇◇△△1230
	820	0,162	0,026	0,084	0,10	410	3070	16 x 20	ECR1HHY821M◇◇△△1620
		0,133	0,022	0,066	0,10	500	3000	12,5 x 25	ECR1HHY102M◇◇△△1225
	1 000	0,133	0,020	0,060	0,10	500	3500	12,5 x 30	ECR1HHY102M◇◇△△1230
		0,133	0,021	0,067	0,10	500	3810	12,5 x 35	ECR1HHY102M◇◇△△1235
		0,133	0,022	0,070	0,10	500	3510	16 x 25	ECR1HHY102M◇◇△△1625
		0,111	0,017	0,051	0,10	600	4000	12,5 x 35	ECR1HHY122M◇◇△△1235
	1 200	0,111	0,023	0,069	0,10	600	3100	16 x 20	ECR1HHY122M◇◇△△1620
		0,089	0,019	0,057	0,10	750	4500	12,5 x 40	ECR1HHY152M◇◇△△1240
	1 500	0,089	0,018	0,054	0,10	750	3600	16 x 25	ECR1HHY152M◇◇△△1625
		0,089	0,029	0,087	0,10	750	3200	18 x 20	ECR1HHY152M◇◇△△1820
		0,073	0,018	0,054	0,12	1100	4100	16 x 31,5	ECR1HHY222M◇◇△△1631
	2 200	0,073	0,022	0,066	0,12	1100	3700	18 x 25	ECR1HHY222M◇◇△△1825
		0,059	0,016	0,048	0,12	1350	4400	16 x 35,5	ECR1HHY272M◇◇△△1635
		0,059	0,014	0,042	0,12	1350	4800	16 x 40	ECR1HHY272M◇◇△△1640
		0,059	0,019	0,057	0,12	1350	4200	18 x 31,5	ECR1HHY272M◇◇△△1831
	3 300	0,057	0,016	0,048	0,14	1650	4600	18 x 35,5	ECR1HHY332M◇◇△△1835
	3 900	0,048	0,014	0,042	0,14	1950	5000	18 x 40	ECR1HHY392M◇◇△△1840
63 (79) 1J	18	6,64	0,710	3,20	0,09	12	240	5 x 11,5	ECR1JHY180M◇◇△△0511
	47	2,54	0,280	1,30	0,09	30	420	6,3 x 11,5	ECR1JHY470M◇◇△△0611
	82	1,46	0,180	0,790	0,09	52	720	8 x 11,5	ECR1JHY820M◇◇△△0811
	100	1,20	0,130	0,580	0,09	63	1000	8 x 11,5	ECR1JHY101M◇◇△△0811
	120	0,995	0,095	0,290	0,09	76	1300	8 x 16	ECR1JHY121M◇◇△△0816
		0,995	0,110	0,440	0,09	76	990	10 x 12,5	ECR1JHY121M◇◇△△1012
	150	0,796	0,096	0,430	0,09	95	1200	8 x 20	ECR1JHY151M◇◇△△0820
		0,796	0,080	0,240	0,09	95	1300	10 x 12,5	ECR1JHY151M◇◇△△1012
	180	0,663	0,069	0,210	0,09	114	1600	8 x 20	ECR1JHY181M◇◇△△0820
		0,663	0,076	0,310	0,09	114	1200	10 x 16	ECR1JHY181M◇◇△△1016
	220	0,543	0,058	0,170	0,09	139	1700	10 x 16	ECR1JHY221M◇◇△△1016
	270	0,442	0,056	0,230	0,09	171	1570	10 x 20	ECR1JHY271M◇◇△△1020
		0,442	0,072	0,270	0,09	171	1570	12,5 x 16	ECR1JHY271M◇◇△△1216
	330	0,362	0,042	0,130	0,09	208	2000	10 x 20	ECR1JHY331M◇◇△△1020
		0,362	0,045	0,140	0,09	208	1900	12,5 x 16	ECR1JHY331M◇◇△△1216
	390	0,306	0,035	0,110	0,09	246	2400	10 x 25	ECR1JHY391M◇◇△△1025
		0,306	0,041	0,130	0,09	246	1990	12,5 x 20	ECR1JHY391M◇◇△△1220
	470	0,254	0,033	0,099	0,09	297	2400	12,5 x 20	ECR1JHY471M◇◇△△1220
		0,254	0,031	0,093	0,09	297	2460	12,5 x 25	ECR1JHY471M◇◇△△1225



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA rms)	(mm)	$\diamond\diamond$ = pin style & length $\Delta\Delta$ = pitch code Details: Page 33
63 (79) 1J	560	0,213	0,028	0,084	0,09	353	2760	12,5 x 30	ECR1JHY561M $\diamond\diamond\Delta\Delta$ 1230
		0,213	0,032	0,096	0,09	353	2380	16 x 20	ECR1JHY561M $\diamond\diamond\Delta\Delta$ 1620
	680	0,176	0,025	0,075	0,09	429	2800	12,5 x 25	ECR1JHY681M $\diamond\diamond\Delta\Delta$ 1225
		0,176	0,024	0,072	0,09	429	3040	12,5 x 35	ECR1JHY681M $\diamond\diamond\Delta\Delta$ 1235
	820	0,146	0,022	0,066	0,09	517	3200	12,5 x 30	ECR1JHY821M $\diamond\diamond\Delta\Delta$ 1230
		0,146	0,025	0,075	0,09	517	2900	16 x 20	ECR1JHY821M $\diamond\diamond\Delta\Delta$ 1620
	1 000	0,120	0,018	0,054	0,09	630	3500	12,5 x 35	ECR1JHY102M $\diamond\diamond\Delta\Delta$ 1235
		0,120	0,020	0,060	0,09	630	3200	16 x 25	ECR1JHY102M $\diamond\diamond\Delta\Delta$ 1625
	1 200	0,100	0,021	0,063	0,09	756	3800	12,5 x 40	ECR1JHY122M $\diamond\diamond\Delta\Delta$ 1240
		0,100	0,032	0,096	0,09	756	3000	18 x 20	ECR1JHY122M $\diamond\diamond\Delta\Delta$ 1820
	1 500	0,080	0,020	0,060	0,09	945	3500	16 x 31,5	ECR1JHY152M $\diamond\diamond\Delta\Delta$ 1631
		0,080	0,024	0,072	0,09	945	3200	18 x 25	ECR1JHY152M $\diamond\diamond\Delta\Delta$ 1825
	1 800	0,067	0,017	0,051	0,09	1134	3800	16 x 35,5	ECR1JHY182M $\diamond\diamond\Delta\Delta$ 1635
		0,067	0,020	0,060	0,09	1134	3700	18 x 31,5	ECR1JHY182M $\diamond\diamond\Delta\Delta$ 1831
	2 200	0,067	0,015	0,045	0,11	1386	4100	16 x 40	ECR1JHY222M $\diamond\diamond\Delta\Delta$ 1640
		0,067	0,017	0,051	0,11	1386	3900	18 x 35,5	ECR1JHY222M $\diamond\diamond\Delta\Delta$ 1835
2 700	2 700	0,054	0,015	0,045	0,11	1701	4300	18 x 40	ECR1JHY272M $\diamond\diamond\Delta\Delta$ 1840
80 (100) 1K	12	8,84	1,200	5,40	0,08	10	220	5 x 11,5	ECR1KHY120M $\diamond\diamond\Delta\Delta$ 0511
	27	3,93	0,460	2,10	0,08	22	370	6,3 x 11,5	ECR1KHY270M $\diamond\diamond\Delta\Delta$ 0611
	47	2,26	0,290	1,30	0,08	38	620	8 x 11,5	ECR1KHY470M $\diamond\diamond\Delta\Delta$ 0811
	56	1,90	0,200	0,900	0,08	45	780	8 x 16	ECR1KHY560M $\diamond\diamond\Delta\Delta$ 0816
	68	1,56	0,170	0,660	0,08	55	780	10 x 12,5	ECR1KHY680M $\diamond\diamond\Delta\Delta$ 1012
	82	1,30	0,160	0,660	0,08	66	1040	8 x 20	ECR1KHY820M $\diamond\diamond\Delta\Delta$ 0820
	100	1,07	0,110	0,470	0,08	80	1040	10 x 16	ECR1KHY101M $\diamond\diamond\Delta\Delta$ 1016
	150	0,707	0,084	0,340	0,08	120	1430	10 x 20	ECR1KHY151M $\diamond\diamond\Delta\Delta$ 1020
		0,707	0,110	0,340	0,08	120	1430	12,5 x 16	ECR1KHY151M $\diamond\diamond\Delta\Delta$ 1216
	180	0,589	0,069	0,280	0,08	144	1620	10 x 25	ECR1KHY181M $\diamond\diamond\Delta\Delta$ 1025
	220	0,482	0,062	0,180	0,08	176	1750	12,5 x 20	ECR1KHY221M $\diamond\diamond\Delta\Delta$ 1220
	270	0,393	0,047	0,140	0,08	216	2210	12,5 x 25	ECR1KHY271M $\diamond\diamond\Delta\Delta$ 1225
	330	0,322	0,042	0,130	0,08	264	2400	12,5 x 30	ECR1KHY331M $\diamond\diamond\Delta\Delta$ 1230
		0,322	0,048	0,150	0,08	264	1950	16 x 20	ECR1KHY331M $\diamond\diamond\Delta\Delta$ 1620
	390	0,272	0,036	0,110	0,08	312	2600	12,5 x 35	ECR1KHY391M $\diamond\diamond\Delta\Delta$ 1235
		0,226	0,032	0,095	0,08	376	2860	12,5 x 40	ECR1KHY471M $\diamond\diamond\Delta\Delta$ 1240
	470	0,226	0,038	0,120	0,08	376	2430	16 x 25	ECR1KHY471M $\diamond\diamond\Delta\Delta$ 1625
		0,226	0,045	0,140	0,08	376	2270	18 x 20	ECR1KHY471M $\diamond\diamond\Delta\Delta$ 1820
		0,189	0,032	0,095	0,08	448	2640	16 x 31,5	ECR1KHY561M $\diamond\diamond\Delta\Delta$ 1631
	560	0,156	0,029	0,086	0,08	544	2860	16 x 35,5	ECR1KHY681M $\diamond\diamond\Delta\Delta$ 1635
		0,156	0,036	0,110	0,08	544	2500	18 x 25	ECR1KHY681M $\diamond\diamond\Delta\Delta$ 1825
	820	0,129	0,027	0,081	0,08	656	3510	16 x 40	ECR1KHY821M $\diamond\diamond\Delta\Delta$ 1640
		0,129	0,030	0,090	0,08	656	2860	18 x 31,5	ECR1KHY821M $\diamond\diamond\Delta\Delta$ 1831
	1 000	0,106	0,027	0,081	0,08	800	3510	18 x 35,5	ECR1KHY102M $\diamond\diamond\Delta\Delta$ 1835
	1 200	0,088	0,026	0,076	0,08	960	3860	18 x 40	ECR1KHY122M $\diamond\diamond\Delta\Delta$ 1840
100 (125) 2A	8,2	13,0	1,20	5,40	0,08	9	220	5 x 11,5	ECR2AHY8R2M $\diamond\diamond\Delta\Delta$ 0511
	18	5,90	0,460	2,10	0,08	18	370	6,3 x 11,5	ECR2AHY180M $\diamond\diamond\Delta\Delta$ 0611
	33	3,22	0,290	1,30	0,08	33	620	8 x 11,5	ECR2AHY330M $\diamond\diamond\Delta\Delta$ 0811
	47	2,26	0,200	0,900	0,08	47	780	8 x 16	ECR2AHY470M $\diamond\diamond\Delta\Delta$ 0816
	56	1,90	0,170	0,660	0,08	56	780	10 x 12,5	ECR2AHY560M $\diamond\diamond\Delta\Delta$ 1012
	68	1,56	0,160	0,660	0,08	68	1040	8 x 20	ECR2AHY680M $\diamond\diamond\Delta\Delta$ 0820
	82	1,30	0,110	0,470	0,08	82	1040	10 x 16	ECR2AHY820M $\diamond\diamond\Delta\Delta$ 1016
	100	1,07	0,084	0,340	0,08	100	1430	10 x 20	ECR2AHY101M $\diamond\diamond\Delta\Delta$ 1020
		1,07	0,110	0,340	0,08	100	1430	12,5 x 16	ECR2AHY101M $\diamond\diamond\Delta\Delta$ 1216
	120	0,884	0,069	0,280	0,08	120	1620	10 x 25	ECR2AHY121M $\diamond\diamond\Delta\Delta$ 1025
	150	0,707	0,062	0,180	0,08	150	1750	12,5 x 20	ECR2AHY151M $\diamond\diamond\Delta\Delta$ 1220
	220	0,482	0,047	0,140	0,08	220	2210	12,5 x 25	ECR2AHY221M $\diamond\diamond\Delta\Delta$ 1225
	270	0,393	0,042	0,130	0,08	270	2400	12,5 x 30	ECR2AHY271M $\diamond\diamond\Delta\Delta$ 1230
		0,393	0,048	0,150	0,08	270	1950	16 x 20	ECR2AHY271M $\diamond\diamond\Delta\Delta$ 1620
	330	0,322	0,036	0,110	0,08	330	2600	12,5 x 35	ECR2AHY331M $\diamond\diamond\Delta\Delta$ 1235
		0,272	0,032	0,095	0,08	390	2860	12,5 x 40	ECR2AHY391M $\diamond\diamond\Delta\Delta$ 1240
	390	0,272	0,038	0,120	0,08	390	2430	16 x 25	ECR2AHY391M $\diamond\diamond\Delta\Delta$ 1625
		0,272	0,045	0,140	0,08	390	2270	18 x 20	ECR2AHY391M $\diamond\diamond\Delta\Delta$ 1820
	470	0,226	0,032	0,095	0,08	470	2640	16 x 31,5	ECR2AHY471M $\diamond\diamond\Delta\Delta$ 1631
		0,226	0,036	0,110	0,08	470	2500	18 x 25	ECR2AHY471M $\diamond\diamond\Delta\Delta$ 1825
	560	0,189	0,029	0,086	0,08	560	2860	16 x 35,5	ECR2AHY561M $\diamond\diamond\Delta\Delta$ 1635
		0,189	0,030	0,090	0,08	560	2860	18 x 31,5	ECR2AHY561M $\diamond\diamond\Delta\Delta$ 1831
	680	0,156	0,027	0,081	0,08	680	3510	16 x 40	ECR2AHY681M $\diamond\diamond\Delta\Delta$ 1640
		0,156	0,027	0,081	0,08	680	3510	18 x 35,5	ECR2AHY681M $\diamond\diamond\Delta\Delta$ 1835
	820	0,129	0,026	0,076	0,08	820	3860	18 x 40	ECR2AHY821M $\diamond\diamond\Delta\Delta$ 1840





ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 100
Capacitance Range (µF)	0,47 ~ 15 000
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (µA)	After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
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Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3 ~ 100
	$Z_{-55°C} / Z_{+20°C}$	3

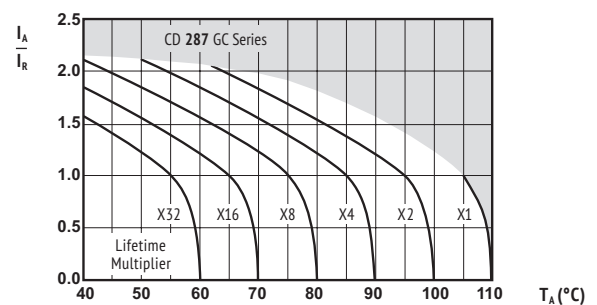
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	$\emptyset \leq 6,3$: 4 000h $\emptyset 8-10$: 6 000h $\emptyset \geq 12,5$: 10 000h	$\emptyset \geq 8$: > 250 000h	$\emptyset \leq 6,3$: 2 000h $\emptyset 8-10$: 3 000h $\emptyset \geq 12,5$: 5 000h	$\emptyset \leq 6,3$: 3 000h $\emptyset 8-10$: 5 000h $\emptyset \geq 12,5$: 7 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (µF) \ Frequency	120Hz	1kHz	10kHz	100kHz
0,47 ~ 4,7	0,40	0,68	0,83	1,00
5,6 ~ 47	0,50	0,76	0,87	1,00
56 ~ 270	0,70	0,85	0,93	1,00
330 ~ 1 000	0,80	0,93	0,98	1,00
1 200 ~ 15 000	0,90	0,95	1,00	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA rms)	(mm)	◇◇ = pin style & length △△ = pitch code Details: Page 33
6,3 (7,2) 0J	100	2,92	0,650	1,30	0,22	13	175	5 x 11,5	ECR0JGC101M◇◇△△0511
	150	1,95	0,460	0,920	0,22	19	235	5 x 15	ECR0JGC151M◇◇△△0515
	220	1,33	0,300	0,600	0,22	28	290	6,3 x 11,5	ECR0JGC221M◇◇△△0611
	330	0,885	0,200	0,400	0,22	42	400	6,3 x 15	ECR0JGC331M◇◇△△0615
	470	0,621	0,170	0,340	0,22	60	488	8 x 11,5	ECR0JGC471M◇◇△△0811
	680	0,430	0,130	0,260	0,22	86	617	8 x 16	ECR0JGC681M◇◇△△0816
		0,430	0,120	0,240	0,22	86	613	10 x 12,5	ECR0JGC681M◇◇△△1012
	820	0,356	0,095	0,190	0,22	104	734	10 x 16	ECR0JGC821M◇◇△△1016
	1 000	0,292	0,095	0,190	0,22	126	800	8 x 20	ECR0JGC102M◇◇△△0820
	1 200	0,244	0,065	0,130	0,22	152	1010	10 x 20	ECR0JGC122M◇◇△△1020
		0,244	0,065	0,130	0,22	152	1010	12,5 x 15	ECR0JGC122M◇◇△△1215
	1 500	0,195	0,055	0,110	0,22	189	1190	10 x 25	ECR0JGC152M◇◇△△1025
	2 200	0,145	0,045	0,090	0,24	278	1440	10 x 30	ECR0JGC222M◇◇△△1030
		0,145	0,042	0,084	0,24	278	1400	12,5 x 20	ECR0JGC222M◇◇△△1220
	2 700	0,118	0,038	0,076	0,24	341	1690	12,5 x 25	ECR0JGC272M◇◇△△1225
		0,118	0,046	0,092	0,24	341	1310	16 x 15	ECR0JGC272M◇◇△△1615
	3 300	0,105	0,043	0,086	0,26	416	1460	18 x 15	ECR0JGC332M◇◇△△1815
	3 900	0,089	0,032	0,064	0,26	492	1950	12,5 x 30	ECR0JGC392M◇◇△△1230
	4 700	0,080	0,028	0,056	0,28	593	2220	12,5 x 35	ECR0JGC472M◇◇△△1235
		0,080	0,034	0,068	0,28	593	1660	16 x 20	ECR0JGC472M◇◇△△1620
	5 600	0,072	0,026	0,052	0,30	706	2390	12,5 x 40	ECR0JGC562M◇◇△△1240
		0,072	0,028	0,056	0,30	706	2070	16 x 25	ECR0JGC562M◇◇△△1625
		0,072	0,030	0,060	0,30	706	1850	18 x 20	ECR0JGC562M◇◇△△1820
	6 800	0,063	0,025	0,050	0,32	857	2350	16 x 31,5	ECR0JGC682M◇◇△△1631
		0,063	0,027	0,054	0,32	857	2120	18 x 25	ECR0JGC682M◇◇△△1825
	8 200	0,059	0,022	0,044	0,36	1034	2550	16 x 35,5	ECR0JGC822M◇◇△△1635
	10 000	0,054	0,023	0,046	0,40	1260	2410	18 x 31,5	ECR0JGC103M◇◇△△1831
	12 000	0,049	0,020	0,040	0,44	1512	2970	16 x 40	ECR0JGC123M◇◇△△1640
		0,049	0,020	0,040	0,44	1512	2680	18 x 35,5	ECR0JGC123M◇◇△△1835
	15 000	0,045	0,019	0,038	0,50	1890	3010	18 x 40	ECR0JGC153M◇◇△△1840
10 (13) 1A	82	3,08	0,650	1,30	0,19	17	175	5 x 11,5	ECR1AGC820M◇◇△△0511
	100	2,53	0,460	0,920	0,19	20	235	5 x 15	ECR1AGC101M◇◇△△0515
	180	1,41	0,300	0,600	0,19	36	290	6,3 x 11,5	ECR1AGC181M◇◇△△0611
	220	1,15	0,200	0,400	0,19	44	400	6,3 x 15	ECR1AGC221M◇◇△△0615
	330	0,764	0,170	0,340	0,19	66	488	8 x 11,5	ECR1AGC331M◇◇△△0811
	470	0,537	0,130	0,260	0,19	94	617	8 x 16	ECR1AGC471M◇◇△△0816
		0,537	0,120	0,240	0,19	94	613	10 x 12,5	ECR1AGC471M◇◇△△1012
	560	0,450	0,095	0,190	0,19	112	734	10 x 16	ECR1AGC561M◇◇△△1016
	680	0,371	0,095	0,190	0,19	136	800	8 x 20	ECR1AGC681M◇◇△△0820
	1 000	0,252	0,065	0,130	0,19	200	1010	10 x 20	ECR1AGC102M◇◇△△1020
		0,252	0,065	0,130	0,19	200	1010	12,5 x 15	ECR1AGC102M◇◇△△1215
	1 200	0,210	0,055	0,110	0,19	240	1190	10 x 25	ECR1AGC122M◇◇△△1025
	1 500	0,168	0,045	0,090	0,19	300	1440	10 x 30	ECR1AGC152M◇◇△△1030
	1 800	0,140	0,042	0,084	0,19	360	1400	12,5 x 20	ECR1AGC182M◇◇△△1220
		0,140	0,046	0,092	0,19	360	1310	16 x 15	ECR1AGC182M◇◇△△1615
	2 200	0,127	0,038	0,076	0,21	440	1690	12,5 x 25	ECR1AGC222M◇◇△△1225
		0,127	0,043	0,086	0,21	440	1460	18 x 15	ECR1AGC222M◇◇△△1815
	2 700	0,104	0,032	0,064	0,21	540	1950	12,5 x 30	ECR1AGC272M◇◇△△1230
	3 300	0,093	0,028	0,056	0,23	660	2220	12,5 x 35	ECR1AGC332M◇◇△△1235
		0,093	0,034	0,068	0,23	660	1660	16 x 20	ECR1AGC332M◇◇△△1620
	3 900	0,079	0,026	0,052	0,23	780	2390	12,5 x 40	ECR1AGC392M◇◇△△1240
		0,079	0,028	0,056	0,23	780	2070	16 x 25	ECR1AGC392M◇◇△△1625
		0,079	0,030	0,060	0,23	780	1850	18 x 20	ECR1AGC392M◇◇△△1820
	4 700	0,071	0,027	0,054	0,25	940	2120	18 x 25	ECR1AGC472M◇◇△△1825
	5 600	0,064	0,025	0,050	0,27	1120	2350	16 x 31,5	ECR1AGC562M◇◇△△1631
	6 800	0,057	0,022	0,044	0,29	1360	2550	16 x 35,5	ECR1AGC682M◇◇△△1635
		0,057	0,023	0,046	0,29	1360	2410	18 x 31,5	ECR1AGC682M◇◇△△1831
		0,054	0,020	0,040	0,33	1640	2970	16 x 40	ECR1AGC822M◇◇△△1640
	8 200	0,054	0,020	0,040	0,33	1640	2680	18 x 35,5	ECR1AGC822M◇◇△△1835
		0,050	0,019	0,038	0,37	2000	3010	18 x 40	ECR1AGC103M◇◇△△1840
16 (20) 1C	56	3,80	0,650	1,30	0,16	18	175	5 x 11,5	ECR1CGC560M◇◇△△0511
	82	2,59	0,460	0,920	0,16	27	235	5 x 15	ECR1CGC820M◇◇△△0515
	120	1,77	0,300	0,600	0,16	39	290	6,3 x 11,5	ECR1CGC121M◇◇△△0611
	180	1,18	0,200	0,400	0,16	58	400	6,3 x 15	ECR1CGC181M◇◇△△0615
	270	0,786	0,170	0,340	0,16	87	501	8 x 11,5	ECR1CGC271M◇◇△△0811

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE ◆◆ = pin style & length △△ = pitch code
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	Details: Page 33
16 (20) 1C	330	0,644	0,130	0,260	0,16	106	575	8 x 16	ECR1CGC331M◆◆△△0816
		0,644	0,120	0,240	0,16	106	625	10 x 12,5	ECR1CGC331M◆◆△△1012
	390	0,545	0,095	0,190	0,16	125	795	10 x 16	ECR1CGC391M◆◆△△1016
	470	0,452	0,095	0,190	0,16	151	760	8 x 20	ECR1CGC471M◆◆△△0820
	680	0,313	0,065	0,130	0,16	218	1010	10 x 20	ECR1CGC681M◆◆△△1020
		0,313	0,065	0,130	0,16	218	1010	12,5 x 15	ECR1CGC681M◆◆△△1215
	820	0,259	0,055	0,110	0,16	263	1190	10 x 25	ECR1CGC821M◆◆△△1025
	1 200	0,177	0,045	0,090	0,16	384	1430	10 x 30	ECR1CGC122M◆◆△△1030
		0,177	0,042	0,084	0,16	384	1400	12,5 x 20	ECR1CGC122M◆◆△△1220
	1 500	0,142	0,038	0,076	0,16	480	1690	12,5 x 25	ECR1CGC152M◆◆△△1225
		0,142	0,046	0,092	0,16	480	1340	16 x 15	ECR1CGC152M◆◆△△1615
	2 200	0,142	0,043	0,086	0,16	480	1490	18 x 15	ECR1CGC152M◆◆△△1815
		0,109	0,032	0,064	0,18	704	1950	12,5 x 30	ECR1CGC222M◆◆△△1230
	2 700	0,109	0,034	0,068	0,18	704	1730	16 x 20	ECR1CGC222M◆◆△△1620
		0,089	0,028	0,056	0,18	864	2200	12,5 x 35	ECR1CGC272M◆◆△△1235
	3 300	0,089	0,028	0,056	0,18	864	2070	16 x 25	ECR1CGC272M◆◆△△1625
		0,089	0,030	0,060	0,18	864	1870	18 x 20	ECR1CGC272M◆◆△△1820
	3 900	0,081	0,026	0,052	0,20	1056	2390	12,5 x 40	ECR1CGC332M◆◆△△1240
		0,069	0,025	0,050	0,20	1248	2350	16 x 31,5	ECR1CGC392M◆◆△△1631
	4 700	0,069	0,027	0,054	0,20	1248	2160	18 x 25	ECR1CGC392M◆◆△△1825
		0,063	0,022	0,044	0,22	1504	2550	16 x 35,5	ECR1CGC472M◆◆△△1635
5 600	0,063	0,023	0,046	0,22	1504	2450	18 x 31,5	ECR1CGC472M◆◆△△1831	
	0,057	0,020	0,040	0,24	1792	2900	16 x 40	ECR1CGC562M◆◆△△1640	
6 800	0,051	0,020	0,040	0,26	2176	2730	18 x 35,5	ECR1CGC682M◆◆△△1835	
8 200	0,049	0,019	0,038	0,30	2624	3060	18 x 40	ECR1CGC822M◆◆△△1840	



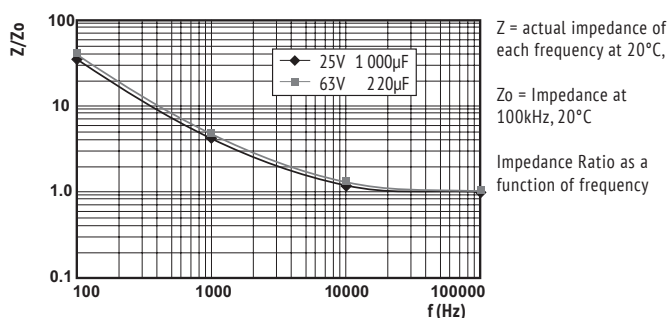
U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance	Z _{max} Max Impedance	Z _{max} Max Impedance	tanδ Dissipation Factor	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current	Size øD x L	ORDER CODE
(V)	(µF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(µA)	105°C 100kHz (mA rms)	(mm)	Details: Page 33
35 (44) 1V	390	0,409	0,055	0,110	0,12	273	1190	10 x 25	ECR1VGC391M◇◇△△1025
		0,285	0,045	0,090	0,12	392	1450	10 x 30	ECR1VGC561M◇◇△△1030
	560	0,285	0,042	0,084	0,12	392	1400	12,5 x 20	ECR1VGC561M◇◇△△1220
		0,285	0,046	0,092	0,12	392	1360	16 x 15	ECR1VGC561M◇◇△△1615
	680	0,235	0,038	0,076	0,12	476	1690	12,5 x 25	ECR1VGC681M◇◇△△1225
		0,235	0,043	0,086	0,12	476	1520	18 x 15	ECR1VGC681M◇◇△△1815
	1 000	0,160	0,032	0,064	0,12	700	1950	12,5 x 30	ECR1VGC102M◇◇△△1230
		0,160	0,034	0,068	0,12	700	1730	16 x 20	ECR1VGC102M◇◇△△1620
	1 200	0,133	0,028	0,056	0,12	840	2200	12,5 x 35	ECR1VGC122M◇◇△△1235
		0,133	0,028	0,056	0,12	840	2070	16 x 25	ECR1VGC122M◇◇△△1625
	1 500	0,133	0,030	0,060	0,12	840	1900	18 x 20	ECR1VGC122M◇◇△△1820
		0,107	0,026	0,052	0,12	1050	2390	12,5 x 40	ECR1VGC152M◇◇△△1240
	1 800	0,089	0,025	0,050	0,12	1260	2350	16 x 31,5	ECR1VGC182M◇◇△△1631
		0,089	0,027	0,054	0,12	1260	2200	18 x 25	ECR1VGC182M◇◇△△1825
	2 200	0,085	0,022	0,044	0,14	1540	2550	16 x 35,5	ECR1VGC222M◇◇△△1635
		0,085	0,023	0,046	0,14	1540	2490	18 x 31,5	ECR1VGC222M◇◇△△1831
	2 700	0,069	0,020	0,040	0,14	1890	2900	16 x 40	ECR1VGC272M◇◇△△1640
		0,069	0,020	0,040	0,14	1890	2770	18 x 35,5	ECR1VGC272M◇◇△△1835
	3 300	0,065	0,019	0,038	0,16	2310	3110	18 x 40	ECR1VGC332M◇◇△△1840
50 (63) 1H	0,47	283	3,90	7,80	0,10	3	22	5 x 11,5	ECR1HGC47M◇◇△△0511
	1,0	133	3,50	7,00	0,10	3	36	5 x 11,5	ECR1HGC010M◇◇△△0511
	2,2	60,4	3,00	6,00	0,10	3	54	5 x 11,5	ECR1HGC2R2M◇◇△△0511
	3,3	40,3	2,60	5,20	0,10	4	63	5 x 11,5	ECR1HGC3R3M◇◇△△0511
	4,7	28,3	2,20	4,40	0,10	5	75	5 x 11,5	ECR1HGC4R7M◇◇△△0511
	10	13,3	1,40	2,80	0,10	10	110	5 x 11,5	ECR1HGC100M◇◇△△0511
	18	7,38	0,950	1,90	0,10	18	120	5 x 11,5	ECR1HGC180M◇◇△△0511
	27	4,92	0,550	1,10	0,10	27	135	5 x 15	ECR1HGC270M◇◇△△0515
	39	3,41	0,360	0,720	0,10	39	148	6,3 x 11,5	ECR1HGC390M◇◇△△0611
	56	2,37	0,280	0,560	0,10	56	153	6,3 x 15	ECR1HGC560M◇◇△△0615
	68	1,96	0,200	0,400	0,10	68	360	8 x 11,5	ECR1HGC680M◇◇△△0811
	82	1,62	0,180	0,360	0,10	82	460	8 x 16	ECR1HGC820M◇◇△△0816
		1,62	0,180	0,360	0,10	82	443	10 x 12,5	ECR1HGC820M◇◇△△1012
	100	1,33	0,150	0,300	0,10	100	553	10 x 16	ECR1HGC101M◇◇△△1016
	120	1,11	0,130	0,260	0,10	120	670	8 x 20	ECR1HGC121M◇◇△△0820
	180	0,737	0,095	0,190	0,10	180	676	10 x 20	ECR1HGC181M◇◇△△1020
		0,737	0,105	0,210	0,10	180	745	12,5 x 15	ECR1HGC181M◇◇△△1215
	220	0,603	0,080	0,160	0,10	220	876	10 x 25	ECR1HGC221M◇◇△△1025
	330	0,402	0,065	0,130	0,10	330	1010	10 x 30	ECR1HGC331M◇◇△△1030
		0,402	0,070	0,140	0,10	330	979	12,5 x 20	ECR1HGC331M◇◇△△1220
		0,402	0,075	0,150	0,10	330	982	16 x 15	ECR1HGC331M◇◇△△1615
	470	0,283	0,054	0,108	0,10	470	1180	12,5 x 25	ECR1HGC471M◇◇△△1225
		0,283	0,058	0,116	0,10	470	1180	18 x 15	ECR1HGC471M◇◇△△1815
	560	0,237	0,050	0,100	0,10	560	1310	12,5 x 30	ECR1HGC561M◇◇△△1230
	680	0,196	0,046	0,092	0,10	680	1470	12,5 x 35	ECR1HGC681M◇◇△△1235
		0,196	0,050	0,100	0,10	680	1210	16 x 20	ECR1HGC681M◇◇△△1620
	820	0,162	0,044	0,088	0,10	820	1590	12,5 x 40	ECR1HGC821M◇◇△△1240
		0,162	0,048	0,096	0,10	820	1490	16 x 25	ECR1HGC821M◇◇△△1625
		0,162	0,046	0,092	0,10	820	1450	18 x 20	ECR1HGC821M◇◇△△1820
	1 000	0,133	0,040	0,080	0,10	1000	1890	16 x 31,5	ECR1HGC102M◇◇△△1631
		0,133	0,040	0,080	0,10	1000	1720	18 x 25	ECR1HGC102M◇◇△△1825
	1 200	0,111	0,032	0,064	0,10	1200	2140	16 x 35,5	ECR1HGC122M◇◇△△1635
	1 500	0,089	0,026	0,052	0,10	1500	2410	16 x 40	ECR1HGC152M◇◇△△1640
		0,089	0,026	0,052	0,10	1500	1970	18 x 31,5	ECR1HGC152M◇◇△△1831
	1 800	0,074	0,025	0,050	0,10	1800	2310	18 x 35,5	ECR1HGC182M◇◇△△1835
	2 200	0,073	0,024	0,048	0,12	2200	2530	18 x 40	ECR1HGC222M◇◇△△1840
63 (79) 1J	12	9,96	1,20	3,60	0,09	16	120	5 x 11,5	ECR1JGC120M◇◇△△0511
	18	6,64	0,850	2,60	0,09	23	135	5 x 15	ECR1JGC180M◇◇△△0515
	27	4,43	0,550	1,70	0,09	34	148	6,3 x 11,5	ECR1JGC270M◇◇△△0611
	39	3,07	0,380	1,10	0,09	50	153	6,3 x 15	ECR1JGC390M◇◇△△0615
	47	2,55	0,320	0,960	0,09	60	360	8 x 11,5	ECR1JGC470M◇◇△△0811
	56	2,14	0,230	0,690	0,09	71	448	10 x 12,5	ECR1JGC560M◇◇△△1012
	68	1,76	0,240	0,720	0,09	86	469	8 x 16	ECR1JGC680M◇◇△△0816
		1,76	0,170	0,510	0,09	86	553	10 x 16	ECR1JGC680M◇◇△△1016
	82	1,46	0,170	0,510	0,09	104	682	8 x 20	ECR1JGC820M◇◇△△0820
	120	0,995	0,120	0,360	0,09	152	676	10 x 20	ECR1JGC121M◇◇△△1020



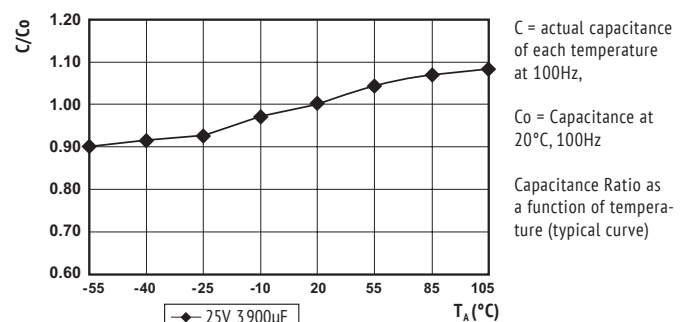
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{rms})	(mm)	$\diamond\diamond$ = pin style & length $\Delta\Delta$ = pitch code Details: Page 33
63 (79) 1J	150	0,796	0,100	0,300	0,09	189	876	10 x 25	ECR1JGC151M $\diamond\diamond\Delta\Delta$ 1025
		0,796	0,110	0,330	0,09	189	745	12,5 x 15	ECR1JGC151M $\diamond\diamond\Delta\Delta$ 1215
	180	0,664	0,085	0,260	0,09	227	1020	10 x 30	ECR1JGC181M $\diamond\diamond\Delta\Delta$ 1030
	220	0,543	0,075	0,230	0,09	278	979	12,5 x 20	ECR1JGC221M $\diamond\diamond\Delta\Delta$ 1220
		0,543	0,080	0,240	0,09	278	982	16 x 15	ECR1JGC221M $\diamond\diamond\Delta\Delta$ 1615
	270	0,443	0,065	0,200	0,09	341	1180	12,5 x 25	ECR1JGC271M $\diamond\diamond\Delta\Delta$ 1225
	330	0,362	0,065	0,200	0,09	416	1200	18 x 15	ECR1JGC331M $\diamond\diamond\Delta\Delta$ 1815
		0,307	0,055	0,170	0,09	492	1310	12,5 x 30	ECR1JGC391M $\diamond\diamond\Delta\Delta$ 1230
	390	0,307	0,057	0,170	0,09	492	1210	16 x 20	ECR1JGC391M $\diamond\diamond\Delta\Delta$ 1620
		0,254	0,048	0,140	0,09	593	1470	12,5 x 35	ECR1JGC471M $\diamond\diamond\Delta\Delta$ 1235
	470	0,254	0,052	0,160	0,09	593	1490	16 x 25	ECR1JGC471M $\diamond\diamond\Delta\Delta$ 1625
		0,254	0,058	0,170	0,09	593	1460	18 x 20	ECR1JGC471M $\diamond\diamond\Delta\Delta$ 1820
	560	0,214	0,042	0,130	0,09	706	1590	12,5 x 40	ECR1JGC561M $\diamond\diamond\Delta\Delta$ 1240
	680	0,176	0,042	0,130	0,09	857	1890	16 x 31,5	ECR1JGC681M $\diamond\diamond\Delta\Delta$ 1631
		0,176	0,050	0,150	0,09	857	1740	18 x 25	ECR1JGC681M $\diamond\diamond\Delta\Delta$ 1825
	820	0,146	0,036	0,110	0,09	1034	2140	16 x 35,5	ECR1JGC821M $\diamond\diamond\Delta\Delta$ 1635
		0,146	0,042	0,130	0,09	1034	1990	18 x 31,5	ECR1JGC821M $\diamond\diamond\Delta\Delta$ 1831
	1 000	0,120	0,032	0,096	0,09	1260	2410	16 x 40	ECR1JGC102M $\diamond\diamond\Delta\Delta$ 1640
		0,120	0,035	0,110	0,09	1260	2340	18 x 35,5	ECR1JGC102M $\diamond\diamond\Delta\Delta$ 1835
1 200		0,100	0,032	0,096	0,09	1512	2560	18 x 40	ECR1JGC122M $\diamond\diamond\Delta\Delta$ 1840

100 (125) 2A	5,6	19,0	1,90	7,60	0,08	12	57	5 x 11,5	ECR2AGC5R6M $\diamond\diamond\Delta\Delta$ 0511
	8,2	13,0	1,30	5,20	0,08	17	74	5 x 15	ECR2AGC8R2M $\diamond\diamond\Delta\Delta$ 0515
	12	8,85	1,10	4,40	0,08	24	78	6,3 x 11,5	ECR2AGC120M $\diamond\diamond\Delta\Delta$ 0611
	18	5,90	0,620	2,50	0,08	36	85	6,3 x 15	ECR2AGC180M $\diamond\diamond\Delta\Delta$ 0615
	22	4,83	0,530	2,10	0,08	44	275	8 x 11,5	ECR2AGC220M $\diamond\diamond\Delta\Delta$ 0811
	27	3,94	0,470	1,90	0,08	54	319	10 x 12,5	ECR2AGC270M $\diamond\diamond\Delta\Delta$ 1012
		3,22	0,350	1,40	0,08	66	360	8 x 16	ECR2AGC330M $\diamond\diamond\Delta\Delta$ 0816
	33	3,22	0,320	1,30	0,08	66	424	10 x 16	ECR2AGC330M $\diamond\diamond\Delta\Delta$ 1016
		2,73	0,270	1,10	0,08	78	490	8 x 20	ECR2AGC390M $\diamond\diamond\Delta\Delta$ 0820
	56	1,90	0,250	1,00	0,08	112	499	10 x 20	ECR2AGC560M $\diamond\diamond\Delta\Delta$ 1020
	68	1,57	0,180	0,720	0,08	136	634	10 x 25	ECR2AGC680M $\diamond\diamond\Delta\Delta$ 1025
		1,57	0,200	0,800	0,08	136	613	12,5 x 15	ECR2AGC680M $\diamond\diamond\Delta\Delta$ 1215
	100	1,07	0,150	0,600	0,08	200	739	10 x 30	ECR2AGC101M $\diamond\diamond\Delta\Delta$ 1030
		1,07	0,130	0,520	0,08	200	805	12,5 x 20	ECR2AGC101M $\diamond\diamond\Delta\Delta$ 1220
	120	0,885	0,110	0,440	0,08	240	857	12,5 x 25	ECR2AGC121M $\diamond\diamond\Delta\Delta$ 1225
		0,885	0,130	0,500	0,08	240	706	16 x 15	ECR2AGC121M $\diamond\diamond\Delta\Delta$ 1615
	150	0,708	0,120	0,480	0,08	300	871	18 x 15	ECR2AGC151M $\diamond\diamond\Delta\Delta$ 1815
	180	0,590	0,090	0,360	0,08	360	1120	12,5 x 30	ECR2AGC181M $\diamond\diamond\Delta\Delta$ 1230
		0,590	0,110	0,440	0,08	360	916	16 x 20	ECR2AGC181M $\diamond\diamond\Delta\Delta$ 1620
	220	0,483	0,075	0,300	0,08	440	1240	12,5 x 35	ECR2AGC221M $\diamond\diamond\Delta\Delta$ 1235
		0,483	0,081	0,320	0,08	440	1290	16 x 25	ECR2AGC221M $\diamond\diamond\Delta\Delta$ 1625
	270	0,393	0,060	0,240	0,08	540	1330	12,5 x 40	ECR2AGC271M $\diamond\diamond\Delta\Delta$ 1240
		0,393	0,085	0,340	0,08	540	1170	18 x 20	ECR2AGC271M $\diamond\diamond\Delta\Delta$ 1820
	330	0,322	0,059	0,230	0,08	660	1630	16 x 31,5	ECR2AGC331M $\diamond\diamond\Delta\Delta$ 1631
		0,322	0,071	0,280	0,08	660	1500	18 x 25	ECR2AGC331M $\diamond\diamond\Delta\Delta$ 1825
	390	0,273	0,052	0,210	0,08	780	1750	16 x 35,5	ECR2AGC391M $\diamond\diamond\Delta\Delta$ 1635
		0,273	0,058	0,230	0,08	780	1630	18 x 31,5	ECR2AGC391M $\diamond\diamond\Delta\Delta$ 1831
	470	0,226	0,045	0,180	0,08	940	1920	16 x 40	ECR2AGC471M $\diamond\diamond\Delta\Delta$ 1640
	560	0,190	0,054	0,220	0,08	1120	1920	18 x 35,5	ECR2AGC561M $\diamond\diamond\Delta\Delta$ 1835
	680	0,157	0,041	0,160	0,08	1360	2100	18 x 40	ECR2AGC681M $\diamond\diamond\Delta\Delta$ 1840

IMPEDANCE RATIO

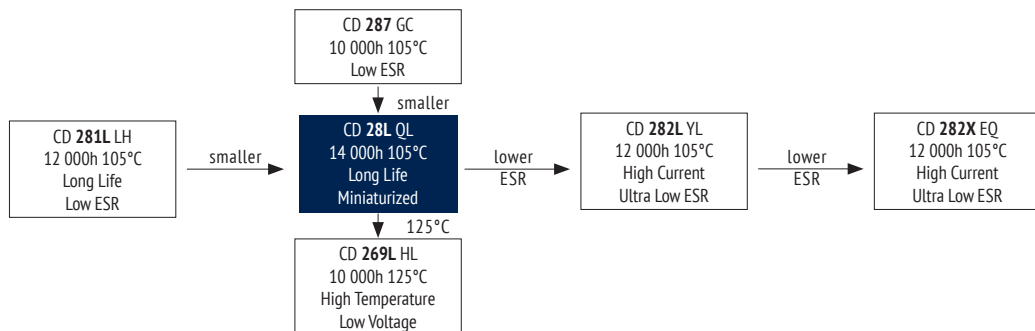


CAPACITANCE RATIO



**4 000 - 14 000h
at 105°C**

- Miniaturized
- Low Impedance,
High Current
- Switching Power Supply
- Standard 85°C

**ITEM CHARACTERISTICS**

Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	6,3 ~ 63
Capacitance Range (µF)	12 ~ 18 000
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current (µA) After 2 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

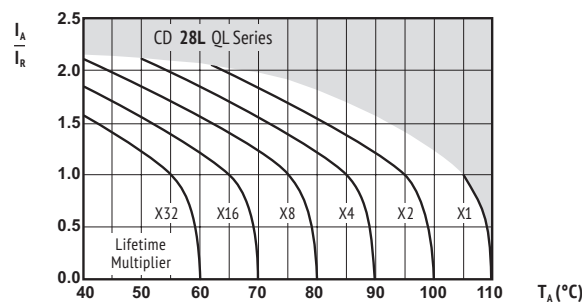
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	6,3 ~ 63
	$Z_{-55^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	3

ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	$\varnothing \leq 6,3$: 4 000h $\varnothing 8$: 6 000h $\varnothing 10$: 10 000h $\varnothing 12,5$: 12 000h $\varnothing \geq 16$: 14 000h	$\varnothing \geq 8$: > 250 000h	$\varnothing \leq 6,3$: 2 000h $\varnothing 8$: 3 000h $\varnothing 10$: 5 000h $\varnothing 12,5$: 7 000h $\varnothing \geq 16$: 8 000h	$\varnothing \leq 6,3$: 3 000h $\varnothing 8$: 5 000h $\varnothing 10$: 7 000h $\varnothing 12,5$: 9 000h $\varnothing \geq 16$: 10 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Capacitance (µF) \ Frequency	120Hz	1kHz	10kHz	100kHz
12 ~ 180	0,40	0,75	0,90	1,00
220 ~ 560	0,50	0,83	0,93	1,00
680 ~ 1 800	0,60	0,86	0,95	1,00
2 200 ~ 3 900	0,75	0,90	0,97	1,00
4 700 ~ 18 000	0,85	0,95	0,98	1,00

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)

I_A = actual ripple current at 100kHz,
 I_R = rated ripple current at 100kHz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 20°C 100kHz (mA _{rms})	(mm)	Details: Page 33
6,3 (7,2) 0J	150	1,95	0,500	1,00	0,22	10	175	5 x 11,5	ECR0JQL151M00000511
	330	0,885	0,250	0,500	0,22	21	290	6,3 x 11,5	ECR0JQL331M00000611
	470	0,621	0,180	0,360	0,22	30	400	6,3 x 15	ECR0JQL471M00000615
	680	0,430	0,120	0,240	0,22	43	555	8 x 11,5	ECR0JQL681M00000811
	820	0,356	0,090	0,180	0,22	52	760	10 x 12,5	ECR0JQL821M00001012
	1 000	0,292	0,090	0,180	0,22	63	730	8 x 16	ECR0JQL102M00000816
	1 200	0,244	0,080	0,160	0,22	76	810	8 x 20	ECR0JQL122M00000820
		0,244	0,068	0,136	0,22	76	1050	10 x 16	ECR0JQL122M00001016
	1 500	0,195	0,052	0,104	0,22	95	1220	10 x 20	ECR0JQL152M00001020
	2 200	0,145	0,045	0,090	0,24	139	1440	10 x 25	ECR0JQL222M00001025
	2 700	0,118	0,037	0,074	0,24	171	1690	10 x 30	ECR0JQL272M00001030
	3 300	0,105	0,038	0,076	0,26	208	1660	12,5 x 20	ECR0JQL332M00001220
	3 900	0,089	0,030	0,060	0,26	246	1950	12,5 x 25	ECR0JQL392M00001225
	4 700	0,080	0,025	0,050	0,28	297	2310	12,5 x 30	ECR0JQL472M00001230
	5 600	0,072	0,022	0,044	0,30	353	2510	12,5 x 35	ECR0JQL562M00001235
		0,072	0,029	0,058	0,30	353	2210	16 x 20	ECR0JQL562M00001620
	6 800	0,063	0,017	0,034	0,32	429	2870	12,5 x 40	ECR0JQL682M00001240
		0,063	0,022	0,044	0,32	429	2560	16 x 25	ECR0JQL682M00001625
		0,063	0,028	0,056	0,32	429	2490	18 x 20	ECR0JQL682M00001820
	8 200	0,059	0,019	0,038	0,36	517	3010	16 x 31,5	ECR0JQL822M00001631
	10 000	0,054	0,017	0,034	0,40	630	3150	16 x 35,5	ECR0JQL103M00001635
		0,054	0,020	0,040	0,40	630	2740	18 x 25	ECR0JQL103M00001825
	12 000	0,049	0,015	0,030	0,44	756	3710	16 x 40	ECR0JQL123M00001640
		0,049	0,018	0,036	0,44	756	3330	18 x 31,5	ECR0JQL123M00001831
	15 000	0,045	0,016	0,032	0,50	945	3680	18 x 35,5	ECR0JQL153M00001835
	18 000	0,042	0,015	0,030	0,56	1134	3800	18 x 40	ECR0JQL183M00001840
10 (13) 1A	100	2,53	0,500	1,00	0,19	10	175	5 x 11,5	ECR1AQL101M00000511
	220	1,15	0,250	0,500	0,19	22	290	6,3 x 11,5	ECR1AQL221M00000611
	330	0,764	0,180	0,360	0,19	33	400	6,3 x 15	ECR1AQL331M00000615
	470	0,537	0,120	0,240	0,19	47	555	8 x 11,5	ECR1AQL471M00000811
	680	0,371	0,090	0,180	0,19	68	730	8 x 16	ECR1AQL681M00000816
		0,371	0,090	0,180	0,19	68	760	10 x 12,5	ECR1AQL681M00001012
	1 000	0,252	0,080	0,160	0,19	100	810	8 x 20	ECR1AQL102M00000820
		0,252	0,068	0,136	0,19	100	1050	10 x 16	ECR1AQL102M00001016
	1 200	0,210	0,052	0,104	0,19	120	1220	10 x 20	ECR1AQL122M00001020
	1 500	0,168	0,045	0,090	0,19	150	1440	10 x 25	ECR1AQL152M00001025
	1 800	0,140	0,037	0,074	0,19	180	1690	10 x 30	ECR1AQL182M00001030
	2 200	0,127	0,038	0,076	0,21	220	1660	12,5 x 20	ECR1AQL222M00001220
	3 300	0,093	0,030	0,060	0,23	330	1950	12,5 x 25	ECR1AQL332M00001225
	3 900	0,079	0,025	0,050	0,23	390	2310	12,5 x 30	ECR1AQL392M00001230
		0,079	0,029	0,058	0,23	390	2210	16 x 20	ECR1AQL392M00001620
	4 700	0,071	0,022	0,044	0,25	470	2510	12,5 x 35	ECR1AQL472M00001235
	5 600	0,064	0,017	0,034	0,27	560	2870	12,5 x 40	ECR1AQL562M00001240
		0,064	0,022	0,044	0,27	560	2560	16 x 25	ECR1AQL562M00001625
		0,064	0,028	0,056	0,27	560	2490	18 x 20	ECR1AQL562M00001820
	6 800	0,057	0,019	0,038	0,29	680	3010	16 x 31,5	ECR1AQL682M00001631
		0,057	0,020	0,040	0,29	680	2740	18 x 25	ECR1AQL682M00001825
	8 200	0,054	0,017	0,034	0,33	820	3150	16 x 35,5	ECR1AQL822M00001635
		0,054	0,018	0,036	0,33	820	3330	18 x 31,5	ECR1AQL822M00001831
	10 000	0,050	0,015	0,030	0,37	1000	3710	16 x 40	ECR1AQL103M00001640
		0,050	0,016	0,032	0,37	1000	3680	18 x 35,5	ECR1AQL103M00001835
	12 000	0,046	0,015	0,030	0,41	1200	3800	18 x 40	ECR1AQL123M00001840
16 (20) 1C	47	4,52	0,500	1,00	0,16	8	175	5 x 11,5	ECR1CQL470M00000511
	100	2,13	0,250	0,500	0,16	16	290	6,3 x 11,5	ECR1CQL101M00000611
	220	0,965	0,180	0,360	0,16	36	400	6,3 x 15	ECR1CQL221M00000615
	330	0,644	0,120	0,240	0,16	53	555	8 x 11,5	ECR1CQL331M00000811
	470	0,452	0,090	0,180	0,16	76	730	8 x 16	ECR1CQL471M00000816
		0,452	0,090	0,180	0,16	76	760	10 x 12,5	ECR1CQL471M00001012
	560	0,379	0,080	0,160	0,16	90	810	8 x 20	ECR1CQL561M00000820
	680	0,313	0,068	0,136	0,16	109	1050	10 x 16	ECR1CQL681M00001016
	1 000	0,213	0,052	0,104	0,16	160	1220	10 x 20	ECR1CQL102M00001020
	1 200	0,177	0,045	0,090	0,16	192	1440	10 x 25	ECR1CQL122M00001025
	1 500	0,142	0,037	0,074	0,16	240	1690	10 x 30	ECR1CQL152M00001030
		0,142	0,038	0,076	0,16	240	1660	12,5 x 20	ECR1CQL152M00001220

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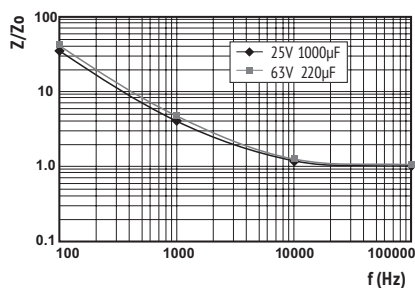
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pitch code
(V)	(μF)	20°C 120kHz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120kHz	(μA)	105°C 100kHz (mA rms)	(mm)	Details: Page 33
16 (20) 1C	2 200	0,109	0,030	0,060	0,18	352	1950	12,5 x 25	ECR1CQL222M◇◇△△1225
	2 700	0,089	0,025	0,050	0,18	432	2310	12,5 x 30	ECR1CQL272M◇◇△△1230
		0,089	0,029	0,058	0,18	432	2210	16 x 20	ECR1CQL272M◇◇△△1620
	3 300	0,081	0,022	0,044	0,20	528	2510	12,5 x 35	ECR1CQL332M◇◇△△1235
	3 900	0,069	0,017	0,034	0,20	624	2870	12,5 x 40	ECR1CQL392M◇◇△△1240
		0,069	0,022	0,044	0,20	624	2560	16 x 25	ECR1CQL392M◇◇△△1625
		0,069	0,028	0,056	0,20	624	2490	18 x 20	ECR1CQL392M◇◇△△1820
	4 700	0,063	0,019	0,038	0,22	752	3010	16 x 31,5	ECR1CQL472M◇◇△△1631
		0,063	0,020	0,040	0,22	752	2740	18 x 25	ECR1CQL472M◇◇△△1825
	5 600	0,057	0,017	0,034	0,24	896	3150	16 x 35,5	ECR1CQL562M◇◇△△1635
		0,057	0,018	0,036	0,24	896	3330	18 x 31,5	ECR1CQL562M◇◇△△1831
	6 800	0,051	0,015	0,030	0,26	1088	3710	16 x 40	ECR1CQL682M◇◇△△1640
	8 200	0,049	0,016	0,032	0,30	1312	3680	18 x 35,5	ECR1CQL822M◇◇△△1835
	10 000	0,046	0,015	0,030	0,34	1600	3800	18 x 40	ECR1CQL103M◇◇△△1840
25 (32) 1E	47	3,96	0,500	1,00	0,14	12	175	5 x 11,5	ECR1EQL470M◇◇△△0511
	100	1,86	0,250	0,500	0,14	25	290	6,3 x 11,5	ECR1EQL101M◇◇△△0611
	150	1,24	0,180	0,360	0,14	38	400	6,3 x 15	ECR1EQL151M◇◇△△0615
	220	0,845	0,120	0,240	0,14	55	555	8 x 11,5	ECR1EQL221M◇◇△△0811
	330	0,563	0,090	0,180	0,14	83	730	8 x 16	ECR1EQL331M◇◇△△0816
		0,563	0,090	0,180	0,14	83	760	10 x 12,5	ECR1EQL331M◇◇△△1012
	390	0,477	0,080	0,160	0,14	98	810	8 x 20	ECR1EQL391M◇◇△△0820
	470	0,396	0,068	0,136	0,14	118	1050	10 x 16	ECR1EQL471M◇◇△△1016
	680	0,274	0,052	0,104	0,14	170	1220	10 x 20	ECR1EQL681M◇◇△△1020
	820	0,227	0,045	0,090	0,14	205	1440	10 x 25	ECR1EQL821M◇◇△△1025
	1 000	0,186	0,037	0,074	0,14	250	1690	10 x 30	ECR1EQL102M◇◇△△1030
		0,186	0,038	0,076	0,14	250	1660	12,5 x 20	ECR1EQL102M◇◇△△1220
	1 500	0,124	0,030	0,060	0,14	375	1950	12,5 x 25	ECR1EQL152M◇◇△△1225
	1 800	0,104	0,025	0,050	0,14	450	2310	12,5 x 30	ECR1EQL182M◇◇△△1230
		0,104	0,029	0,058	0,14	450	2210	16 x 20	ECR1EQL182M◇◇△△1620
	2 200	0,097	0,025	0,050	0,16	550	2310	12,5 x 30	ECR1EQL222M◇◇△△1230
		0,097	0,022	0,044	0,16	550	2510	12,5 x 35	ECR1EQL222M◇◇△△1235
		0,097	0,028	0,056	0,16	550	2490	18 x 20	ECR1EQL222M◇◇△△1820
	2 700	0,079	0,017	0,034	0,16	675	2870	12,5 x 40	ECR1EQL272M◇◇△△1240
		0,079	0,022	0,044	0,16	675	2560	16 x 25	ECR1EQL272M◇◇△△1625
	3 300	0,072	0,022	0,044	0,18	825	2560	16 x 25	ECR1EQL332M◇◇△△1625
		0,073	0,019	0,038	0,18	825	3010	16 x 31,5	ECR1EQL332M◇◇△△1631
		0,072	0,028	0,056	0,18	825	2490	18 x 20	ECR1EQL332M◇◇△△1820
		0,073	0,020	0,040	0,18	825	2740	18 x 25	ECR1EQL332M◇◇△△1825
	3 900	0,062	0,017	0,034	0,18	975	3150	16 x 35,5	ECR1EQL392M◇◇△△1635
		0,062	0,018	0,036	0,18	975	3330	18 x 31,5	ECR1EQL392M◇◇△△1831
	4 700	0,057	0,015	0,030	0,20	1175	3710	16 x 40	ECR1EQL472M◇◇△△1640
		0,057	0,016	0,032	0,20	1175	3680	18 x 35,5	ECR1EQL472M◇◇△△1835
	5 600	0,053	0,015	0,030	0,22	1400	3800	18 x 40	ECR1EQL562M◇◇△△1840
35 (44) 1V	33	4,83	0,500	1,00	0,12	12	175	5 x 11,5	ECR1VQL330M◇◇△△0511
	56	2,85	0,250	0,500	0,12	20	290	6,3 x 11,5	ECR1VQL560M◇◇△△0611
	100	1,60	0,180	0,360	0,12	35	400	6,3 x 15	ECR1VQL101M◇◇△△0615
	150	1,07	0,120	0,240	0,12	53	555	8 x 11,5	ECR1VQL151M◇◇△△0811
	220	0,724	0,090	0,180	0,12	77	730	8 x 16	ECR1VQL221M◇◇△△0816
		0,724	0,090	0,180	0,12	77	760	10 x 12,5	ECR1VQL221M◇◇△△1012
	270	0,590	0,080	0,160	0,12	95	810	8 x 20	ECR1VQL271M◇◇△△0820
	330	0,483	0,068	0,136	0,12	116	1050	10 x 16	ECR1VQL331M◇◇△△1016
	470	0,339	0,052	0,104	0,12	165	1220	10 x 20	ECR1VQL471M◇◇△△1020
	560	0,284	0,052	0,104	0,12	196	1220	10 x 20	ECR1VQL561M◇◇△△1020
		0,285	0,045	0,090	0,12	196	1440	10 x 25	ECR1VQL561M◇◇△△1025
	680	0,235	0,037	0,074	0,12	238	1690	10 x 30	ECR1VQL681M◇◇△△1030
		0,235	0,038	0,076	0,12	238	1660	12,5 x 20	ECR1VQL681M◇◇△△1220
	1 000	0,159	0,039	0,076	0,12	350	1660	12,5 x 20	ECR1VQL102M◇◇△△1220
		0,160	0,030	0,060	0,12	350	1950	12,5 x 25	ECR1VQL102M◇◇△△1225
	1 200	0,133	0,025	0,050	0,12	420	2310	12,5 x 30	ECR1VQL122M◇◇△△1230
		0,133	0,029	0,058	0,12	420	2210	16 x 20	ECR1VQL122M◇◇△△1620
	1 500	0,107	0,022	0,044	0,12	525	2510	12,5 x 35	ECR1VQL152M◇◇△△1235
	1 800	0,089	0,017	0,034	0,12	630	2870	12,5 x 40	ECR1VQL182M◇◇△△1240
		0,089	0,022	0,044	0,12	630	2560	16 x 25	ECR1VQL182M◇◇△△1625
		0,089	0,028	0,056	0,12	630	2490	18 x 20	ECR1VQL182M◇◇△△1820



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance	Z_{max} Max Impedance	Z_{max} Max Impedance	$\tan\delta$ Dissipation Factor	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current	Size	ORDER CODE
(V)	(μF)	20°C 120Hz (Ω)	20°C 100kHz (Ω)	-10°C 100kHz (Ω)	20°C 120Hz	(μA)	105°C 100kHz (mA _{RMS})	(mm)	◇◇ = pin style & length △△ = pitch code
Details: Page 33									
35 (44) 1V	2 200	0,084	0,022	0,044	0,14	770	2560	16 x 25	ECR1VQL222M◇◇△△1625
		0,085	0,019	0,038	0,14	770	3010	16 x 31,5	ECR1VQL222M◇◇△△1631
		0,084	0,028	0,056	0,14	770	2490	18 x 20	ECR1VQL222M◇◇△△1820
		0,085	0,020	0,040	0,14	770	2740	18 x 25	ECR1VQL222M◇◇△△1825
	2 700	0,069	0,017	0,034	0,14	945	3150	16 x 35,5	ECR1VQL272M◇◇△△1635
		0,069	0,018	0,036	0,14	945	3330	18 x 31,5	ECR1VQL272M◇◇△△1831
	3 300	0,065	0,015	0,030	0,16	1155	3710	16 x 40	ECR1VQL332M◇◇△△1640
		0,065	0,016	0,032	0,16	1155	3680	18 x 35,5	ECR1VQL332M◇◇△△1835
	3 900	0,055	0,015	0,030	0,16	1365	3800	18 x 40	ECR1VQL392M◇◇△△1840
	4 700	0,051	0,015	0,015	0,18	1645	3800	18 x 40	ECR1VQL472M◇◇△△1840
50 (63) 1H	22	6,04	0,900	1,80	0,10	11	155	5 x 11,5	ECR1HQL220M◇◇△△0511
	47	2,83	0,450	0,900	0,10	24	260	6,3 x 11,5	ECR1HQL470M◇◇△△0611
	68	1,96	0,310	0,620	0,10	34	360	6,3 x 15	ECR1HQL680M◇◇△△0615
	100	1,33	0,220	0,440	0,10	50	485	8 x 11,5	ECR1HQL101M◇◇△△0811
	120	1,11	0,160	0,320	0,10	60	635	8 x 16	ECR1HQL121M◇◇△△0816
		1,11	0,160	0,320	0,10	60	620	10 x 12,5	ECR1HQL121M◇◇△△1012
	180	0,737	0,120	0,240	0,10	90	730	8 x 20	ECR1HQL181M◇◇△△0820
		0,737	0,130	0,260	0,10	90	850	10 x 16	ECR1HQL181M◇◇△△1016
	220	0,603	0,088	0,180	0,10	110	1050	10 x 20	ECR1HQL221M◇◇△△1020
	330	0,402	0,080	0,160	0,10	165	1250	10 x 25	ECR1HQL331M◇◇△△1025
	390	0,341	0,065	0,130	0,10	195	1500	10 x 30	ECR1HQL391M◇◇△△1030
		0,341	0,070	0,140	0,10	195	1480	12,5 x 20	ECR1HQL391M◇◇△△1220
	470	0,280	0,070	0,140	0,10	235	1480	12,5 x 20	ECR1HQL471◇◇△△1220
	560	0,237	0,054	0,108	0,10	280	1840	12,5 x 25	ECR1HQL561M◇◇△△1225
	680	0,196	0,044	0,088	0,10	340	2220	12,5 x 30	ECR1HQL681M◇◇△△1230
		0,196	0,048	0,096	0,10	340	1840	16 x 20	ECR1HQL681M◇◇△△1620
	820	0,162	0,033	0,066	0,10	410	2290	12,5 x 35	ECR1HQL821M◇◇△△1235
		0,162	0,042	0,084	0,10	410	1980	18 x 20	ECR1HQL821M◇◇△△1820
	1 000	0,133	0,029	0,058	0,10	500	2500	12,5 x 40	ECR1HQL102M◇◇△△1240
		0,133	0,034	0,068	0,10	500	2240	16 x 25	ECR1HQL102M◇◇△△1625
		0,106	0,043	0,086	0,08	630	2670	16 x 31,5	ECR1JQL102M◇◇△△1631
	1 200	0,111	0,028	0,056	0,10	600	2700	16 x 31,5	ECR1HQL122M◇◇△△1631
		0,111	0,029	0,058	0,10	600	2610	18 x 25	ECR1HQL122M◇◇△△1825
	1 500	0,089	0,025	0,050	0,10	750	2800	16 x 35,5	ECR1HQL152M◇◇△△1635
	1 800	0,074	0,021	0,042	0,10	900	3200	16 x 40	ECR1HQL182M◇◇△△1640
		0,074	0,025	0,050	0,10	900	3000	18 x 31,5	ECR1HQL182M◇◇△△1831
	2 200	0,073	0,023	0,046	0,12	1100	3100	18 x 35,5	ECR1HQL222M◇◇△△1835
	2 700	0,059	0,022	0,044	0,12	1350	3400	18 x 40	ECR1HQL272M◇◇△△1840
63 (79) 1J	12	8,85	1,90	4,000	0,08	8	145	5 x 11,5	ECR1JQL120M◇◇△△0511
	22	4,83	1,00	2,000	0,08	14	240	6,3 x 11,5	ECR1JQL220M◇◇△△0611
	39	2,73	0,610	1,400	0,08	25	330	6,3 x 15	ECR1JQL390M◇◇△△0615
	68	1,57	0,340	0,750	0,08	43	405	8 x 11,5	ECR1JQL680M◇◇△△0811
	100	1,07	0,270	0,650	0,08	63	535	8 x 16	ECR1JQL101M◇◇△△0816
		1,07	0,255	0,510	0,08	63	540	10 x 12,5	ECR1JQL101M◇◇△△1012
	120	0,885	0,190	0,380	0,08	76	600	10 x 16	ECR1JQL121M◇◇△△1016
	150	0,708	0,210	0,520	0,08	95	690	8 x 20	ECR1JQL151M◇◇△△0820
	180	0,590	0,145	0,290	0,08	114	890	10 x 20	ECR1JQL181M◇◇△△1020
	220	0,483	0,130	0,260	0,08	139	1050	10 x 25	ECR1JQL221M◇◇△△1025
	330	0,322	0,090	0,180	0,08	208	1300	10 x 30	ECR1JQL331M◇◇△△1030
		0,322	0,085	0,170	0,08	208	1290	12,5 x 20	ECR1JQL331M◇◇△△1220
	390	0,273	0,070	0,140	0,08	246	1720	12,5 x 25	ECR1JQL391M◇◇△△1225
	470	0,226	0,055	0,110	0,08	297	2090	12,5 x 30	ECR1JQL471M◇◇△△1230
		0,226	0,059	0,120	0,08	297	1770	16 x 20	ECR1JQL471M◇◇△△1620
	680	0,157	0,047	0,094	0,08	429	2270	12,5 x 35	ECR1JQL681M◇◇△△1235
		0,157	0,050	0,100	0,08	429	2160	16 x 25	ECR1JQL681M◇◇△△1625
		0,157	0,055	0,110	0,08	429	2290	18 x 20	ECR1JQL681M◇◇△△1820
	820	0,130	0,042	0,084	0,08	517	2560	12,5 x 40	ECR1JQL821M◇◇△△1240
		0,130	0,043	0,086	0,08	517	2670	16 x 31,5	ECR1JQL821M◇◇△△1631
		0,130	0,043	0,086	0,08	517	2590	18 x 25	ECR1JQL821M◇◇△△1825
	1 000	0,107	0,043	0,086	0,08	630	2670	16 x 31,5	ECR1JQL102M◇◇△△1631
		0,107	0,036	0,072	0,08	630	2770	16 x 35,5	ECR1JQL102M◇◇△△1635
	1 200	0,089	0,030	0,060	0,08	756	2850	16 x 40	ECR1JQL122M◇◇△△1640
		0,089	0,032	0,064	0,08	756	2950	18 x 31,5	ECR1JQL122M◇◇△△1831
	1 500	0,071	0,030	0,060	0,08	945	3100	18 x 35,5	ECR1JQL152M◇◇△△1835
	1 800	0,059	0,025	0,050	0,08	1134	3210	18 x 40	ECR1JQL182M◇◇△△1840
	2 200	0,048	0,025	0,050	0,08	1386	3210	18 x 40	ECR1JQL222M◇◇△△1840

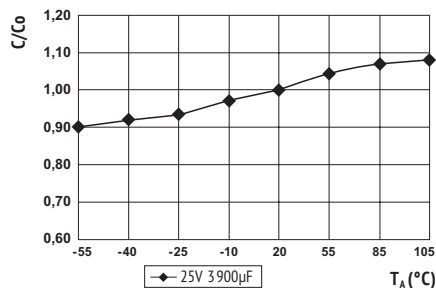
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IMPEDANCE RATIO



Z = actual impedance of each frequency at 20°C,
 Z_o = Impedance at 100kHz, 20°C
Impedance Ratio as a function of frequency

CAPACITANCE RATIO



C = actual capacitance of each temperature at 100Hz,
 C_o = Capacitance at 20°C, 100Hz
Capacitance Ratio as a function of temperature (typical curve)



ELECTROLYTIC CAPACITORS

Snap-In Type

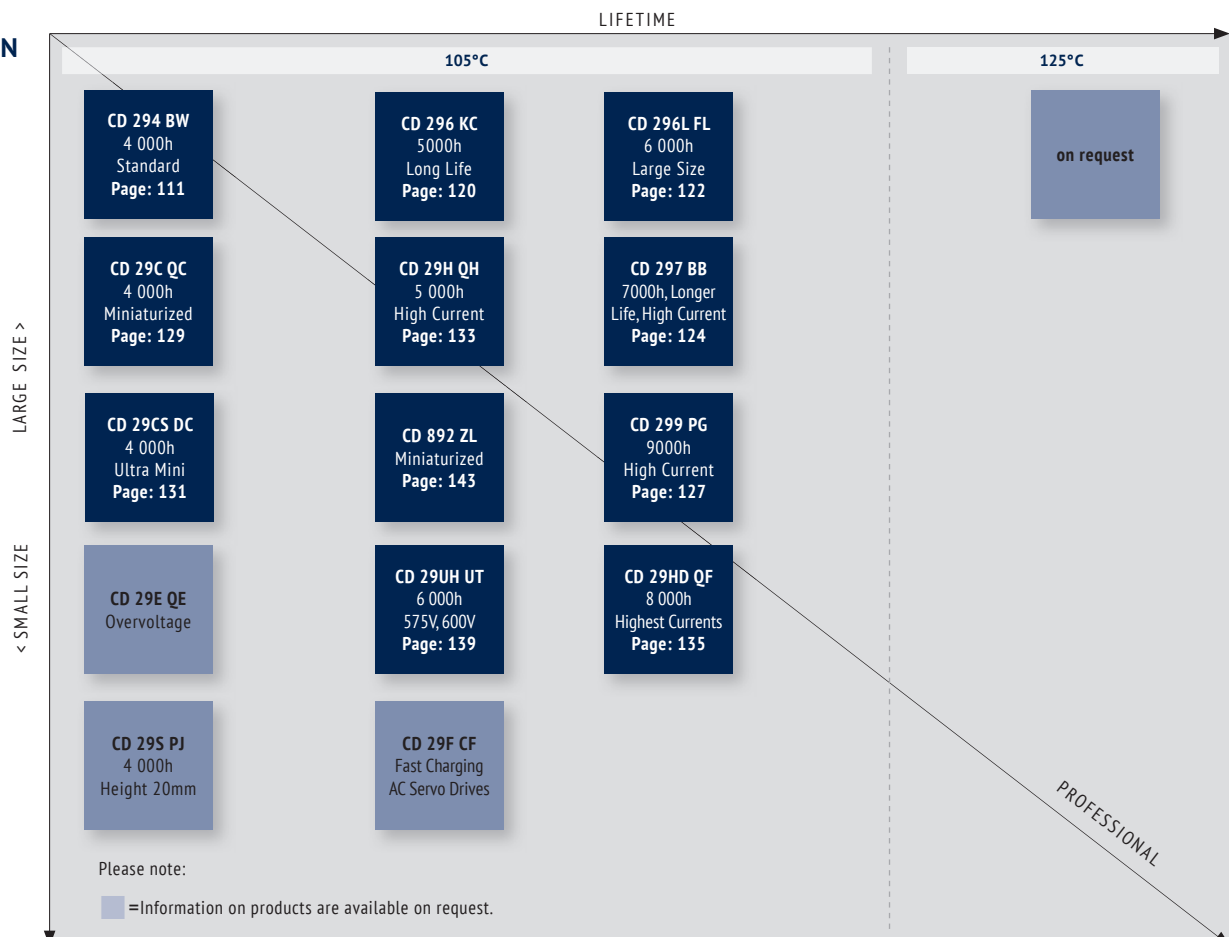
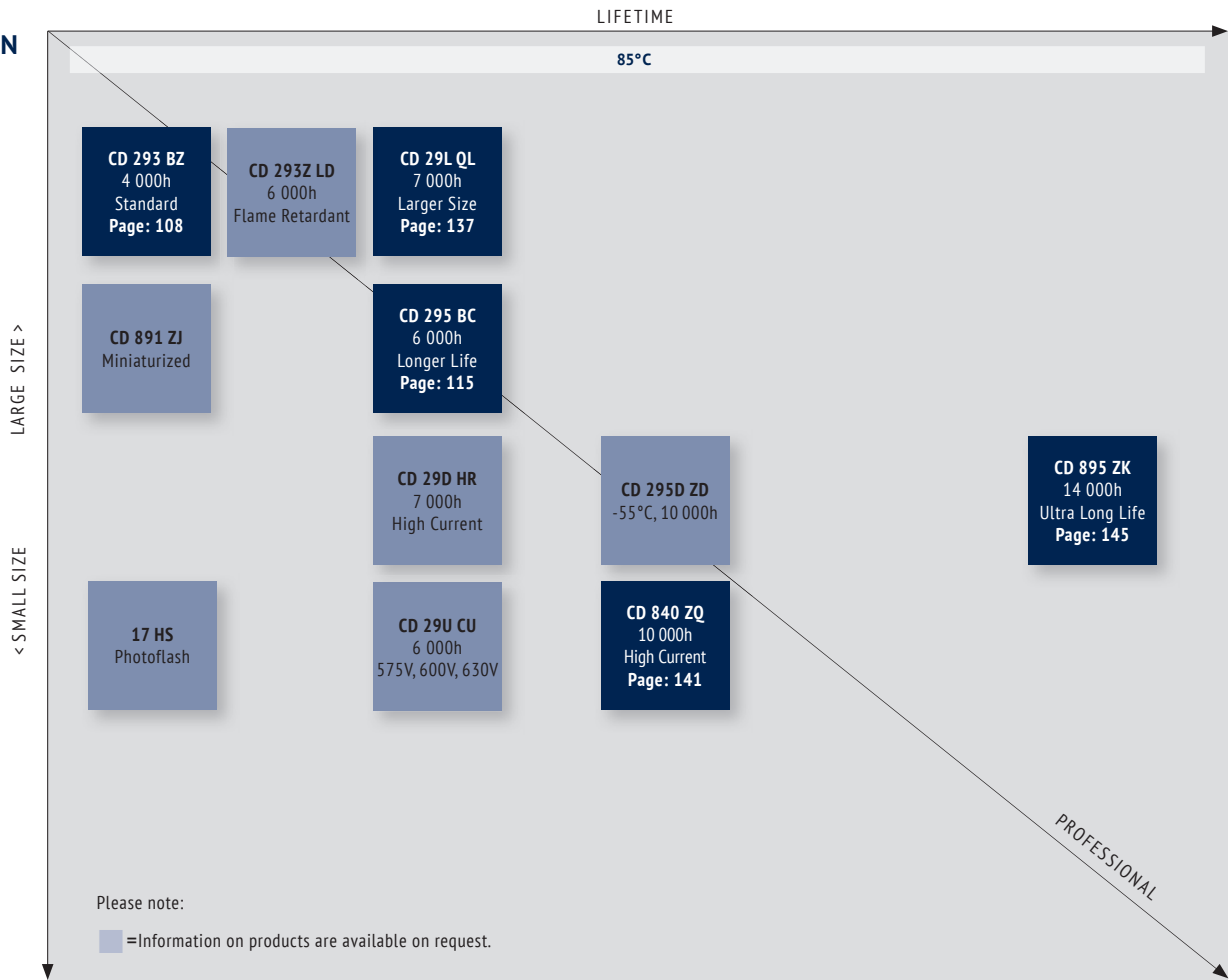
OVERVIEW SNAP-IN

103

Portfolio: All Snap-In Type at a glance	104
Order Code	105
Technical Specifications	106

SERIES SNAP-IN	CODE	TYPE	TEMPERATURE	VOLTAGE	LIFETIME	INFO	
CD 293	BZ	Snap-In	85°C	10-500V	4 000h	Standard	108
CD 294	BW	Snap-In	105°C	16-550V	4 000h	Standard	111
CD 295	BC	Snap-In	85°C	10-500V	6 000h	Long Life	115
CD 296	KC	Snap-In	105°C	16-550V	5 000h	Long Life	120
CD 296L	FL	Snap-In	105°C	350-500V	6 000h	Large Size 105°C	122
CD 297	BB	Snap-In	105°C	10-500V	7000h	Longer Life, High Current	124
CD 299	PG	Snap-In	105°C	160-500V	9 000h	High Current	127
CD 29C	QC	Snap-In	105°C	200-450V	4 000h	Miniaturized 105°C	129
CD 29CS	DS	Snap-In	105°C	400-450V	4 000h	Ultra Mini	131
CD 29H	QH	Snap-In	105°C	160-450V	5 000h	Long Life, Highest Currents	133
CD 29HD	QF	Snap-In	105°C	200-450V	8 000h	Outstanding Ripple Current	135
CD 29L	QL	Snap-In	85°C	16-500V	7 000h	Long Life, Large Size	137
CD 29UH	UT	Snap-In	105°C	575V, 600V	6 000h	575V, 600V at 105°C	139
CD 840	ZQ	Snap-In	85°C	200-450V	10 000h	10 000h High Current	141
CD 892	ZL	Snap-In	105°C	400-500V	5 000h	Miniaturized, Long Life	143
CD 895	ZK	Snap-In	85°C	16-500V	14 000h	Ultra Long Life	145

SNAP-IN 85°C

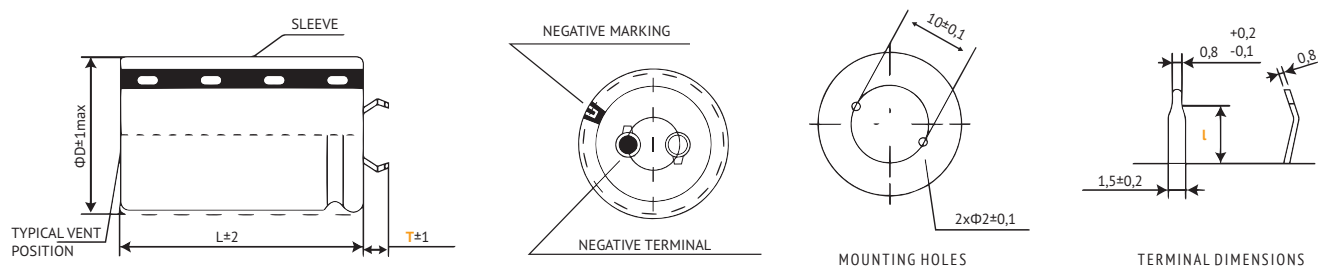


ORDER CODE SNAP-IN TYPE

EC	S	2G	QC	221	M	T6	P2	2535	-	JExxxxx
Techno- logy	Terminal Type	Rated Voltage Code	Series Code	Capacitance Code	Capacitance Tolerance	Terminal Style	Terminal / Pitch	Dimension (mm)	Material Code	for Specials only
EC = Electrolytic Capacitor	Snap-In S	6,3V 0J	CD 293 BZ	0,1 0R1	±20% M	4,0mm Pin Length T/L4	2 Pin P2	22x40 2240	Standard -	
		10V 1A	CD 294 BW	0,47 R47	±10% K	6,3mm Pin Length T/L6	3 Pin P3	30x45 3045	PVC V	
		16V 1C	CD 295 BC	1,0 010	+30/-10% Q	Soldering Pin S4	4 Pin P4	35x80 3580	PET E	
		20V 1D	CD 296 KC	2,2 2R2	+20/-0% R	on request: alternative pin types ■ = preferred	5 Pin P5	45x100 45100		
		25V 1E	CD 296L FL	100 101	±15% L		6 Pin P6	50x105 50105		
		35V 1V	CD 297 BB	1 000 102	+20/-10% V					
		40V 1G	CD 299 PG	10 000 103						
		50V 1H	CD 29C QC							
		63V 1J	CD 29CS DS							
		80V 1K	CD 29H QH							
		100V 2A	CD 29HD QF							
		125V 2B	CD 29L QL							
		160V 2C	CD 29U CU							
		180V 2K	CD 29UH UT							
		200V 2D	CD 840 ZQ							
		250V 2E	CD 891 ZJ							
		315V 2F	CD 892 ZL							
		350V 2V	CD 895 ZK							
		385V 2J								
		400V 2G								
		415V 2P								
		420V 2X								
		450V 2W								
		500V 2H								
		550V 2Y								
		575V 2Z								
		600V 2S								
		630V J2								



2 PIN TYPE: T6P2 / T4P2 STANDARD



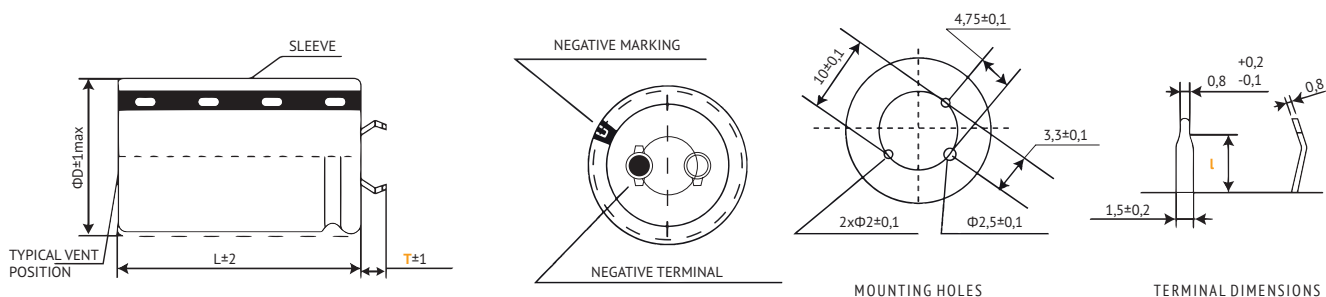
Standard Version: Self-Lock Terminal. Other terminal types and styles on request.
For diameter $\phi D \geq 45$ mm the safety vent is typically placed at the side of the housing.

Terminal	T6 (preferred)	T4
Pin Length T	6,3 mm	4,0 mm
Pin Detail L	3,5 mm	2,5 mm

❗ Max. Current Snap-In Terminal: 15A
For more current please ask for Lug-Terminals.

in mm

3 PIN TYPE: T4P3



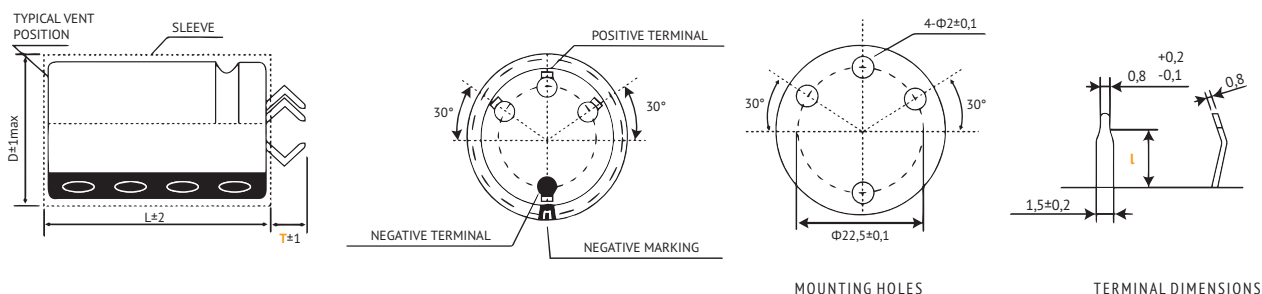
For diameter $\phi D \geq 45$ mm the safety vent is typically placed at the side of the housing.

Terminal	T6	T4
Pin Length T	-	4,0 mm
Pin Detail L	-	2,5 mm

❗ Max. Current Snap-In Terminal: 15A
For more current please ask for Lug-Terminals.

in mm

4 PIN TYPE: T6P4/T4P4 STANDARD



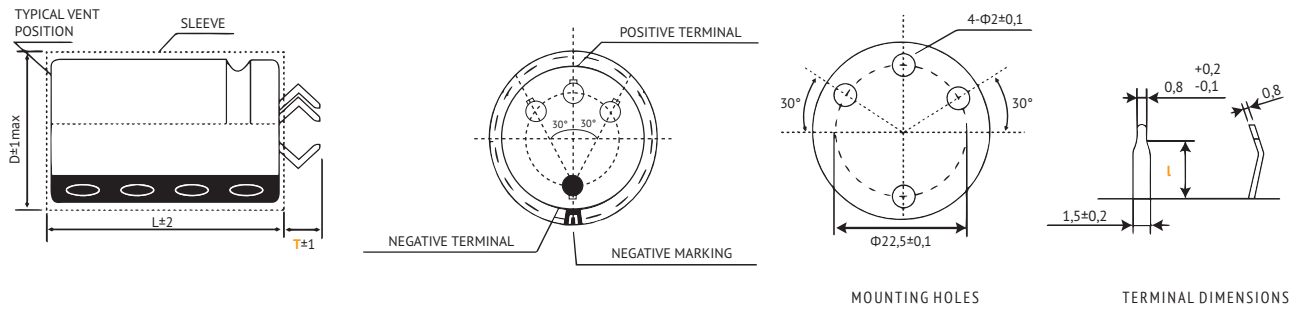
Standard Version: Non-Lock-Terminal. Other terminal types and styles on request.
For $\phi D \geq 35$ mm only.
For diameter $\phi D \geq 45$ mm the safety vent is typically placed at the side of the housing.

Terminal	T6 (preferred)	T4
Pin Length T	6,3 mm	4,0 mm
Pin Detail L	3,5 mm	2,5 mm

❗ Max. Current Snap-In Terminal: 15A
For more current please ask for Lug-Terminals.

in mm

4 PIN TYPE: L6P4/L4P4 SELF-LOCK TERMINAL



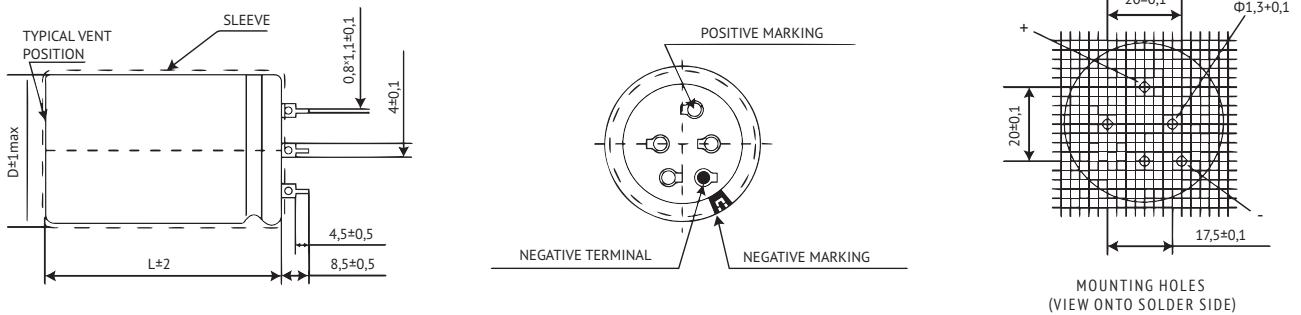
For $\varnothing D \geq 35\text{mm}$ only. Other terminal types and styles on request.
For diameter $\varnothing D \geq 45\text{mm}$ the safety vent is typically placed at the side of the housing.

Terminal	T6 (preferred)	T4
Pin Length T	6,3 mm	4,0 mm
Pin Detail l	3,5 mm	2,5 mm

⚠ Max. Current Snap-In Terminal: 15A
For more current please ask for Lug-Terminals.

in mm

5 PIN TYPE: S4P5 SOLDERING PIN

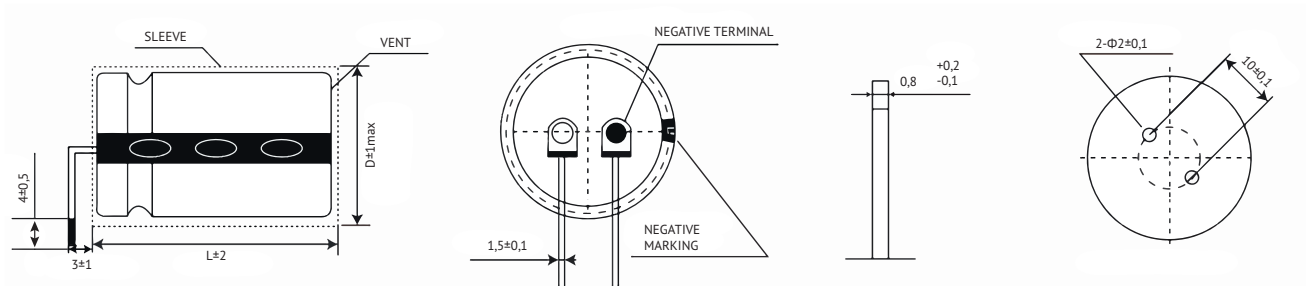


For $\varnothing D \geq 35\text{mm}$ only.
For diameter $\varnothing D \geq 45\text{mm}$ the safety vent is typically placed at the side of the housing.

⚠ Max. Current Snap-In Terminal: 15A
For more current please ask for Lug-Terminals.

in mm

EXAMPLE: AXIAL MOUNTING



For $\varnothing D \leq 25\text{mm}$ only.
Available also for high vibration usage.

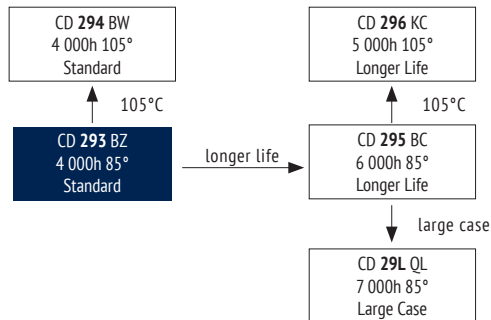
⚠ Max. Current Snap-In Terminal: 15A
For more current please ask for Lug-Terminals.

in mm

Other Terminal Styles on request.

4 000h at 85°C

Standard 85°C



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85	-25 ~ +85
Voltage Range (V)	10 ~ 400	420 ~ 500
Capacitance Range (μF)	68 ~ 82 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	10	16-35	50-100	160-200	250-400	420-500
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		5	4	3		4	
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		18	15	10	6	8	-

Fast Charge-Discharge Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

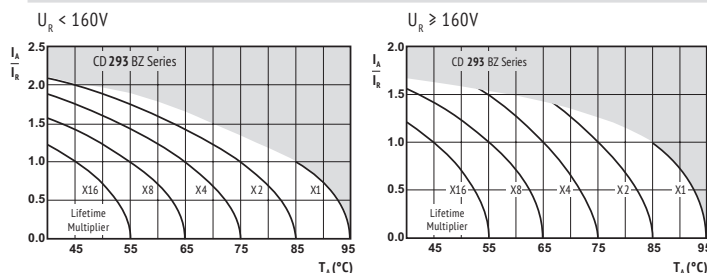
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	4 000h	> 65 000h	2 000h	3 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 15% of initial value	Within ± 20% of initial value	Within ± 15% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 150% of specified value	Not more than 200% of specified value	Not more than 150% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,2 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Rated Voltage (V)	50Hz	120Hz	300Hz	1kHz	10kHz	100kHz
≤ 50	0,88	1,00	1,07	1,15	1,15	1,15
63 ~ 100	0,80	1,00	1,17	1,32	1,45	1,50
≥ 160	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
Multiplier of Useful Life as a function of
ambient temperature & ripple current load

I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
Multiplier of Useful Life as a function of
ambient temperature & ripple current load

Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
10 (13) 1A	18 000	30	24	0,40	1,5	3,60	25x30	ECS1ABZ183M◇◇△△2530
	22 000	25	20	0,40	1,5	4,00	22x40	ECS1ABZ223M◇◇△△2240
		25	20	0,40	1,5	4,10	25x35	ECS1ABZ223M◇◇△△2535
	33 000	17	13	0,40	1,5	4,60	25x40	ECS1ABZ333M◇◇△△2540
		17	13	0,40	1,5	4,80	30x30	ECS1ABZ333M◇◇△△3030
	39 000	14	10,9	0,40	1,5	5,20	25x45	ECS1ABZ393M◇◇△△2545
		14	10,9	0,40	1,5	5,30	30x35	ECS1ABZ393M◇◇△△3035
	47 000	12	9,1	0,40	1,5	6,00	30x40	ECS1ABZ473M◇◇△△3040
		12	9,1	0,40	1,5	6,00	35x30	ECS1ABZ473M◇◇△△3530
	56 000	9,5	7,6	0,40	1,5	6,80	35x35	ECS1ABZ563M◇◇△△3535
	68 000	7,9	6,3	0,40	1,5	7,70	35x40	ECS1ABZ683M◇◇△△3540
	82 000	6,5	5,2	0,40	1,5	8,70	35x45	ECS1ABZ823M◇◇△△3545

16 (20) 1C	15 000	36	29	0,40	1,5	3,30	22x40	ECS1CBZ153M◇◇△△2240
	18 000	36	29	0,40	1,5	3,30	25x30	ECS1CBZ153M◇◇△△2530
		30	24	0,40	1,5	3,80	22x45	ECS1CBZ183M◇◇△△2245
		30	24	0,40	1,5	3,70	25x35	ECS1CBZ183M◇◇△△2535
	22 000	25	20	0,40	1,5	4,20	25x40	ECS1CBZ223M◇◇△△2540
		25	20	0,40	1,5	4,20	30x30	ECS1CBZ223M◇◇△△3030
	27 000	20	16	0,40	1,5	5,00	25x45	ECS1CBZ273M◇◇△△2545
		20	16	0,40	1,5	5,00	30x35	ECS1CBZ273M◇◇△△3035
	33 000	17	13	0,40	1,5	5,60	35x30	ECS1CBZ333M◇◇△△3530
	39 000	14	11	0,40	1,5	6,30	35x35	ECS1CBZ393M◇◇△△3535
	47 000	12	9,1	0,40	1,5	7,20	35x40	ECS1CBZ473M◇◇△△3540
	56 000	9,5	7,6	0,40	1,5	8,00	35x45	ECS1CBZ563M◇◇△△3545

25 (32) 1E	10 000	47	38	0,35	1,5	2,90	22x40	ECS1EBZ103M◇◇△△2240
	12 000	47	38	0,35	1,5	2,80	25x30	ECS1EBZ103M◇◇△△2530
		39	31	0,35	1,5	3,20	25x35	ECS1EBZ123M◇◇△△2535
	15 000	39	31	0,35	1,5	3,40	30x30	ECS1EBZ123M◇◇△△3030
		31	25	0,35	1,5	3,70	25x40	ECS1EBZ153M◇◇△△2540
	18 000	31	25	0,35	1,5	3,90	35x25	ECS1EBZ153M◇◇△△3525
		26	21	0,35	1,5	4,20	30x35	ECS1EBZ183M◇◇△△3035
	22 000	26	21	0,35	1,5	4,40	35x30	ECS1EBZ183M◇◇△△3530
		22	17	0,35	1,5	5,00	35x35	ECS1EBZ223M◇◇△△3535
	33 000	15	12	0,35	1,5	6,50	35x40	ECS1EBZ333M◇◇△△3540
	39 000	12	10	0,35	1,5	7,50	35x45	ECS1EBZ393M◇◇△△3545
	47 000	10	8	0,35	1,5	8,80	35x50	ECS1EBZ473M◇◇△△3550

35 (44) 1V	5 600	72	57	0,30	1,5	2,30	22x35	ECS1VBZ562M◇◇△△2235
	6 800	72	57	0,30	1,5	2,30	25x30	ECS1VBZ562M◇◇△△2530
		59	47	0,30	1,5	2,90	22x40	ECS1VBZ682M◇◇△△2240
	8 200	59	47	0,30	1,5	2,60	25x35	ECS1VBZ682M◇◇△△2535
		57	46	0,35	1,5	2,80	25x40	ECS1VBZ822M◇◇△△2540
	10 000	57	46	0,35	1,5	2,80	30x30	ECS1VBZ822M◇◇△△3030
		47	38	0,35	1,5	3,20	30x35	ECS1VBZ103M◇◇△△3035
	12 000	39	31	0,35	1,5	3,60	35x30	ECS1VBZ123M◇◇△△3530
	15 000	31	25	0,35	1,5	4,10	35x35	ECS1VBZ153M◇◇△△3535
	18 000	26	21	0,35	1,5	4,70	35x40	ECS1VBZ183M◇◇△△3540
	22 000	22	17	0,35	1,5	5,30	35x45	ECS1VBZ223M◇◇△△3545
	27 000	18	14	0,35	1,5	7,00	35x50	ECS1VBZ273M◇◇△△3550

50 (63) 1H	2 200	120	97	0,25	1,5	1,70	22x25	ECS1HBZ222M◇◇△△2225
	3 900	86	69	0,25	1,5	2,10	25x30	ECS1HBZ392M◇◇△△2530
	4 700	71	57	0,25	1,5	2,40	22x40	ECS1HBZ472M◇◇△△2240
		71	57	0,25	1,5	2,40	25x35	ECS1HBZ472M◇◇△△2535
	5 600	72	57	0,30	1,5	2,50	25x40	ECS1HBZ562M◇◇△△2540
		72	57	0,30	1,5	2,50	30x30	ECS1HBZ562M◇◇△△3030
	6 800	59	47	0,30	1,5	2,80	25x45	ECS1HBZ682M◇◇△△2545
		59	47	0,30	1,5	2,80	30x35	ECS1HBZ682M◇◇△△3035
	8 200	57	46	0,35	1,5	3,00	30x40	ECS1HBZ822M◇◇△△3040
		57	46	0,35	1,5	3,00	35x30	ECS1HBZ822M◇◇△△3530
	10 000	47	38	0,35	1,5	3,40	35x35	ECS1HBZ103M◇◇△△3535
	12 000	39	31	0,35	1,5	3,80	35x40	ECS1HBZ123M◇◇△△3540
	15 000	31	25	0,35	1,5	4,50	35x50	ECS1HBZ153M◇◇△△3550

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
63 (79) 1I	2 700	74	59	0,15	1,5	2,30	25x30	ECS1JBZ272M◇◇△△2530
	3 300	81	65	0,20	1,5	2,30	22x40	ECS1JBZ332M◇◇△△2240
		81	65	0,20	1,5	2,30	25x35	ECS1JBZ332M◇◇△△2535
	3 900	69	55	0,20	1,5	2,60	25x40	ECS1JBZ392M◇◇△△2540
		69	55	0,20	1,5	2,60	30x30	ECS1JBZ392M◇◇△△3030
	4 700	56	45	0,20	1,5	3,00	25x45	ECS1JBZ472M◇◇△△2545
		57	45	0,20	1,5	3,00	30x30	ECS1JBZ472M◇◇△△3030
	5 600	48	38	0,20	1,5	3,30	35x30	ECS1JBZ562M◇◇△△3530
	6 800	40	32	0,20	1,5	3,70	35x35	ECS1JBZ682M◇◇△△3535
	8 200	41	33	0,25	1,5	3,80	35x40	ECS1JBZ822M◇◇△△3540
	10 000	34	27	0,25	1,5	4,30	35x45	ECS1JBZ103M◇◇△△3545
	12 000	28	23	0,25	1,5	4,80	35x50	ECS1JBZ123M◇◇△△3550

80 (100) 1K	1 800	111	89	0,15	1,4	1,90	25x30	ECS1KBZ182M◇◇△△2530
	2 200	91	73	0,15	1,5	2,20	25x35	ECS1KBZ222M◇◇△△2535
		91	73	0,15	1,5	2,20	30x25	ECS1KBZ222M◇◇△△3025
	2 700	74	59	0,15	1,5	2,50	25x40	ECS1KBZ272M◇◇△△2540
		74	59	0,15	1,5	2,50	30x30	ECS1KBZ272M◇◇△△3030
	3 300	61	49	0,15	1,5	2,80	25x45	ECS1KBZ332M◇◇△△2545
		61	49	0,15	1,5	2,80	30x35	ECS1KBZ332M◇◇△△3035
	3 900	52	41	0,15	1,5	3,10	25x50	ECS1KBZ392M◇◇△△2550
		52	41	0,15	1,5	3,20	35x30	ECS1KBZ392M◇◇△△3530
	4 700	43	34	0,15	1,5	3,60	35x35	ECS1KBZ472M◇◇△△3535
	5 600	48	38	0,20	1,5	4,10	35x40	ECS1KBZ562M◇◇△△3540
	6 800	40	32	0,20	1,5	4,10	35x45	ECS1KBZ682M◇◇△△3545
	8 200	41	33	0,20	1,5	4,70	35x50	ECS1KBZ822M◇◇△△3550
	10 000	34	27	0,25	1,5	5,20	35x50	ECS1KBZ103M◇◇△△3550
	12 000	28	23	0,25	1,5	5,80	35x55	ECS1KBZ123M◇◇△△3555

100 (125) 2A	1 200	166	133	0,15	1,2	1,60	25x30	ECS2ABZ122M◇◇△△2530
	1 500	133	107	0,15	1,5	1,80	22x40	ECS2ABZ152M◇◇△△2240
		133	107	0,15	1,5	1,70	25x35	ECS2ABZ152M◇◇△△2535
	1 800	111	89	0,15	1,5	2,00	25x40	ECS2ABZ182M◇◇△△2540
		111	89	0,15	1,5	2,10	30x30	ECS2ABZ182M◇◇△△3030
	2 200	91	73	0,15	1,5	2,30	30x35	ECS2ABZ222M◇◇△△3035
		91	73	0,15	1,5	2,50	35x30	ECS2ABZ222M◇◇△△3530
	2 700	74	59	0,15	1,5	2,60	25x50	ECS2ABZ272M◇◇△△2550
		74	59	0,15	1,5	2,70	30x40	ECS2ABZ272M◇◇△△3040
	3 300	61	49	0,15	1,5	3,10	35x35	ECS2ABZ332M◇◇△△3535
	3 900	52	41	0,15	1,5	3,40	35x40	ECS2ABZ392M◇◇△△3540
	4 700	43	34	0,15	1,5	4,00	35x50	ECS2ABZ472M◇◇△△3550

160 (200) 2C	470	283	226	0,10	0,8	1,60	25x30	ECS2CBZ471M◇◇△△2530
	560	237	190	0,10	0,9	1,90	22x35	ECS2CBZ561M◇◇△△2235
		237	190	0,10	0,9	1,90	25x30	ECS2CBZ561M◇◇△△2530
	680	196	157	0,10	1,1	2,10	22x40	ECS2CBZ681M◇◇△△2240
		196	157	0,10	1,1	2,20	25x35	ECS2CBZ681M◇◇△△2535
	820	162	130	0,10	1,3	2,40	25x40	ECS2CBZ821M◇◇△△2540
		162	130	0,10	1,3	2,50	30x30	ECS2CBZ821M◇◇△△3030
	1 000	133	107	0,10	1,5	2,80	30x35	ECS2CBZ102M◇◇△△3035
		160	128	0,12	1,5	2,70	35x30	ECS2CBZ102M◇◇△△3530
	1 200	133	107	0,12	1,5	3,00	35x35	ECS2CBZ122M◇◇△△3535
	1 500	107	85	0,12	1,5	3,50	35x40	ECS2CBZ152M◇◇△△3540
	1 800	89	71	0,12	1,5	3,90	35x45	ECS2CBZ182M◇◇△△3545
	2 200	73	58	0,12	1,5	4,50	35x50	ECS2CBZ222M◇◇△△3550

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U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L (mm)	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
200 (250) 2D	390	341	273	0,10	0,8	1,60	25x30	ECS2DBZ391M◇◇△△2530
		283	226	0,10	0,9	1,70	22x35	ECS2DBZ471M◇◇△△2235
		283	226	0,10	0,9	1,90	30x25	ECS2DBZ471M◇◇△△3025
	470	237	190	0,10	1,1	2,00	25x35	ECS2DBZ561M◇◇△△2535
		237	190	0,10	1,1	2,10	30x30	ECS2DBZ561M◇◇△△3030
	560	196	157	0,10	1,4	2,30	25x40	ECS2DBZ681M◇◇△△2540
		196	157	0,10	1,4	2,40	30x35	ECS2DBZ681M◇◇△△3035
		162	130	0,10	1,5	2,70	30x40	ECS2DBZ821M◇◇△△3040
	680	195	156	0,12	1,5	2,50	35x30	ECS2DBZ821M◇◇△△3530
		160	128	0,12	1,5	2,80	35x35	ECS2DBZ102M◇◇△△3535
	1 000	133	107	0,12	1,5	3,20	35x40	ECS2DBZ122M◇◇△△3540
	1 200	107	85	0,12	1,5	3,80	35x50	ECS2DBZ152M◇◇△△3550

250 (300) 2E	330	603	483	0,15	0,8	1,40	22x40	ECS2EBZ331M◇◇△△2240
		603	483	0,15	0,8	1,40	25x30	ECS2EBZ331M◇◇△△2530
		511	409	0,15	1,0	1,60	22x45	ECS2EBZ391M◇◇△△2245
	390	511	409	0,15	1,0	1,60	25x35	ECS2EBZ391M◇◇△△2535
		424	339	0,15	1,2	1,80	25x40	ECS2EBZ471M◇◇△△2540
	470	424	339	0,15	1,2	1,80	30x30	ECS2EBZ471M◇◇△△3030
		356	285	0,15	1,4	2,00	25x45	ECS2EBZ561M◇◇△△2545
	560	356	285	0,15	1,4	2,00	30x35	ECS2EBZ561M◇◇△△3035
		293	235	0,15	1,5	2,30	30x40	ECS2EBZ681M◇◇△△3040
	680	293	235	0,15	1,5	2,30	35x30	ECS2EBZ681M◇◇△△3530
		243	195	0,15	1,5	2,60	30x45	ECS2EBZ821M◇◇△△3045
	820	243	195	0,15	1,5	2,60	35x35	ECS2EBZ821M◇◇△△3535
		1 000	199	0,15	1,5	3,00	35x40	ECS2EBZ102M◇◇△△3540
	1 200	166	133	0,15	1,5	3,40	35x45	ECS2EBZ122M◇◇△△3545

315 (365) 2F	180	1106	885	0,15	0,6	0,96	25x30	ECS2FBZ181M◇◇△△2530
		905	724	0,15	0,7	1,10	22x40	ECS2FBZ221M◇◇△△2240
		905	724	0,15	0,7	1,10	25x35	ECS2FBZ221M◇◇△△2535
	220	737	590	0,15	0,9	1,20	22x45	ECS2FBZ271M◇◇△△2245
		737	590	0,15	0,9	1,30	25x40	ECS2FBZ271M◇◇△△2540
	270	737	590	0,15	0,9	1,30	30x30	ECS2FBZ271M◇◇△△3030
		603	483	0,15	1,0	1,40	25x45	ECS2FBZ331M◇◇△△2545
	330	603	483	0,15	1,0	1,40	30x35	ECS2FBZ331M◇◇△△3035
		511	409	0,15	1,2	1,60	30x40	ECS2FBZ391M◇◇△△3040
	390	511	409	0,15	1,2	1,60	35x30	ECS2FBZ391M◇◇△△3530
		424	339	0,15	1,5	1,80	30x45	ECS2FBZ471M◇◇△△3045
	470	424	339	0,15	1,5	1,80	35x35	ECS2FBZ471M◇◇△△3535
		356	285	0,15	1,5	2,00	30x50	ECS2FBZ561M◇◇△△3050
	560	356	285	0,15	1,5	2,00	35x40	ECS2FBZ561M◇◇△△3540
	680	293	235	0,15	1,5	2,30	35x45	ECS2FBZ681M◇◇△△3545

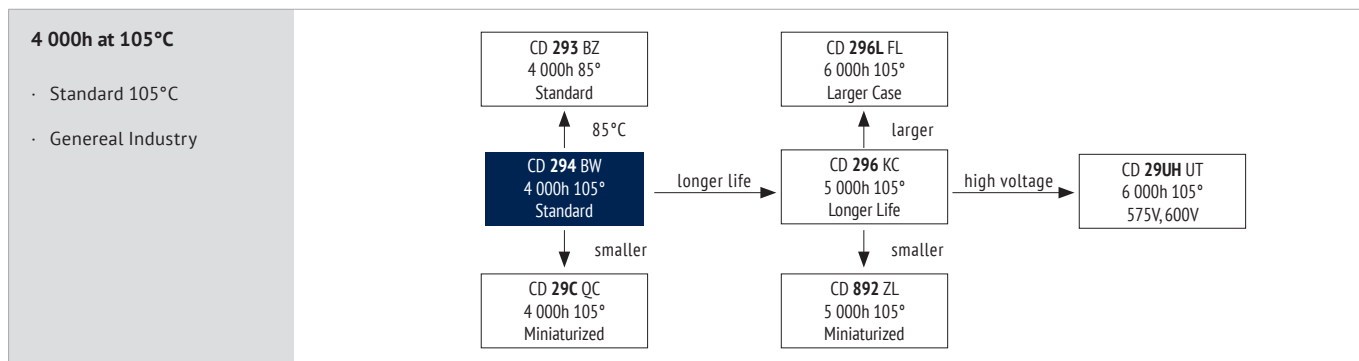
350 (400) 2V	150	1327	1062	0,15	0,5	0,94	25x30	ECS2VBZ151M◇◇△△2530
		1106	885	0,15	0,6	1,10	22x40	ECS2VBZ181M◇◇△△2240
		1106	885	0,15	0,6	1,10	30x25	ECS2VBZ181M◇◇△△3025
	180	905	724	0,15	0,8	1,20	25x35	ECS2VBZ221M◇◇△△2535
		905	724	0,15	0,8	1,20	30x30	ECS2VBZ221M◇◇△△3030
	220	737	590	0,15	0,9	1,40	25x45	ECS2VBZ271M◇◇△△2545
		737	590	0,15	0,9	1,40	30x35	ECS2VBZ271M◇◇△△3035
	270	603	483	0,15	1,2	1,60	25x50	ECS2VBZ331M◇◇△△2550
		603	483	0,15	1,2	1,60	35x30	ECS2VBZ331M◇◇△△3530
	330	511	409	0,15	1,4	1,70	30x40	ECS2VBZ391M◇◇△△3040
		511	409	0,15	1,4	1,80	35x35	ECS2VBZ391M◇◇△△3535
	390	424	339	0,15	1,5	2,00	30x45	ECS2VBZ471M◇◇△△3045
		424	339	0,15	1,5	2,00	35x40	ECS2VBZ471M◇◇△△3540
	560	356	285	0,15	1,5	2,30	35x45	ECS2VBZ561M◇◇△△3545
	680	293	235	0,15	1,5	2,60	35x50	ECS2VBZ681M◇◇△△3550
	820	243	195	0,15	1,5	2,80	35x60	ECS2VBZ821M◇◇△△3560

400 (450) 2G	150	1327	1062	0,15	0,6	0,89	25x30	ECS2GBZ151M◇◇△△2530
		1106	885	0,15	0,7	1,00	22x40	ECS2GBZ181M◇◇△△2240
		1106	885	0,15	0,7	1,00	25x30	ECS2GBZ181M◇◇△△2530
	180	905	724	0,15	0,9	1,10	22x45	ECS2GBZ221M◇◇△△2245
		905	724	0,15	0,9	1,20	25x40	ECS2GBZ221M◇◇△△2540
	220	737	590	0,15	1,1	1,30	25x45	ECS2GBZ271M◇◇△△2545
		737	590	0,15	1,1	1,50	30x30	ECS2GBZ271M◇◇△△3030
	270	603	483	0,15	1,5	1,60	35x35	ECS2GBZ331M◇◇△△3535

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L (mm)	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
400 (450) 2G	330	603	483	0,15	1,3	1,60	22x50	ECS2GBZ331M◇◇△△2250
		603	483	0,15	1,3	1,60	25x45	ECS2GBZ331M◇◇△△2545
		603	483	0,15	1,3	1,70	30x35	ECS2GBZ331M◇◇△△3035
	390	511	409	0,15	1,5	1,80	25x45	ECS2GBZ391M◇◇△△2545
		511	409	0,15	1,5	1,90	30x40	ECS2GBZ391M◇◇△△3040
	470	511	409	0,15	1,5	1,80	35x30	ECS2GBZ391M◇◇△△3530
		424	339	0,15	1,5	2,10	35x35	ECS2GBZ471M◇◇△△3535
	560	356	285	0,15	1,5	2,30	35x40	ECS2GBZ561M◇◇△△3540
	680	293	235	0,15	1,5	2,70	35x45	ECS2GBZ681M◇◇△△3545
	820	243	194	0,15	1,5	3,10	35x50	ECS2GBZ821M◇◇△△3550
	1 000	133	107	0,15	1,5	3,70	35x60	ECS2GBZ102M◇◇△△3560
	1 200	166	89	0,15	1,5	4,20	40x60	ECS2GBZ122M◇◇△△4060
	1 500	133	71	0,15	1,5	5,00	40x70	ECS2GBZ152M◇◇△△4070
	1 800	111	59	0,15	1,5	5,80	40x80	ECS2GBZ182M◇◇△△4080

420 (470) 2X	120	1658	1327	0,15	0,5	0,82	25x30	ECS2XBZ121M◇◇△△2530
		1327	1062	0,15	0,6	0,96	25x30	ECS2XBZ151M◇◇△△2530
	150	1106	885	0,15	0,8	1,10	25x35	ECS2XBZ181M◇◇△△2535
		1106	885	0,15	0,8	1,20	30x30	ECS2XBZ181M◇◇△△3030
	180	905	724	0,15	0,9	1,20	25x40	ECS2XBZ221M◇◇△△2540
		905	724	0,15	0,9	1,30	30x30	ECS2XBZ221M◇◇△△3030
	220	737	590	0,15	1,1	1,30	25x45	ECS2XBZ271M◇◇△△2545
		737	590	0,15	1,1	1,40	30x35	ECS2XBZ271M◇◇△△3035
	270	603	483	0,15	1,4	1,70	30x40	ECS2XBZ331M◇◇△△3040
		511	409	0,15	1,5	1,80	30x45	ECS2XBZ391M◇◇△△3045
	330	511	409	0,15	1,5	1,90	35x35	ECS2XBZ391M◇◇△△3535
		424	339	0,15	1,5	2,00	30x45	ECS2XBZ471M◇◇△△3045
	390	424	339	0,15	1,5	2,20	35x40	ECS2XBZ471M◇◇△△3540
		560	356	0,15	1,5	2,40	35x45	ECS2XBZ561M◇◇△△3545
	470	680	293	0,15	1,5	2,80	35x50	ECS2XBZ681M◇◇△△3550
	820	243	194	0,15	1,5	3,20	35x60	ECS2XBZ821M◇◇△△3560
	1 000	199	107	0,15	1,5	4,00	40x60	ECS2XBZ102M◇◇△△4060

450 (500) 2W	120	1658	1327	0,15	0,5	0,83	25x30	ECS2WBZ121M◇◇△△2530
		1327	1062	0,15	0,7	0,95	22x45	ECS2WBZ151M◇◇△△2245
	150	1327	1062	0,15	0,7	0,95	25x35	ECS2WBZ151M◇◇△△2535
		1106	885	0,15	0,8	1,10	25x40	ECS2WBZ181M◇◇△△2540
	180	1106	885	0,15	0,8	1,10	30x30	ECS2WBZ181M◇◇△△3030
		905	724	0,15	1,0	1,20	22x50	ECS2WBZ221M◇◇△△2250
	220	905	724	0,15	1,0	1,20	25x40	ECS2WBZ221M◇◇△△2540
		905	724	0,15	1,0	1,20	30x30	ECS2WBZ221M◇◇△△3030
	270	737	590	0,15	1,2	1,40	30x30	ECS2WBZ271M◇◇△△3030
		330	603	0,15	1,5	1,60	30x40	ECS2WBZ331M◇◇△△3040
	390	511	409	0,15	1,5	1,70	30x40	ECS2WBZ391M◇◇△△3040
		511	409	0,15	1,5	1,80	35x35	ECS2WBZ391M◇◇△△3535
	470	424	339	0,15	1,5	2,10	30x45	ECS2WBZ471M◇◇△△3045
	560	356	285	0,15	1,5	2,30	35x45	ECS2WBZ561M◇◇△△3545
	680	293	235	0,15	1,5	2,70	35x50	ECS2WBZ681M◇◇△△3550
	820	243	194	0,15	1,5	3,20	35x60	ECS2WBZ821M◇◇△△3560
	1 000	133	107	0,15	1,5	4,20	35x70	ECS2WBZ102M◇◇△△3570
	1 200	166	89	0,15	1,5	4,40	40x70	ECS2WBZ122M◇◇△△4070
	1 500	133	71	0,15	1,5	5,20	40x80	ECS2WBZ152M◇◇△△4080
	1 800	111	59	0,15	1,5	6,30	40x100	ECS2WBZ182M◇◇△△40100



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	16 ~ 100	160 ~ 550
Capacitance Range (µF)	100 ~ 47 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	16 ~ 100	160 ~ 200	250 ~ 550
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	4		
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	15	-	

Fast Charge-Discharge **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

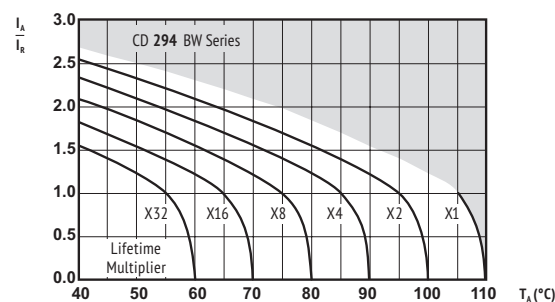
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	4 000h	> 180 000h	2 000h	3 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 20% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition:	U_R	U_R	U_R	U_R	$U_R = 0$	After test:
Applied Voltage	I_R	$1,4 \times I_R$	I_R	$I_R = 0$	$I_R = 0$	U_R to be applied
Applied Current	105°C	40°C	105°C	105°C	105°C	for 30 min > 24h
Applied Temperature			IEC 60384		before measurement	

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
Rated Voltage (V)						
≤ 100	0,95	1,00	1,07	1,13	1,19	1,20
160 ~ 250	0,87	1,00	1,17	1,32	1,45	1,50
≥ 315	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
16 (20) 1C	12 000	56	39	0,50	1,5	2,30	25x30	ECS1CBW123M◇◇△△2530
	15 000	45	31	0,50	1,5	2,68	25x35	ECS1CBW153M◇◇△△2535
	18 000	37	26	0,50	1,5	3,04	25x40	ECS1CBW183M◇◇△△2540
		37	26	0,50	1,5	3,00	30x30	ECS1CBW183M◇◇△△3030
	22 000	31	21	0,50	1,5	3,40	25x45	ECS1CBW223M◇◇△△2545
		31	21	0,50	1,5	3,39	30x35	ECS1CBW223M◇◇△△3035
	27 000	25	17	0,50	1,5	3,83	30x40	ECS1CBW273M◇◇△△3040
		25	17	0,50	1,5	3,74	35x30	ECS1CBW273M◇◇△△3530
	33 000	21	14	0,50	1,5	4,30	30x45	ECS1CBW333M◇◇△△3045
		21	14	0,50	1,5	4,24	35x35	ECS1CBW333M◇◇△△3535
	39 000	18	12	0,50	1,5	4,74	30x50	ECS1CBW393M◇◇△△3050
		18	12	0,50	1,5	4,72	35x40	ECS1CBW393M◇◇△△3540
	47 000	15	10	0,50	1,5	5,27	35x45	ECS1CBW473M◇◇△△3545

25 (32) 1E	8 200	65	45	0,40	1,5	2,16	25x30	ECS1EBW822M◇◇△△2530
	10 000	54	37	0,40	1,5	2,44	25x35	ECS1EBW103M◇◇△△2535
		45	31	0,40	1,5	2,74	25x40	ECS1EBW123M◇◇△△2540
	12 000	45	31	0,40	1,5	2,70	30x30	ECS1EBW123M◇◇△△3030
		36	25	0,40	1,5	3,15	25x45	ECS1EBW153M◇◇△△2545
	15 000	36	25	0,40	1,5	3,13	30x35	ECS1EBW153M◇◇△△3035
		30	21	0,40	1,5	3,54	25x50	ECS1EBW183M◇◇△△2550
	18 000	30	21	0,40	1,5	3,54	30x40	ECS1EBW183M◇◇△△3040
		25	17	0,40	1,5	4,24	30x45	ECS1EBW223M◇◇△△3045
	22 000	25	17	0,40	1,5	3,96	35x35	ECS1EBW223M◇◇△△3535
		20	14	0,40	1,5	4,75	35x45	ECS1EBW273M◇◇△△3545
	27 000	20	14	0,40	1,5	4,75	35x45	ECS1EBW273M◇◇△△3545
	33 000	17	11	0,40	1,5	5,39	35x50	ECS1EBW333M◇◇△△3550

35 (44) 1V	5 600	83	58	0,35	1,5	2,04	25x30	ECS1VBW562M◇◇△△2530
	6 800	69	48	0,35	1,5	2,31	25x35	ECS1VBW682M◇◇△△2535
		57	40	0,35	1,5	2,60	25x40	ECS1VBW822M◇◇△△2540
	8 200	57	40	0,35	1,5	2,56	30x30	ECS1VBW822M◇◇△△3030
		47	33	0,35	1,5	2,92	25x45	ECS1VBW103M◇◇△△2545
	10 000	47	33	0,35	1,5	2,92	30x35	ECS1VBW103M◇◇△△3035
		39	27	0,35	1,5	3,28	30x40	ECS1VBW123M◇◇△△3040
	12 000	39	27	0,35	1,5	3,20	35x30	ECS1VBW123M◇◇△△3530
		31	22	0,35	1,5	3,74	30x45	ECS1VBW153M◇◇△△3045
	15 000	31	22	0,35	1,5	3,69	35x35	ECS1VBW153M◇◇△△3535
		26	18	0,35	1,5	4,16	35x40	ECS1VBW183M◇◇△△3540
	18 000	26	18	0,35	1,5	4,16	35x40	ECS1VBW183M◇◇△△3540
	22 000	22	15	0,35	1,5	4,92	35x50	ECS1VBW223M◇◇△△3550

50 (63) 1H	3 300	121	84	0,30	1,5	2,00	25x25	ECS1HBW332M◇◇△△2525
	3 900	103	72	0,30	1,5	2,28	25x30	ECS1HBW392M◇◇△△2530
		85	59	0,30	1,5	2,58	25x30	ECS1HBW472M◇◇△△2530
	5 600	72	50	0,30	1,5	2,81	25x35	ECS1HBW562M◇◇△△2535
		59	41	0,30	1,5	3,37	25x40	ECS1HBW682M◇◇△△2540
	6 800	59	41	0,30	1,5	3,39	30x35	ECS1HBW682M◇◇△△3035
		49	34	0,30	1,5	3,71	30x40	ECS1HBW822M◇◇△△3040
	8 200	49	34	0,30	1,5	3,66	35x35	ECS1HBW822M◇◇△△3535
		40	28	0,30	1,5	4,09	30x45	ECS1HBW103M◇◇△△3045
	10 000	40	28	0,30	1,5	4,07	35x40	ECS1HBW103M◇◇△△3540
		34	23	0,30	1,5	4,50	35x45	ECS1HBW123M◇◇△△3545

63 (79) 1J	2 200	121	84	0,20	1,4	1,75	25x30	ECS1JBW222M◇◇△△2530
	2 700	99	69	0,20	1,5	1,99	25x35	ECS1JBW272M◇◇△△2535
		81	56	0,20	1,5	2,27	25x40	ECS1JBW332M◇◇△△2540
	3 300	81	56	0,20	1,5	2,24	30x30	ECS1JBW332M◇◇△△3030
		69	48	0,20	1,5	2,54	25x45	ECS1JBW392M◇◇△△2545
	3 900	69	48	0,20	1,5	2,55	30x35	ECS1JBW392M◇◇△△3035
		57	40	0,20	1,5	2,88	25x50	ECS1JBW472M◇◇△△2550
	4 700	57	40	0,20	1,5	2,90	30x40	ECS1JBW472M◇◇△△3040
		48	33	0,20	1,5	3,28	30x45	ECS1JBW562M◇◇△△3045
	5 600	48	33	0,20	1,5	3,24	35x35	ECS1JBW562M◇◇△△3535
		40	27	0,20	1,5	3,73	30x50	ECS1JBW682M◇◇△△3050
	6 800	40	27	0,20	1,5	3,71	35x40	ECS1JBW682M◇◇△△3540
		33	23	0,20	1,5	4,16	35x45	ECS1JBW822M◇◇△△3545
	10 000	27	19	0,20	1,5	4,69	35x50	ECS1JBW103M◇◇△△3550

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
80 (100) 1K	1 500	177	124	0,20	1,2	1,62	25x30	ECS1KBW152M◇◇△△2530
	1 800	148	103	0,20	1,4	1,81	25x30	ECS1KBW182M◇◇△△2530
		121	84	0,20	1,5	2,09	22x45	ECS1KBW222M◇◇△△2245
	2 200	121	84	0,20	1,5	2,01	25x35	ECS1KBW222M◇◇△△2535
		99	69	0,20	1,5	2,43	30x35	ECS1KBW272M◇◇△△3035
	2 700	81	56	0,20	1,5	2,78	30x40	ECS1KBW332M◇◇△△3040
		69	48	0,20	1,5	3,12	30x45	ECS1KBW392M◇◇△△3045
	3 300	57	40	0,20	1,5	3,50	35x40	ECS1KBW472M◇◇△△3540
		48	33	0,20	1,5	3,87	35x45	ECS1KBW562M◇◇△△3545
	6 800	40	27	0,20	1,5	4,19	35x50	ECS1KBW682M◇◇△△3550

100 (125) 2A	1 000	266	186	0,20	1,0	1,56	25x30	ECS2ABW102M◇◇△△2530
	1 200	222	155	0,20	1,2	1,76	25x35	ECS2ABW122M◇◇△△2535
		177	124	0,20	1,5	2,03	25x40	ECS2ABW152M◇◇△△2540
	1 500	177	124	0,20	1,5	2,00	30x30	ECS2ABW152M◇◇△△3030
		148	103	0,20	1,5	2,28	25x45	ECS2ABW182M◇◇△△2545
	1 800	148	103	0,20	1,5	2,27	30x35	ECS2ABW182M◇◇△△3035
		121	84	0,20	1,5	2,57	25x50	ECS2ABW222M◇◇△△2550
	2 200	121	84	0,20	1,5	2,59	30x40	ECS2ABW222M◇◇△△3040
		99	69	0,20	1,5	2,94	30x45	ECS2ABW272M◇◇△△3045
	2 700	81	56	0,20	1,5	3,32	30x50	ECS2ABW332M◇◇△△3050
		81	56	0,20	1,5	3,31	35x40	ECS2ABW392M◇◇△△3540
	3 300	69	48	0,20	1,5	3,69	35x45	ECS2ABW392M◇◇△△3545
		57	40	0,20	1,5	4,14	35x50	ECS2ABW472M◇◇△△3550

160 (200) 2C	560	356	249	0,15	0,9	1,62	22x40	ECS2CBW561M◇◇△△2240
		356	249	0,15	0,9	1,73	25x30	ECS2CBW561M◇◇△△2530
		293	205	0,15	1,1	1,70	22x45	ECS2CBW681M◇◇△△2245
	680	293	205	0,15	1,1	1,81	25x35	ECS2CBW681M◇◇△△2535
		243	170	0,15	1,3	1,98	25x40	ECS2CBW821M◇◇△△2540
		243	170	0,15	1,3	1,98	30x30	ECS2CBW821M◇◇△△3030
	820	199	139	0,15	1,5	2,04	25x45	ECS2CBW102M◇◇△△2545
		199	139	0,15	1,5	2,14	30x35	ECS2CBW102M◇◇△△3035
		166	116	0,15	1,5	2,12	25x50	ECS2CBW122M◇◇△△2550
	1 200	166	116	0,15	1,5	2,22	30x40	ECS2CBW122M◇◇△△3040
		133	93	0,15	1,5	2,46	30x45	ECS2CBW152M◇◇△△3045
		133	93	0,15	1,5	2,53	35x35	ECS2CBW152M◇◇△△3535
	1 500	133	93	0,15	1,5	2,53	35x35	ECS2CBW152M◇◇△△3535
		111	77	0,15	1,5	2,98	35x45	ECS2CBW182M◇◇△△3545
		91	63	0,15	1,5	3,10	35x50	ECS2CBW222M◇◇△△3550
2 700	3 300	74	51	0,15	1,5	3,77	35x55	ECS2CBW272M◇◇△△3555
		61	42	0,15	1,5	4,33	35x60	ECS2CBW332M◇◇△△3560

180 (225) 2K	470	424	296	0,15	0,8	1,50	22x35	ECS2KBW471M◇◇△△2235
		424	296	0,15	0,8	1,62	25x30	ECS2KBW471M◇◇△△2530
	560	356	249	0,15	1,0	1,62	22x40	ECS2KBW561M◇◇△△2240
		356	249	0,15	1,0	1,69	25x35	ECS2KBW561M◇◇△△2535
	680	293	205	0,15	1,2	1,72	25x40	ECS2KBW681M◇◇△△2540
		293	205	0,15	1,2	1,74	30x30	ECS2KBW681M◇◇△△3030
	820	243	170	0,15	1,5	1,78	25x45	ECS2KBW821M◇◇△△2545
		243	170	0,15	1,5	1,85	30x35	ECS2KBW821M◇◇△△3035
	1 000	199	139	0,15	1,5	1,91	25x50	ECS2KBW102M◇◇△△2550
		199	139	0,15	1,5	2,01	30x40	ECS2KBW102M◇◇△△3040
	1 200	166	116	0,15	1,5	2,19	30x45	ECS2KBW122M◇◇△△3045
	1 500	133	93	0,15	1,5	2,36	30x50	ECS2KBW152M◇◇△△3050
	1 800	111	77	0,15	1,5	2,67	35x45	ECS2KBW182M◇◇△△3545
2 200	91	63	0,15	1,5	3,27	35x50	ECS2KBW222M◇◇△△3550	
2 700	74	52	0,15	1,5	3,92	35x60	ECS2KBW272M◇◇△△3560	

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
200 (250) 2D	1 200	166	116	0,15	1,5	2,22	25x45	ECS2DBW122M◇◇△△2545
		166	116	0,15	1,5	2,28	30x40	ECS2DBW122M◇◇△△3040
	1 500	133	93	0,15	1,5	2,59	30x50	ECS2DBW152M◇◇△△3050
		133	93	0,15	1,5	2,64	35x40	ECS2DBW152M◇◇△△3540
	1 800	111	77	0,15	1,5	2,70	35x45	ECS2DBW182M◇◇△△3545
	2 200	91	63	0,15	1,5	3,23	35x50	ECS2DBW222M◇◇△△3550

250 (300) 2E	330	603	422	0,15	0,8	1,20	22x40	ECS2EBW331M◇◇△△2240
		603	422	0,15	0,8	1,30	25x30	ECS2EBW331M◇◇△△2530
	390	511	357	0,15	1,0	1,41	25x35	ECS2EBW391M◇◇△△2535
		424	296	0,15	1,2	1,52	25x40	ECS2EBW471M◇◇△△2540
	470	424	296	0,15	1,2	1,56	30x30	ECS2EBW471M◇◇△△3030
		356	249	0,15	1,4	1,59	25x45	ECS2EBW561M◇◇△△2545
	560	356	249	0,15	1,4	1,61	30x30	ECS2EBW561M◇◇△△3030
		293	205	0,15	1,5	1,66	25x50	ECS2EBW681M◇◇△△2550
	680	293	205	0,15	1,5	1,76	30x35	ECS2EBW681M◇◇△△3035
		243	170	0,15	1,5	1,83	30x40	ECS2EBW821M◇◇△△3040
	820	243	170	0,15	1,5	1,82	35x35	ECS2EBW821M◇◇△△3535
		199	139	0,15	1,5	1,87	30x50	ECS2EBW102M◇◇△△3050
	1 000	199	139	0,15	1,5	1,99	35x40	ECS2EBW102M◇◇△△3540
		166	116	0,15	1,5	2,10	35x45	ECS2EBW122M◇◇△△3545
	1 500	133	93	0,15	1,5	2,70	35x50	ECS2EBW152M◇◇△△3550
	1 800	111	77	0,15	1,5	2,90	35x55	ECS2EBW182M◇◇△△3555
		111	77	0,15	1,5	2,92	35x60	ECS2EBW182M◇◇△△3560

315 (365) 2F	180	1106	608	0,15	0,6	0,78	22x40	ECS2FBW181M◇◇△△2240
		1106	608	0,15	0,6	0,85	25x25	ECS2FBW181M◇◇△△2525
	220	905	498	0,15	0,7	0,91	22x45	ECS2FBW221M◇◇△△2245
		905	498	0,15	0,7	0,94	25x30	ECS2FBW221M◇◇△△2530
	270	737	406	0,15	0,9	1,00	25x35	ECS2FBW271M◇◇△△2535
		737	406	0,15	0,9	0,98	30x25	ECS2FBW271M◇◇△△3025
	330	603	332	0,15	1,0	1,13	30x30	ECS2FBW331M◇◇△△3030
	390	511	281	0,15	1,2	1,20	30x35	ECS2FBW391M◇◇△△3035
	470	424	233	0,15	1,5	1,28	30x35	ECS2FBW471M◇◇△△3035
	560	355	196	0,15	1,5	1,46	30x40	ECS2FBW561M◇◇△△3040
	680	293	161	0,15	1,5	1,85	30x45	ECS2FBW681M◇◇△△3045
		293	161	0,15	1,5	1,88	35x35	ECS2FBW681M◇◇△△3535
	820	242	133	0,15	1,5	2,10	30x50	ECS2FBW821M◇◇△△3050
		242	133	0,15	1,5	2,15	35x40	ECS2FBW821M◇◇△△3540
	1 000	199	109	0,20	1,5	2,42	30x55	ECS2FBW102M◇◇△△3055
		199	109	0,15	1,5	2,47	35x45	ECS2FBW102M◇◇△△3545
	1 200	166	91	0,15	1,5	2,60	35x50	ECS2FBW122M◇◇△△3550

350 (400) 2V	150	1327	730	0,15	0,5	0,82	25x30	ECS2VBW151M◇◇△△2530
	180	1106	608	0,15	0,6	0,89	25x35	ECS2VBW181M◇◇△△2535
		905	498	0,15	0,8	0,97	25x40	ECS2VBW221M◇◇△△2540
	220	905	498	0,15	0,8	0,98	30x30	ECS2VBW221M◇◇△△3030
		737	406	0,15	1,0	1,01	25x45	ECS2VBW271M◇◇△△2545
	270	737	406	0,15	0,9	1,05	30x30	ECS2VBW271M◇◇△△3030
		603	332	0,15	1,2	1,16	25x45	ECS2VBW331M◇◇△△2545
	330	603	332	0,15	1,5	1,19	30x40	ECS2VBW331M◇◇△△3040
		511	281	0,15	1,4	1,26	25x45	ECS2VBW391M◇◇△△2545
	390	511	281	0,15	1,4	1,29	30x40	ECS2VBW391M◇◇△△3040
		424	233	0,15	1,5	1,35	30x50	ECS2VBW471M◇◇△△3050
	470	424	233	0,15	1,5	1,41	35x40	ECS2VBW471M◇◇△△3540
		356	196	0,15	1,5	1,47	30x50	ECS2VBW561M◇◇△△3050
	560	356	196	0,15	1,5	1,51	35x50	ECS2VBW561M◇◇△△3550
		293	161	0,15	1,5	1,92	30x55	ECS2VBW681M◇◇△△3055
	680	293	161	0,15	1,5	1,97	35x50	ECS2VBW681M◇◇△△3550
	820	243	133	0,15	1,5	2,25	35x60	ECS2VBW821M◇◇△△3560
	1 000	199	139	0,15	1,5	2,50	35x60	ECS2VBW102M◇◇△△3560

400 (450) 2G	120	1658	863	0,15	0,5	0,64	22x30	ECS2GBW121M◇◇△△2230
		1658	863	0,15	0,5	0,70	25x25	ECS2GBW121M◇◇△△2525
	150	1327	690	0,15	0,6	0,73	25x30	ECS2GBW151M◇◇△△2530
		1327	690	0,15	0,6	0,75	30x25	ECS2GBW151M◇◇△△3025

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
400 (450) 2G	180	1106	575	0,15	0,7	0,82	25x35	ECS2GBW181M◇◇△△2535
		1106	575	0,15	0,7	0,85	30x25	ECS2GBW181M◇◇△△3025
	220	905	471	0,15	0,9	0,87	25x40	ECS2GBW221M◇◇△△2540
		905	471	0,15	0,9	0,86	30x30	ECS2GBW221M◇◇△△3030
	270	737	383	0,15	1,1	0,94	22x40	ECS2GBW271M◇◇△△2240
		737	383	0,15	1,1	0,99	30x35	ECS2GBW271M◇◇△△3035
	330	603	314	0,15	1,3	1,08	25x50	ECS2GBW331M◇◇△△2550
		603	314	0,15	1,3	1,11	30x40	ECS2GBW331M◇◇△△3040
	390	511	265	0,15	1,5	1,15	30x45	ECS2GBW391M◇◇△△3045
	470	424	220	0,15	1,5	1,28	30x50	ECS2GBW471M◇◇△△3050
		424	220	0,15	1,5	1,31	35x35	ECS2GBW471M◇◇△△3535
	560	355	185	0,15	1,5	1,50	30x50	ECS2GBW561M◇◇△△3050
		356	185	0,15	1,5	1,65	35x40	ECS2GBW561M◇◇△△3540
	680	293	153	0,15	1,5	1,90	35x50	ECS2GBW681M◇◇△△3550
	820	243	126	0,15	1,5	2,10	35x50	ECS2GBW821M◇◇△△3550
		243	126	0,15	1,5	2,20	35x60	ECS2GBW821M◇◇△△3560
	1 000	199	139	0,15	1,5	2,50	30x70	ECS2GBW102M◇◇△△3070
		199	139	0,15	1,5	2,60	35x60	ECS2GBW102M◇◇△△3560

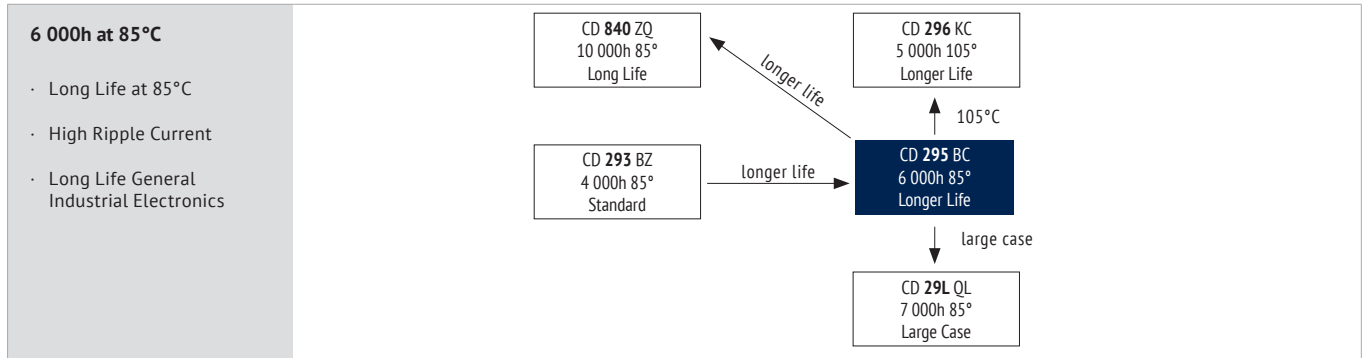
420 (470) 2X	120	2211	1106	0,20	0,5	0,72	25x30	ECS2XBW121M◇◇△△2530
	150	1769	885	0,20	0,6	0,80	25x30	ECS2XBW151M◇◇△△2530
	180	1474	737	0,20	0,8	0,85	30x30	ECS2XBW181M◇◇△△3030
	220	1206	603	0,20	0,9	0,96	30x30	ECS2XBW221M◇◇△△3030
	270	983	492	0,15	1,1	1,06	30x35	ECS2XBW271M◇◇△△3035
		804	402	0,20	1,4	1,14	30x40	ECS2XBW331M◇◇△△3040
	330	804	402	0,20	1,4	1,20	35x30	ECS2XBW331M◇◇△△3530
		681	340	0,20	1,5	1,25	30x45	ECS2XBW391M◇◇△△3045
	470	565	282	0,20	1,5	1,28	30x50	ECS2XBW471M◇◇△△3050
		565	282	0,20	1,5	1,31	35x40	ECS2XBW471M◇◇△△3540
	560	474	237	0,20	1,5	1,45	30x50	ECS2XBW561M◇◇△△3050
		474	237	0,20	1,5	1,50	35x45	ECS2XBW561M◇◇△△3545
	680	391	196	0,20	1,5	1,90	35x50	ECS2XBW681M◇◇△△3550
	820	324	162	0,20	1,5	2,20	35x60	ECS2XBW821M◇◇△△3560
	1 000	265	139	0,15	1,5	2,60	35x65	ECS2XBW102M◇◇△△3565

450 (500) 2W	120	2211	1106	0,20	0,5	0,73	22x35	ECS2WBW121M◇◇△△2235
		2211	1106	0,20	0,5	0,75	25x25	ECS2WBW121M◇◇△△2525
	150	1769	885	0,20	0,7	0,82	25x30	ECS2WBW151M◇◇△△2530
		180	1474	737	0,20	0,8	0,86	30x30
	220	1206	603	0,20	1,0	0,94	22x50	ECS2WBW221M◇◇△△2250
		1206	603	0,20	1,0	0,95	30x30	ECS2WBW221M◇◇△△3030
	270	983	492	0,20	1,2	1,11	30x30	ECS2WBW271M◇◇△△3030
		983	492	0,20	1,2	1,15	30x35	ECS2WBW271M◇◇△△3035
	330	804	402	0,20	1,5	1,25	30x40	ECS2WBW331M◇◇△△3040
		804	402	0,20	1,5	1,26	35x30	ECS2WBW331T◇◇△△5300
	390	681	340	0,20	1,5	1,31	30x40	ECS2WBW391M◇◇△△3040
		681	340	0,20	1,5	1,36	35x35	ECS2WBW391M◇◇△△3535
	470	565	282	0,20	1,5	1,50	30x45	ECS2WBW471M◇◇△△3045
		565	282	0,20	1,5	1,55	35x45	ECS2WBW471M◇◇△△3545
		565	282	0,20	1,5	1,50	35x50	ECS2WBW471M◇◇△△3550
	560	474	237	0,20	1,5	1,65	30x50	ECS2WBW561M◇◇△△3050
		474	237	0,20	1,5	1,70	35x50	ECS2WBW561M◇◇△△3550
	680	391	196	0,20	1,5	1,95	35x50	ECS2WBW681M◇◇△△3550
		391	196	0,20	1,5	2,00	35x60	ECS2WBW681M◇◇△△3560
820	324	162	0,20	1,5	2,15	35x60	ECS2WBW821M◇◇△△3560	
	324	162	0,20	1,5	2,20	35x65	ECS2WBW821M◇◇△△3565	
1 000	265	139	0,20	1,5	2,60	35x70	ECS2WBW102M◇◇△△3570	



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
500 (550) 2H	270	983	472	0,20	1,4	1,29	30x40	ECS2HBW271M◇◇△△3040
		983	472	0,20	1,4	1,34	35x35	ECS2HBW271M◇◇△△3535
	330	804	402	0,20	1,5	1,40	35x45	ECS2HBW331M◇◇△△3545
	390	681	340	0,20	1,5	1,60	35x50	ECS2HBW391M◇◇△△3550
	470	565	282	0,20	1,5	1,80	35x50	ECS2HBW471M◇◇△△3550
		565	282	0,20	1,5	1,80	35x60	ECS2HBW471M◇◇△△3560
	560	474	237	0,20	1,5	1,90	35x60	ECS2HBW561M◇◇△△3560
	680	391	196	0,20	1,5	2,20	35x70	ECS2HBW681M◇◇△△3570
550 (600) 2Y	150	1769	885	0,20	1,5	0,86	30x35	ECS2YBW151M◇◇△△3035
	180	1474	737	0,20	1,5	1,06	30x40	ECS2YBW181M◇◇△△3040
		1474	737	0,20	1,5	1,11	35x30	ECS2YBW181M◇◇△△3530
	220	1206	603	0,20	1,5	1,18	30x50	ECS2YBW221M◇◇△△3050
		1206	603	0,20	1,5	1,23	35x35	ECS2YBW221M◇◇△△3535
	270	983	492	0,20	1,5	1,31	35x45	ECS2YBW271M◇◇△△3545
	330	804	402	0,20	1,5	1,50	35x50	ECS2YBW331M◇◇△△3550
	390	681	340	0,20	1,5	1,67	35x60	ECS2YBW391M◇◇△△3560
	470	565	282	0,20	1,5	1,90	35x60	ECS2YBW471M◇◇△△3560
		565	282	0,20	1,5	1,95	35x70	ECS2YBW471M◇◇△△3570
	560	474	237	0,20	1,5	2,10	35x80	ECS2YBW561M◇◇△△3580





ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85	-25 ~ +85	Lower voltages on request.
Voltage Range (V)	160 ~ 400	420 ~ 500	
Capacitance Range (µF)	100 ~ 2 200		
Capacitance Tolerance (20°C, 120Hz)	± 20%		



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval. Additionally please ask for series CD 295D ZD with temperature range -55°C ~ +85°C and 10 000h useful life.

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval. Additionally please ask for series CD 295D ZD with temperature range -55°C ~ +85°C and 10 000h useful life.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	160 ~ 200	250 ~ 400	420 ~ 500
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	3	4	
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	6	8	-

Fast Charge-Discharge **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

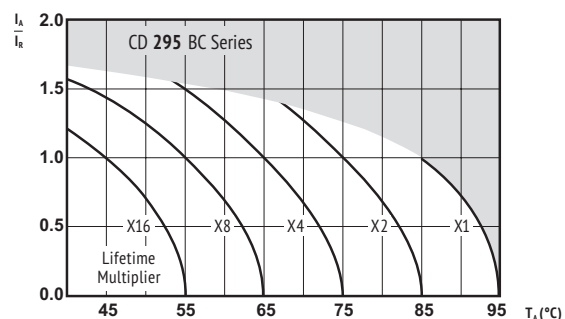
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	6 000h	> 100 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,2 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	100kHz
Rated Voltage (V)						
≥ 160	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
160 (200) 2C	220	905	633	0,15	0,4	1,0	22 x 25	ECS2CBC221M◇◇△△2225
	270	737	516	0,15	0,4	1,1	22 x 25	ECS2CBC271M◇◇△△2225
	330	603	422	0,15	0,5	1,3	22 x 25	ECS2CBC331M◇◇△△2225
	390	511	357	0,15	0,6	1,5	22 x 30	ECS2CBC391M◇◇△△2230
		511	357	0,15	0,6	1,5	25 x 25	ECS2CBC391M◇◇△△2525
	470	424	297	0,15	0,8	1,7	25 x 25	ECS2CBC471M◇◇△△2525
	560	356	249	0,15	0,9	1,9	22 x 35	ECS2CBC561M◇◇△△2235
		356	249	0,15	0,9	1,9	25 x 30	ECS2CBC561M◇◇△△2530
	680	293	205	0,15	1,1	2,1	22 x 40	ECS2CBC681M◇◇△△2240
		293	205	0,15	1,1	2,2	25 x 35	ECS2CBC681M◇◇△△2535
	820	243	170	0,15	1,3	2,4	25 x 40	ECS2CBC821M◇◇△△2540
		243	170	0,15	1,3	2,5	30 x 30	ECS2CBC821M◇◇△△3030
	1 000	199	139	0,15	1,5	2,7	25 x 45	ECS2CBC102M◇◇△△2545
		199	139	0,15	1,5	2,8	30 x 35	ECS2CBC102M◇◇△△3035
		199	139	0,15	1,5	2,7	35 x 30	ECS2CBC102M◇◇△△3530
	1 200	166	116	0,15	1,5	3,1	25 x 50	ECS2CBC122M◇◇△△2550
		166	116	0,15	1,5	3,2	30 x 40	ECS2CBC122M◇◇△△3040
		166	116	0,15	1,5	3,0	35 x 35	ECS2CBC122M◇◇△△3535
	1 500	133	93	0,15	1,5	3,7	30 x 45	ECS2CBC152M◇◇△△3045
		133	93	0,15	1,5	3,5	35 x 40	ECS2CBC152M◇◇△△3540
	1 800	111	77	0,15	1,5	3,9	35 x 45	ECS2CBC182M◇◇△△3545
	2 200	91	63	0,15	1,5	4,5	35 x 50	ECS2CBC222M◇◇△△3550
180 (225) 2K	270	737	516	0,15	0,5	1,2	22 x 25	ECS2KBC271M◇◇△△2225
	330	603	422	0,15	0,6	1,4	22 x 30	ECS2KBC331M◇◇△△2230
	390	511	357	0,15	0,7	1,5	25 x 25	ECS2KBC391M◇◇△△2525
	470	424	296	0,15	0,8	1,7	22 x 35	ECS2KBC471M◇◇△△2235
		424	296	0,15	0,8	1,7	25 x 30	ECS2KBC471M◇◇△△2530
		424	296	0,15	0,8	1,8	30 x 25	ECS2KBC471M◇◇△△3025
	560	356	249	0,15	1,0	1,9	22 x 40	ECS2KBC561M◇◇△△2240
		356	249	0,15	1,0	2,0	25 x 35	ECS2KBC561M◇◇△△2535
	680	293	205	0,15	1,2	2,2	25 x 40	ECS2KBC681M◇◇△△2540
		293	205	0,15	1,2	2,3	30 x 30	ECS2KBC681M◇◇△△3030
	820	243	170	0,15	1,5	2,5	25 x 45	ECS2KBC821M◇◇△△2545
		243	170	0,15	1,5	2,6	30 x 35	ECS2KBC821M◇◇△△3035
		243	170	0,15	1,5	2,5	35 x 30	ECS2KBC821M◇◇△△3530
	1 000	199	139	0,15	1,5	2,9	25 x 50	ECS2KBC102M◇◇△△2550
		199	139	0,15	1,5	2,9	30 x 40	ECS2KBC102M◇◇△△3040
	1 200	166	116	0,15	1,5	3,3	30 x 45	ECS2KBC122M◇◇△△3045
		166	116	0,15	1,5	3,1	35 x 35	ECS2KBC122M◇◇△△3535
	1 500	133	93	0,15	1,5	3,6	35 x 45	ECS2KBC152M◇◇△△3545
	1 800	111	77	0,15	1,5	4,1	35 x 50	ECS2KBC182M◇◇△△3550
200 (250) 2D	220	905	633	0,15	0,4	1,1	22 x 25	ECS2DBC221M◇◇△△2225
	270	737	516	0,15	0,5	1,2	22 x 25	ECS2DBC271M◇◇△△2225
	330	603	422	0,15	0,7	1,4	22 x 30	ECS2DBC331M◇◇△△2230
		603	422	0,15	0,7	1,4	25 x 25	ECS2DBC331M◇◇△△2525
	390	511	357	0,15	0,8	1,6	22 x 35	ECS2DBC391M◇◇△△2235
		511	357	0,15	0,8	1,6	25 x 30	ECS2DBC391M◇◇△△2530
	470	424	296	0,15	0,9	1,8	22 x 40	ECS2DBC471M◇◇△△2240
		424	296	0,15	0,9	1,9	30 x 25	ECS2DBC471M◇◇△△3025
	560	356	249	0,15	1,1	2,0	25 x 35	ECS2DBC561M◇◇△△2535
		356	249	0,15	1,1	2,1	30 x 30	ECS2DBC561M◇◇△△3030
	680	293	205	0,15	1,4	2,3	25 x 40	ECS2DBC681M◇◇△△2540
		293	205	0,15	1,4	2,4	30 x 35	ECS2DBC681M◇◇△△3035
	820	243	170	0,15	1,5	2,6	25 x 50	ECS2DBC821M◇◇△△2550
		243	170	0,15	1,5	2,7	30 x 40	ECS2DBC821M◇◇△△3040
		243	170	0,15	1,5	2,5	35 x 30	ECS2DBC821M◇◇△△3530



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
200 (250) 2D	1 000	199	139	0,15	1,5	3,1	30 x 45	ECS2DBC102M◇◇△△3045
		199	139	0,15	1,5	2,8	35 x 35	ECS2DBC102M◇◇△△3535
	1 200	166	116	0,15	1,5	3,4	30 x 50	ECS2DBC122M◇◇△△3050
		166	116	0,15	1,5	3,2	35 x 40	ECS2DBC122M◇◇△△3540
	1 500	133	93	0,15	1,5	3,8	35 x 50	ECS2DBC152M◇◇△△3550
250 (300) 2E	330	603	422	0,15	0,8	1,4	22 x 40	ECS2EBC331M◇◇△△2240
		603	422	0,15	0,8	1,4	25 x 30	ECS2EBC331M◇◇△△2530
	390	511	357	0,15	1,0	1,6	22 x 45	ECS2EBC391M◇◇△△2245
		511	357	0,15	1,0	1,6	25 x 35	ECS2EBC391M◇◇△△2535
	470	424	296	0,15	1,2	1,8	25 x 40	ECS2EBC471M◇◇△△2540
		424	296	0,15	1,2	1,8	30 x 30	ECS2EBC471M◇◇△△3030
	560	356	249	0,15	1,4	2,0	25 x 45	ECS2EBC561M◇◇△△2545
		356	249	0,15	1,4	2,0	30 x 35	ECS2EBC561M◇◇△△3035
	680	293	205	0,15	1,5	2,3	30 x 40	ECS2EBC681M◇◇△△3040
		293	205	0,15	1,5	2,4	35 x 30	ECS2EBC681M◇◇△△3530
	820	243	170	0,15	1,5	2,6	30 x 45	ECS2EBC821M◇◇△△3045
		243	170	0,15	1,5	2,6	35 x 35	ECS2EBC821M◇◇△△3535
	1 000	199	139	0,15	1,5	3,0	35 x 40	ECS2EBC102M◇◇△△3540
	1 200	166	116	0,15	1,5	3,4	35 x 45	ECS2EBC122M◇◇△△3545
315 (365) 2F	180	1 106	774	0,15	0,6	0,96	22 x 35	ECS2FBC181M◇◇△△2235
		1 106	774	0,15	0,6	0,96	25 x 30	ECS2FBC181M◇◇△△2530
	220	905	633	0,15	0,7	1,1	22 x 40	ECS2FBC221M◇◇△△2240
		905	633	0,15	0,7	1,1	25 x 35	ECS2FBC221M◇◇△△2535
	270	737	516	0,15	0,9	1,3	25 x 40	ECS2FBC271M◇◇△△2540
		737	516	0,15	0,9	1,3	30 x 30	ECS2FBC271M◇◇△△3030
	330	603	422	0,15	1,0	1,4	25 x 45	ECS2FBC331M◇◇△△2545
		603	422	0,15	1,0	1,4	30 x 35	ECS2FBC331M◇◇△△3035
	390	511	357	0,15	1,2	1,6	25 x 50	ECS2FBC391M◇◇△△2550
		511	357	0,15	1,2	1,6	30 x 40	ECS2FBC391M◇◇△△3040
		511	357	0,15	1,2	1,6	35 x 30	ECS2FBC391M◇◇△△3530
	470	424	296	0,15	1,5	1,8	30 x 45	ECS2FBC471M◇◇△△3045
		424	296	0,15	1,5	1,8	35 x 35	ECS2FBC471M◇◇△△3535
	560	356	249	0,15	1,5	2,0	30 x 50	ECS2FBC561M◇◇△△3050
		356	249	0,15	1,5	2,0	35 x 40	ECS2FBC561M◇◇△△3540
	680	293	205	0,15	1,5	2,3	35 x 45	ECS2FBC681M◇◇△△3545
350 (400) 2V	150	1 327	929	0,15	0,5	0,94	22 x 35	ECS2VBC151M◇◇△△2235
		1 327	929	0,15	0,5	0,94	25 x 30	ECS2VBC151M◇◇△△2530
	180	1 106	774	0,15	0,6	1,1	22 x 40	ECS2VBC181M◇◇△△2240
		1 106	774	0,15	0,6	1,1	30 x 25	ECS2VBC181M◇◇△△3025
	220	905	633	0,15	0,8	1,2	22 x 45	ECS2VBC221M◇◇△△2245
		905	633	0,15	0,8	1,2	25 x 35	ECS2VBC221M◇◇△△2535
		905	633	0,15	0,8	1,2	30 x 30	ECS2VBC221M◇◇△△3030
	270	737	516	0,15	0,9	1,4	25 x 45	ECS2VBC271M◇◇△△2545
		737	516	0,15	0,9	1,4	30 x 35	ECS2VBC271M◇◇△△3035
	330	603	422	0,15	1,2	1,6	25 x 50	ECS2VBC331M◇◇△△2550
		603	422	0,15	1,2	1,6	35 x 30	ECS2VBC331M◇◇△△3530
	390	511	357	0,15	1,4	1,7	30 x 40	ECS2VBC391M◇◇△△3040
		511	357	0,15	1,4	1,8	35 x 35	ECS2VBC391M◇◇△△3535
	470	424	296	0,15	1,5	2,0	30 x 45	ECS2VBC471M◇◇△△3045
		424	296	0,15	1,5	2,0	35 x 40	ECS2VBC471M◇◇△△3540
	560	356	249	0,15	1,5	2,3	35 x 45	ECS2VBC561M◇◇△△3545
	680	293	205	0,15	1,5	2,6	35 x 50	ECS2VBC681M◇◇△△3550

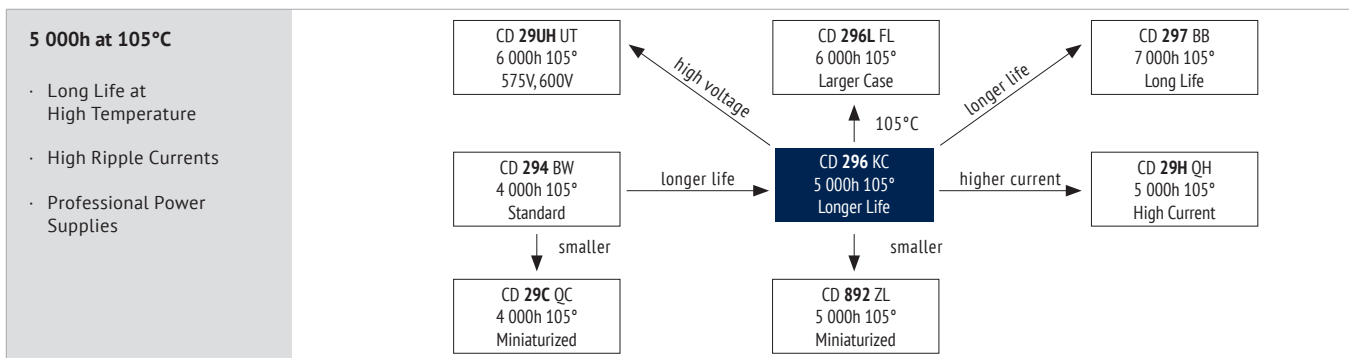
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U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
400 (450) 2G	150	1 327	929	0,15	0,6	0,90	22 x 35	ECS2GBC151M◇◇△△2235
		1 327	929	0,15	0,6	0,89	25 x 30	ECS2GBC151M◇◇△△2530
	180	1 106	774	0,15	0,7	1,0	22 x 40	ECS2GBC181M◇◇△△2240
		1 106	774	0,15	0,7	1,0	25 x 35	ECS2GBC181M◇◇△△2535
		1 106	774	0,15	0,7	1,1	30 x 25	ECS2GBC181M◇◇△△3025
	220	905	633	0,15	0,9	1,2	25 x 40	ECS2GBC221M◇◇△△2540
		905	633	0,15	0,9	1,2	30 x 30	ECS2GBC221M◇◇△△3030
	270	737	516	0,15	1,1	1,3	25 x 45	ECS2GBC271M◇◇△△2545
		737	516	0,15	1,1	1,4	30 x 35	ECS2GBC271M◇◇△△3035
	330	603	422	0,15	1,3	1,6	30 x 40	ECS2GBC331M◇◇△△3040
		603	422	0,15	1,3	1,7	35 x 30	ECS2GBC331M◇◇△△3530
	390	511	357	0,15	1,5	1,8	30 x 45	ECS2GBC391M◇◇△△3045
		511	357	0,15	1,5	1,8	35 x 35	ECS2GBC391M◇◇△△3535
400 (450) 2G	470	424	296	0,15	1,5	2,1	30 x 50	ECS2GBC471M◇◇△△3050
		424	296	0,15	1,5	2,1	35 x 45	ECS2GBC471M◇◇△△3545
	560	356	249	0,15	1,5	2,3	30 x 55	ECS2GBC561M◇◇△△3055
		356	249	0,15	1,5	2,3	35 x 50	ECS2GBC561M◇◇△△3550
	680	293	235	0,15	1,5	2,7	35 x 50	ECS2GBC681M◇◇△△3550
	820	243	194	0,15	1,5	3,1	35 x 55	ECS2GBC821M◇◇△△3555
	1 000	199	139	0,15	1,5	3,8	35 x 65	ECS2GBC102M◇◇△△3565
420 (470) 2X	120	1 658	863	0,15	0,5	0,80	22 x 35	ECS2XBC121M◇◇△△2235
		1 658	863	0,15	0,5	0,81	25 x 30	ECS2XBC121M◇◇△△2530
	150	1 327	690	0,15	0,6	0,92	22 x 35	ECS2XBC151M◇◇△△2235
		1 327	690	0,15	0,6	0,93	25 x 30	ECS2XBC151M◇◇△△2530
	180	1 106	575	0,15	0,8	1,1	25 x 35	ECS2XBC181M◇◇△△2535
	220	905	471	0,15	0,9	1,2	25 x 40	ECS2XBC221M◇◇△△2540
		905	471	0,15	0,9	1,3	30 x 30	ECS2XBC221M◇◇△△3030
	270	737	383	0,15	1,1	1,3	25 x 45	ECS2XBC271M◇◇△△2545
		737	383	0,15	1,1	1,4	30 x 35	ECS2XBC271M◇◇△△3035
	330	603	314	0,15	1,4	1,6	30 x 40	ECS2XBC331M◇◇△△3040
	390	511	265	0,15	1,5	1,9	30 x 45	ECS2XBC391M◇◇△△3045
	470	424	220	0,15	1,5	2,1	30 x 50	ECS2XBC471M◇◇△△3050
		424	220	0,15	1,5	2,2	35 x 40	ECS2XBC471M◇◇△△3540
	560	356	185	0,15	1,5	2,4	35 x 45	ECS2XBC561M◇◇△△3545
	680	293	153	0,15	1,5	2,8	35 x 50	ECS2XBC681M◇◇△△3550
	820	243	126	0,15	1,5	3,2	35 x 55	ECS2XBC821M◇◇△△3555
450 (470) 2W	120	1 658	1 161	0,15	0,5	0,80	22 x 35	ECS2WBC121M◇◇△△2235
		1 658	1 161	0,15	0,5	0,83	25 x 30	ECS2WBC121M◇◇△△2530
	150	1 327	929	0,15	0,7	0,95	22 x 40	ECS2WBC151M◇◇△△2240
		1327	929	0,15	0,7	0,95	25 x 35	ECS2WBC151M◇◇△△2535
	180	1 106	774	0,15	0,8	1,1	25 x 35	ECS2WBC181M◇◇△△2535
		1 106	774	0,15	0,8	1,1	30 x 25	ECS2WBC181M◇◇△△3025
	220	905	633	0,15	1,0	1,2	25 x 40	ECS2WBC221M◇◇△△2540
		905	633	0,15	1,0	1,3	30 x 30	ECS2WBC221M◇◇△△3030
	270	737	516	0,15	1,2	1,4	30 x 35	ECS2WBC271M◇◇△△3035
		737	516	0,15	1,2	1,5	35 x 30	ECS2WBC271M◇◇△△3530
	330	603	423	0,15	1,5	1,7	30 x 40	ECS2WBC331M◇◇△△3040
		603	423	0,15	1,5	1,8	35 x 30	ECS2WBC331M◇◇△△3530
	390	551	357	0,15	1,5	1,9	35 x 35	ECS2WBC391M◇◇△△3535
	470	424	296	0,15	1,5	2,2	35 x 40	ECS2WBC471M◇◇△△3540
	560	356	285	0,15	1,5	2,4	35 x 45	ECS2WBC561M◇◇△△3545
	680	293	235	0,15	1,5	2,8	35 x 50	ECS2WBC681M◇◇△△3550
	820	243	194	0,15	1,5	3,2	35 x 60	ECS2WBC821M◇◇△△3560
	1 000	199	139	0,15	1,5	3,9	35 x 70	ECS2WBC102M◇◇△△3570



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	Details: Page 105
500 (550) 2H	100	1 990	1 592	0,15	0,5	0,90	25 x 30	ECS2HBC101M◇◇△△2530
	120	1 658	1 327	0,15	0,6	1,0	25 x 35	ECS2HBC121M◇◇△△2535
	150	1 327	1 062	0,15	0,8	1,2	25 x 35	ECS2HBC151M◇◇△△2535
		1 327	1 062	0,15	0,8	1,2	30 x 30	ECS2HBC151M◇◇△△3030
	180	1 106	885	0,15	0,9	1,4	30 x 30	ECS2HBC181M◇◇△△3030
	220	905	724	0,15	1,1	1,6	30 x 35	ECS2HBC221M◇◇△△3035
	270	737	590	0,15	1,4	1,8	30 x 40	ECS2HBC271M◇◇△△3040
		737	590	0,15	1,4	1,7	35 x 30	ECS2HBC271M◇◇△△3530
	330	603	483	0,15	1,5	2,0	30 x 45	ECS2HBC331M◇◇△△3045
		603	483	0,15	1,5	1,9	35 x 35	ECS2HBC331M◇◇△△3535
	390	511	409	0,15	1,5	2,3	35 x 40	ECS2HBC391M◇◇△△3540
	470	424	339	0,15	1,5	2,4	30 x 50	ECS2HBC471M◇◇△△3050
		511	409	0,15	1,5	2,3	35 x 45	ECS2HBC471M◇◇△△3545
	560	356	285	0,15	1,5	2,8	35 x 50	ECS2HBC561M◇◇△△3550
	680	293	235	0,15	1,5	3,2	35 x 55	ECS2HBC681M◇◇△△3555
	820	242	194	0,15	1,5	3,5	35 x 60	ECS2HBC821M◇◇△△3560



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-25 ~ +105	
Voltage Range (V)	200 ~ 550	Lower voltages on request.
Capacitance Range (μF)	100 ~ 2 200	
Capacitance Tolerance (20°C, 120Hz)	± 20%	
Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.	
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	200 ~ 550
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	4
Fast Charge-Discharge	⚠ Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray	

⚠ The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

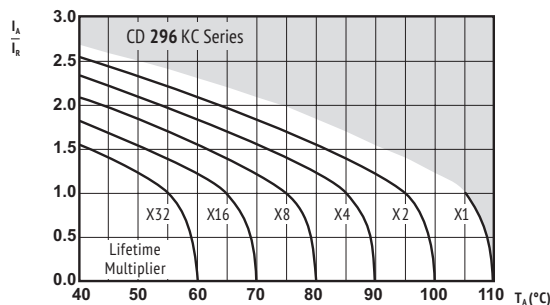
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	5 000h	> 200 000h	3 000h	4 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
Rated Voltage (V)						
200 ~ 250	0,87	1,00	1,17	1,32	1,45	1,50
≥ 315	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

⚠ Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

SAFETY FACTOR

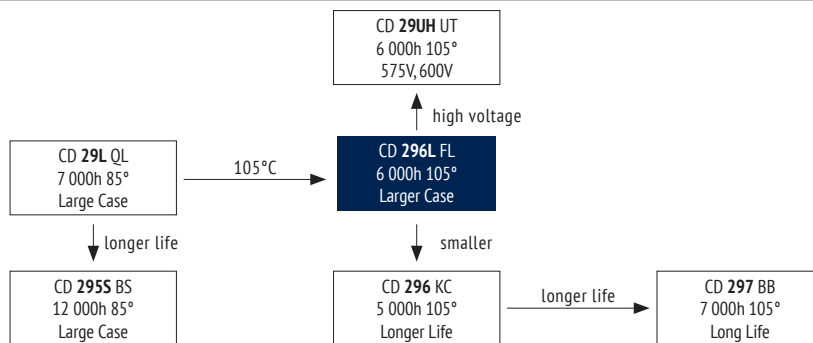
This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L (mm)	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)		
200 (250) 2D	470	424	296	0,15	0,9	1,47	25 x 30	ECS2DKC471M◇◇△△2530
		424	296	0,15	0,9	1,56	30 x 25	ECS2DKC471M◇◇△△3025
	560	356	249	0,15	1,1	1,60	25 x 35	ECS2DKC561M◇◇△△2535
		356	249	0,15	1,1	1,65	30 x 30	ECS2DKC561M◇◇△△3030
	680	293	205	0,15	1,4	1,80	25 x 40	ECS2DKC681M◇◇△△2540
		293	205	0,15	1,4	1,82	30 x 30	ECS2DKC681M◇◇△△3030
	820	243	170	0,15	1,5	1,99	30 x 35	ECS2DKC821M◇◇△△3035
		199	139	0,15	1,5	2,17	22 x 50	ECS2DKC102M◇◇△△2250
	1 000	199	139	0,15	1,5	2,17	30 x 40	ECS2DKC102M◇◇△△3040
		166	116	0,15	1,5	2,28	25 x 40	ECS2DKC122M◇◇△△2540
	1 200	166	116	0,15	1,5	2,32	30 x 40	ECS2DKC122M◇◇△△3040
		133	93	0,15	1,5	2,59	30 x 50	ECS2DKC152M◇◇△△3050
	1 500	133	93	0,15	1,5	2,59	35 x 40	ECS2DKC152M◇◇△△3540
		111	77	0,15	1,5	2,70	35 x 45	ECS2DKC182M◇◇△△3545
	2 200	91	63	0,15	1,5	3,23	35 x 50	ECS2DKC222M◇◇△△3550
250 (300) 2E	330	603	422	0,15	0,8	1,20	22 x 40	ECS2EKC331M◇◇△△2240
		603	422	0,15	0,8	1,30	25 x 30	ECS2EKC331M◇◇△△2530
	390	511	357	0,15	1,0	1,42	25 x 35	ECS2EKC391M◇◇△△2535
		424	296	0,15	1,2	1,47	25 x 40	ECS2EKC471M◇◇△△2540
	470	424	296	0,15	1,2	1,51	30 x 30	ECS2EKC471M◇◇△△3030
		356	249	0,15	1,4	1,59	25 x 45	ECS2EKC561M◇◇△△2545
	560	356	249	0,15	1,4	1,61	30 x 30	ECS2EKC561M◇◇△△3030
		293	205	0,15	1,5	1,66	25 x 50	ECS2EKC681M◇◇△△2550
	680	293	205	0,15	1,5	1,76	30 x 35	ECS2EKC681M◇◇△△3035
		243	170	0,15	1,5	1,83	30 x 40	ECS2EKC821M◇◇△△3040
	820	243	170	0,15	1,5	1,82	35 x 35	ECS2EKC821M◇◇△△3535
		199	139	0,15	1,5	1,87	30 x 50	ECS2EKC102M◇◇△△3050
	1 000	199	139	0,15	1,5	1,99	35 x 40	ECS2EKC102M◇◇△△3540
		166	116	0,15	1,5	2,10	35 x 45	ECS2EKC122M◇◇△△3545
	1 200	133	93	0,15	1,5	2,70	35 x 50	ECS2EKC152M◇◇△△3550
	1 800	111	77	0,15	1,5	2,90	35 x 55	ECS2EKC182M◇◇△△3555
		111	77	0,15	1,5	2,92	35 x 60	ECS2EKC182M◇◇△△3560
315 (365) 2F	180	1 106	608	0,15	0,6	0,78	22 x 40	ECS2FKC181M◇◇△△2240
		1 106	608	0,15	0,6	0,85	25 x 25	ECS2FKC181M◇◇△△2525
	220	905	498	0,15	0,7	0,91	22 x 45	ECS2FKC221M◇◇△△2245
		905	498	0,15	0,7	0,94	25 x 30	ECS2FKC221M◇◇△△2530
	270	737	406	0,15	0,9	1,00	25 x 35	ECS2FKC271M◇◇△△2535
		737	406	0,15	0,9	0,98	30 x 25	ECS2FKC271M◇◇△△3025
	330	603	332	0,15	1,0	1,13	30 x 30	ECS2FKC331M◇◇△△3030
	390	510	281	0,15	1,2	1,20	30 x 35	ECS2FKC391M◇◇△△3035
	470	424	233	0,15	1,5	1,28	30 x 35	ECS2FKC471M◇◇△△3035
	560	355	196	0,15	1,5	1,46	30 x 40	ECS2FKC561M◇◇△△3040
	680	293	161	0,15	1,5	1,85	30 x 45	ECS2FKC681M◇◇△△3045
		293	161	0,15	1,5	1,88	35 x 35	ECS2FKC681M◇◇△△3535
	820	242	133	0,15	1,5	2,10	30 x 50	ECS2FKC821M◇◇△△3050
		242	133	0,15	1,5	2,15	35 x 40	ECS2FKC821M◇◇△△3540
	1 000	199	109	0,15	1,5	2,42	30 x 55	ECS2FKC102M◇◇△△3055
		199	109	0,15	1,5	2,47	35 x 45	ECS2FKC102M◇◇△△3545
	1 200	166	91	0,15	1,5	2,60	35 x 50	ECS2FKC122M◇◇△△3550
400 (450) 2G	120	1 658	863	0,15	0,7	0,66	22 x 30	ECS2GKC121M◇◇△△2230
		1 658	863	0,15	0,5	0,68	25 x 25	ECS2GKC121M◇◇△△2525
	150	1 327	690	0,15	0,6	0,73	25 x 30	ECS2GKC151M◇◇△△2530
		1 327	690	0,15	0,7	0,75	30 x 25	ECS2GKC151M◇◇△△3025
	180	1 106	575	0,15	0,7	0,78	22 x 35	ECS2GKC181M◇◇△△2235
		1 106	575	0,15	0,7	0,83	30 x 30	ECS2GKC181M◇◇△△3030
	220	905	471	0,15	0,9	0,87	25 x 40	ECS2GKC221M◇◇△△2540
		905	471	0,15	0,9	0,96	30 x 30	ECS2GKC221M◇◇△△3030
	270	737	383	0,15	1,1	0,94	22 x 50	ECS2GKC271M◇◇△△2250
		737	383	0,15	1,1	0,95	30 x 35	ECS2GKC271M◇◇△△3035
	330	603	314	0,15	1,3	1,11	25 x 50	ECS2GKC331M◇◇△△2550
		603	314	0,15	1,3	1,06	30 x 35	ECS2GKC331M◇◇△△3035
	390	603	314	0,15	1,3	1,09	35 x 30	ECS2GKC331M◇◇△△3530
		511	265	0,15	1,5	1,15	30 x 40	ECS2GKC391M◇◇△△3040
		511	265	0,15	1,5	1,26	35 x 35	ECS2GKC391M◇◇△△3535

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	Details: Page 105
400 (450) 2G	470	424	220	0,15	1,5	1,28	30 x 50	ECS2GKC471M◇◇△△3050
		424	220	0,15	1,5	1,31	35 x 40	ECS2GKC471M◇◇△△3540
	560	356	185	0,15	1,5	1,50	30 x 50	ECS2GKC561M◇◇△△3050
		356	185	0,15	1,5	1,65	35 x 45	ECS2GKC561M◇◇△△3545
	680	293	153	0,15	1,5	1,90	35 x 50	ECS2GKC681M◇◇△△3550
	820	243	126	0,15	1,5	2,20	35 x 60	ECS2GKC821M◇◇△△3560
1 000	199	139	0,15	1,5	2,50	30 x 70	ECS2GKC102M◇◇△△3070	
	199	139	0,15	1,5	2,60	35 x 65	ECS2GKC102M◇◇△△3565	
450 (500) 2W	120	2 211	1.106	0,20	0,5	0,73	25 x 25	ECS2WKC121M◇◇△△2525
	150	1 769	885	0,20	0,7	0,82	25 x 30	ECS2WKC151M◇◇△△2530
	180	1 474	737	0,20	0,8	0,86	30 x 30	ECS2WKC181M◇◇△△3030
	220	1 206	603	0,20	1,0	0,94	25 x 45	ECS2WKC221M◇◇△△2545
		1 206	603	0,20	1,0	0,95	30 x 30	ECS2WKC221M◇◇△△3030
	270	983	492	0,20	1,2	1,11	30 x 30	ECS2WKC271M◇◇△△3030
		983	492	0,20	1,2	1,15	30 x 35	ECS2WKC271M◇◇△△3035
	330	804	402	0,20	1,5	1,25	30 x 40	ECS2WKC331M◇◇△△3040
		804	402	0,20	1,5	1,26	35 x 30	ECS2WKC331M◇◇△△3530
	390	681	340	0,20	1,5	1,31	30 x 40	ECS2WKC391M◇◇△△3040
		681	340	0,20	1,5	1,35	30 x 45	ECS2WKC391M◇◇△△3045
	470	681	340	0,20	1,5	1,36	35 x 35	ECS2WKC391M◇◇△△3535
		565	282	0,20	1,5	1,50	30 x 50	ECS2WKC471M◇◇△△3050
	560	565	282	0,20	1,5	1,55	35 x 45	ECS2WKC471M◇◇△△3545
		474	237	0,20	1,5	1,65	30 x 50	ECS2WKC561M◇◇△△3050
	680	474	237	0,20	1,5	1,70	35 x 50	ECS2WKC561M◇◇△△3550
		391	196	0,20	1,5	1,95	35 x 50	ECS2WKC681M◇◇△△3550
820	391	196	0,20	1,5	2,00	35 x 60	ECS2WKC681M◇◇△△3560	
	324	162	0,20	1,5	2,15	35 x 60	ECS2WKC821M◇◇△△3560	
1 000	324	162	0,20	1,5	2,20	35 x 65	ECS2WKC821M◇◇△△3565	
	265	139	0,20	1,5	2,60	35 x 70	ECS2WKC102M◇◇△△3570	
500 (550) 2H	100	2 653	1.327	0,20	0,5	0,67	22 x 35	ECS2HKC101M◇◇△△2235
	120	2 211	1.106	0,20	0,6	0,77	22 x 50	ECS2HKC121M◇◇△△2250
		2 211	1.106	0,20	0,6	0,81	25 x 35	ECS2HKC121M◇◇△△2535
	150	1 769	885	0,20	0,8	0,82	25 x 40	ECS2HKC151M◇◇△△2540
		1 769	885	0,20	0,8	0,85	30 x 30	ECS2HKC151M◇◇△△3030
	180	1 474	737	0,20	0,9	0,98	25 x 50	ECS2HKC181M◇◇△△2550
		1 474	737	0,20	0,9	1,01	30 x 35	ECS2HKC181M◇◇△△3035
	220	1 206	603	0,20	1,1	1,12	30 x 35	ECS2HKC221M◇◇△△3035
		1 206	603	0,20	1,1	1,18	35 x 30	ECS2HKC221M◇◇△△3530
	270	983	492	0,20	1,4	1,25	30 x 40	ECS2HKC271M◇◇△△3040
		983	492	0,20	1,4	1,29	35 x 35	ECS2HKC271M◇◇△△3535
	330	804	402	0,20	1,5	1,36	35 x 45	ECS2HKC331M◇◇△△3545
	390	681	340	0,20	1,5	1,54	35 x 50	ECS2HKC391M◇◇△△3550
	470	565	282	0,20	1,5	1,69	35 x 60	ECS2HKC471M◇◇△△3560
	560	474	237	0,20	1,5	1,90	35 x 65	ECS2HKC561M◇◇△△3565
	680	391	196	0,20	1,5	2,20	35 x 70	ECS2HKC681M◇◇△△3570
550 (600) 2Y	150	1 769	885	0,20	0,9	0,86	30 x 35	ECS2YKC151M◇◇△△3035
	180	1 474	737	0,20	1,0	1,06	30 x 40	ECS2YKC181M◇◇△△3040
		1 474	737	0,20	1,0	1,06	35 x 30	ECS2YKC181M◇◇△△3530
	220	1 206	603	0,20	1,2	1,18	30 x 50	ECS2YKC221M◇◇△△3050
		1 206	603	0,20	1,2	1,23	35 x 35	ECS2YKC221M◇◇△△3535
	270	983	492	0,20	1,5	1,31	35 x 45	ECS2YKC271M◇◇△△3545
	330	804	402	0,20	1,5	1,50	35 x 50	ECS2YKC331M◇◇△△3550
	390	681	340	0,20	1,5	1,67	35 x 60	ECS2YKC391M◇◇△△3560
	470	565	282	0,20	1,5	1,90	35 x 60	ECS2YKC471M◇◇△△3560
		565	282	0,20	1,5	1,95	35 x 70	ECS2YKC471M◇◇△△3570
560	474	237	0,20	1,5	2,10	35 x 80	ECS2YKC561M◇◇△△3580	

6 000h at 105°C

- Long Life at High Temperature
- Large Case Sizes
- High Currents



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	350 ~ 420	450 ~ 550
Capacitance Range (μF)	390 ~ 3 300	
Capacitance Tolerance (20°C, 120Hz)	± 20%	



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	350 ~ 420	450 ~ 500
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		4	7
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		7	-

Fast Charge-Discharge Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

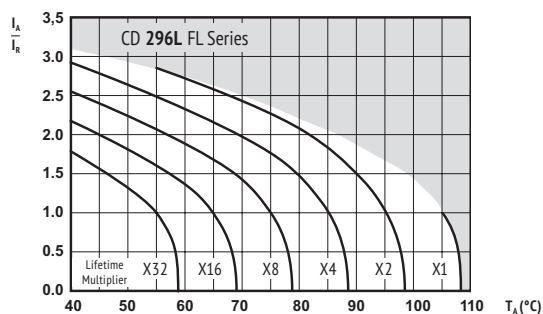
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	6 000h	> 200 000h	3 000h	4 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,2 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
Factor	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
350 (400) 2V	560	356	178	0,15	1,5	2,30	30 x 55	ECS2VFL561M◇◇△△3055
		356	178	0,15	1,5	2,33	35 x 40	ECS2VFL561M◇◇△△3540
	680	293	146	0,15	1,5	2,73	35 x 50	ECS2VFL681M◇◇△△3550
		293	146	0,15	1,5	2,68	40 x 40	ECS2VFL681M◇◇△△4040
	820	243	121	0,15	1,5	2,99	35 x 60	ECS2VFL821M◇◇△△3560
		243	121	0,15	1,5	3,05	40 x 45	ECS2VFL821M◇◇△△4045
	1 000	243	121	0,15	1,5	2,85	45 x 40	ECS2VFL821M◇◇△△4540
		199	100	0,15	1,5	3,50	35 x 65	ECS2VFL102M◇◇△△3565
	1 200	199	100	0,15	1,5	3,37	40 x 55	ECS2VFL102M◇◇△△4055
		199	100	0,15	1,5	3,06	45 x 45	ECS2VFL102M◇◇△△4545
	1 500	166	83	0,15	1,5	3,81	35 x 75	ECS2VFL122M◇◇△△3575
		166	83	0,15	1,5	3,81	40 x 65	ECS2VFL122M◇◇△△4065
	1 800	166	83	0,15	1,5	3,47	45 x 50	ECS2VFL122M◇◇△△4550
		133	66	0,15	1,5	4,62	40 x 80	ECS2VFL152M◇◇△△4080
	2 200	133	66	0,15	1,5	4,27	45 x 65	ECS2VFL152M◇◇△△4565
		111	55	0,15	1,5	5,43	40 x 95	ECS2VFL182M◇◇△△4095
	2 700	111	55	0,15	1,5	5,10	45 x 75	ECS2VFL182M◇◇△△4575
		91	45	0,15	1,5	5,86	45 x 90	ECS2VFL222M◇◇△△4590
	3 300	91	45	0,15	1,5	5,86	50 x 75	ECS2VFL222M◇◇△△5075
		74	37	0,15	1,5	6,77	45 x 100	ECS2VFL272M◇◇△△45100
		74	37	0,15	1,5	6,77	50 x 90	ECS2VFL272M◇◇△△5090
		61	30	0,15	1,5	6,77	50 x 105	ECS2VFL332M◇◇△△50105

400 (450) 2G	470	424	169	0,15	1,5	2,11	35 x 45	ECS2GFL471M◇◇△△3545
		424	169	0,15	1,5	2,14	40 x 40	ECS2GFL471M◇◇△△4040
	560	356	142	0,15	1,5	2,48	35 x 50	ECS2GFL561M◇◇△△3550
		356	142	0,15	1,5	2,43	40 x 45	ECS2GFL561M◇◇△△4045
	680	356	142	0,15	1,5	2,35	45 x 40	ECS2GFL561M◇◇△△4540
		293	117	0,15	1,5	2,73	35 x 60	ECS2GFL681M◇◇△△3560
	820	293	117	0,15	1,5	2,78	40 x 50	ECS2GFL681M◇◇△△4050
		293	117	0,15	1,5	2,59	45 x 40	ECS2GFL681M◇◇△△4540
	1 000	243	97	0,15	1,5	3,17	35 x 65	ECS2GFL821M◇◇△△3565
		243	97	0,15	1,5	3,05	40 x 55	ECS2GFL821M◇◇△△4055
	1 200	243	97	0,15	1,5	2,90	45 x 45	ECS2GFL821M◇◇△△4545
		199	80	0,15	1,5	3,48	35 x 80	ECS2GFL102M◇◇△△3580
	1 500	199	80	0,15	1,5	3,48	40 x 65	ECS2GFL102M◇◇△△4065
		199	80	0,15	1,5	3,17	45 x 55	ECS2GFL102M◇◇△△4555
	1 800	166	66	0,15	1,5	4,13	35 x 90	ECS2GFL122M◇◇△△3590
		166	66	0,15	1,5	4,13	40 x 80	ECS2GFL122M◇◇△△4080
	2 200	166	66	0,15	1,5	4,00	45 x 60	ECS2GFL122M◇◇△△4560
		133	53	0,15	1,5	4,39	40 x 90	ECS2GFL152M◇◇△△4090
	2 700	133	53	0,15	1,5	4,39	45 x 75	ECS2GFL152M◇◇△△4575
		133	53	0,15	1,5	4,39	50 x 70	ECS2GFL152M◇◇△△5070
		111	44	0,15	1,5	5,30	45 x 90	ECS2GFL182M◇◇△△4590
		111	44	0,15	1,5	5,30	50 x 80	ECS2GFL182M◇◇△△5080
		91	36	0,15	1,5	5,90	50 x 90	ECS2GFL222M◇◇△△5090
		74	29	0,15	1,5	6,50	50 x 105	ECS2GFL272M◇◇△△50105

420 (470) 2X	390	511	203	0,15	1,5	1,92	35 x 40	ECS2XFL391M◇◇△△3540
		511	203	0,15	1,5	1,95	40 x 35	ECS2XFL391M◇◇△△4035
	470	424	169	0,15	1,5	2,27	35 x 45	ECS2XFL471M◇◇△△3545
		424	169	0,15	1,5	2,23	40 x 40	ECS2XFL471M◇◇△△4040
	560	356	142	0,15	1,5	2,56	35 x 50	ECS2XFL561M◇◇△△3550
		356	142	0,15	1,5	2,52	40 x 45	ECS2XFL561M◇◇△△4045
	680	356	142	0,15	1,5	2,35	45 x 40	ECS2XFL561M◇◇△△4540
		293	117	0,15	1,5	2,81	35 x 60	ECS2XFL681M◇◇△△3560
	820	293	117	0,15	1,5	2,78	40 x 50	ECS2XFL681M◇◇△△4050
		293	117	0,15	1,5	2,52	45 x 45	ECS2XFL681M◇◇△△4545
	1 000	243	97	0,15	1,5	3,26	35 x 70	ECS2XFL821M◇◇△△3570
		243	97	0,15	1,5	3,05	40 x 60	ECS2XFL821M◇◇△△4060
	1 200	243	97	0,15	1,5	2,87	45 x 50	ECS2XFL821M◇◇△△4550
		199	80	0,15	1,5	3,67	35 x 80	ECS2XFL102M◇◇△△3580
	1 500	199	80	0,15	1,5	3,67	40 x 70	ECS2XFL102M◇◇△△4070
		166	66	0,15	1,5	4,33	40 x 80	ECS2XFL122M◇◇△△4080
		166	66	0,15	1,5	3,92	45 x 65	ECS2XFL122M◇◇△△4565
		133	53	0,15	1,5	4,62	45 x 80	ECS2XFL152M◇◇△△4580
		133	53	0,15	1,5	4,62	50 x 75	ECS2XFL152M◇◇△△5075

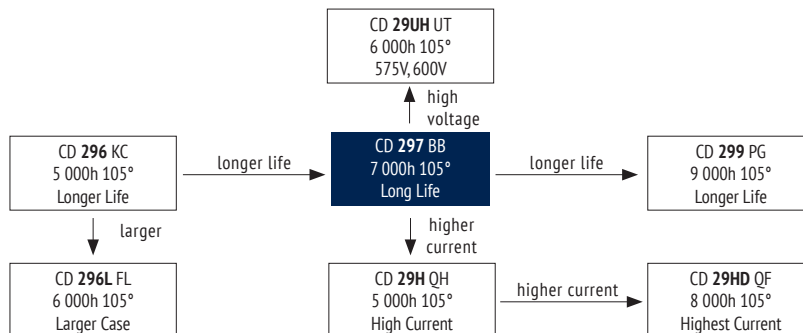
U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
420 (470) 2X	1 800	111	44	0,15	1,5	5,42	45 x 95	ECS2XFL182M◇◇△△4595
		111	44	0,15	1,5	5,42	50 x 85	ECS2XFL182M◇◇△△5085
	2 200	91	36	0,15	1,5	6,00	50 x 100	ECS2XFL222M◇◇△△50100

450 (500) 2W	390	511	225	0,15	1,5	2,00	35 x 40	ECS2WFL391M◇◇△△3540
		424	186	0,15	1,5	2,27	35 x 45	ECS2WFL471M◇◇△△3545
	470	424	186	0,15	1,5	2,23	40 x 40	ECS2WFL471M◇◇△△4040
		424	186	0,15	1,5	2,15	45 x 35	ECS2WFL471M◇◇△△4535
	560	356	156	0,15	1,5	2,47	35 x 55	ECS2WFL561M◇◇△△3555
		356	156	0,15	1,5	2,52	40 x 50	ECS2WFL561M◇◇△△4050
	680	356	156	0,15	1,5	2,35	45 x 40	ECS2WFL561M◇◇△△4540
		293	129	0,15	1,5	2,89	35 x 65	ECS2WFL681M◇◇△△3565
	820	293	129	0,15	1,5	2,78	40 x 60	ECS2WFL681M◇◇△△4060
		293	129	0,15	1,5	2,61	45 x 50	ECS2WFL681M◇◇△△4550
	1 000	243	107	0,15	1,5	3,24	35 x 75	ECS2WFL821M◇◇△△3575
		243	107	0,15	1,5	3,24	40 x 65	ECS2WFL821M◇◇△△4065
	1 200	243	107	0,15	1,5	3,10	45 x 50	ECS2WFL821M◇◇△△4550
		199	88	0,15	1,5	3,77	35 x 90	ECS2WFL102M◇◇△△3590
	1 500	199	88	0,15	1,5	3,77	40 x 80	ECS2WFL102M◇◇△△4080
		199	88	0,15	1,5	3,68	45 x 65	ECS2WFL102M◇◇△△4565
	1 800	166	73	0,15	1,5	4,43	40 x 95	ECS2WFL122M◇◇△△4095
		166	73	0,15	1,5	4,23	45 x 75	ECS2WFL122M◇◇△△4575
		166	73	0,15	1,5	4,23	50 x 65	ECS2WFL122M◇◇△△5065
		133	58	0,15	1,5	4,84	40 x 100	ECS2WFL152M◇◇△△40100
	1 500	133	58	0,15	1,5	4,84	45 x 90	ECS2WFL152M◇◇△△4590
		133	58	0,15	1,5	4,84	50 x 80	ECS2WFL152M◇◇△△5080
	1 800	111	49	0,15	1,5	5,30	45 x 105	ECS2WFL182M◇◇△△45105
		111	49	0,15	1,5	5,30	50 x 95	ECS2WFL182M◇◇△△5095

500 (550) 2H	390	511	225	0,15	1,5	1,80	35 x 50	ECS2HFL391M◇◇△△3550
		511	225	0,15	1,5	1,80	40 x 45	ECS2HFL391M◇◇△△4045
	470	424	186	0,15	1,5	2,00	35 x 55	ECS2HFL471M◇◇△△3555
		424	186	0,15	1,5	2,00	40 x 50	ECS2HFL471M◇◇△△4050
	560	424	186	0,15	1,5	2,00	45 x 40	ECS2HFL471M◇◇△△4540
		356	156	0,15	1,5	2,25	35 x 65	ECS2HFL561M◇◇△△3565
	680	356	156	0,15	1,5	2,25	40 x 55	ECS2HFL561M◇◇△△4055
		356	156	0,15	1,5	2,25	45 x 50	ECS2HFL561M◇◇△△4550
	820	293	129	0,15	1,5	2,60	35 x 75	ECS2HFL681M◇◇△△3575
		293	129	0,15	1,5	2,60	40 x 70	ECS2HFL681M◇◇△△4070
	1 000	293	129	0,15	1,5	2,60	45 x 55	ECS2HFL681M◇◇△△4555
		243	107	0,15	1,5	2,85	40 x 75	ECS2HFL821M◇◇△△4075
	1 200	243	107	0,15	1,5	2,85	45 x 60	ECS2HFL821M◇◇△△4560
		199	88	0,15	1,5	3,30	40 x 90	ECS2HFL102M◇◇△△4090
	1 500	199	88	0,15	1,5	3,30	45 x 75	ECS2HFL102M◇◇△△4575
		166	73	0,15	1,5	4,00	40 x 100	ECS2HFL122M◇◇△△40100
	1 800	166	73	0,15	1,5	4,00	45 x 85	ECS2HFL122M◇◇△△4585
		166	73	0,15	1,5	4,00	50 x 80	ECS2HFL122M◇◇△△5080
		133	58	0,15	1,5	4,45	45 x 100	ECS2HFL152M◇◇△△45100
		133	58	0,15	1,5	4,45	50 x 95	ECS2HFL152M◇◇△△5095
		111	49	0,15	1,5	4,85	50 x 105	ECS2HFL182M◇◇△

7 000h at 105°C

- Extended Lifetime at 105°C
- High Ripple Current
- High Professional Switch Mode Power Supplies
- Frequency Converters



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	25 ~ 100	160 ~ 550
Capacitance Range (μF)	100 ~ 27 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	25 ~ 100	160 ~ 250	315 ~ 550
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		4	3	8
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		15	-	-

Fast Charge-Discharge **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

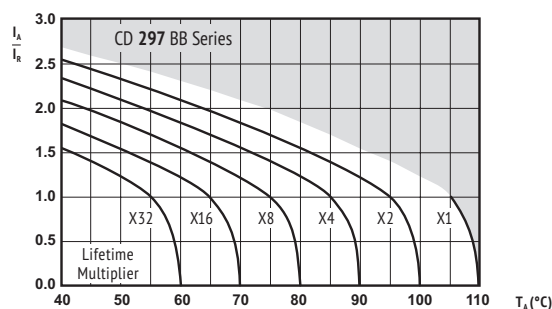
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	7 000h	> 200 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,6 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Rated Voltage (V)	50Hz	120Hz	500Hz	1kHz	10kHz	≥ 40 kHz
25 ~ 100	0,90	1,00	1,10	1,15	1,15	1,15
160 ~ 250	0,80	1,00	1,20	1,30	1,45	1,50
≥ 315	0,80	1,00	1,20	1,30	1,42	1,45

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
25 (32) 1E	8 200	73	51	0,45	1,5	2,18	25 x 35	ECS1EBB822M◇◇△△2535
		73	51	0,45	1,5	2,19	30 x 25	ECS1EBB822M◇◇△△3025
		60	42	0,45	1,5	2,56	22 x 50	ECS1EBB103M◇◇△△2250
	10 000	60	42	0,45	1,5	2,53	25 x 40	ECS1EBB103M◇◇△△2540
		60	42	0,45	1,5	2,38	30 x 30	ECS1EBB103M◇◇△△3030
		50	35	0,45	1,5	2,79	25 x 45	ECS1EBB123M◇◇△△2545
	12 000	50	35	0,45	1,5	2,70	30 x 35	ECS1EBB123M◇◇△△3035
		50	35	0,45	1,5	2,76	35 x 30	ECS1EBB123M◇◇△△3530
		40	28	0,45	1,5	3,13	30 x 40	ECS1EBB153M◇◇△△3040
	18 000	34	23	0,45	1,5	3,52	30 x 45	ECS1EBB183M◇◇△△3045
		34	23	0,45	1,5	3,50	35 x 35	ECS1EBB183M◇◇△△3535
	22 000	28	19	0,45	1,5	3,92	30 x 50	ECS1EBB223M◇◇△△3050
		28	19	0,45	1,5	3,95	35 x 40	ECS1EBB223M◇◇△△3540
	27 000	23	16	0,45	1,5	4,72	35 x 50	ECS1EBB273M◇◇△△3550

35 (44) 1V	6 800	79	55	0,40	1,5	2,49	22 x 50	ECS1VBB682M◇◇△△2250
		79	55	0,40	1,5	2,45	25 x 40	ECS1VBB682M◇◇△△2540
		79	55	0,40	1,5	2,28	30 x 30	ECS1VBB682M◇◇△△3030
	8 200	65	45	0,40	1,5	2,80	25 x 45	ECS1VBB822M◇◇△△2545
		65	45	0,40	1,5	2,69	30 x 30	ECS1VBB822M◇◇△△3030
		54	37	0,40	1,5	3,04	30 x 40	ECS1VBB103M◇◇△△3040
	10 000	54	37	0,40	1,5	2,78	35 x 30	ECS1VBB103M◇◇△△3530
		45	31	0,40	1,5	3,38	30 x 45	ECS1VBB123M◇◇△△3045
		45	31	0,40	1,5	3,30	35 x 35	ECS1VBB123M◇◇△△3535
	15 000	36	25	0,40	1,5	3,98	30 x 45	ECS1VBB153M◇◇△△3045
	18 000	30	21	0,40	1,5	4,40	35 x 45	ECS1VBB183M◇◇△△3545

50 (63) 1H	3 900	120	83	0,35	1,5	2,20	25 x 35	ECS1HBB392M◇◇△△2535
		120	83	0,35	1,5	2,19	30 x 30	ECS1HBB392M◇◇△△3030
		99	69	0,35	1,5	2,43	25 x 40	ECS1HBB472M◇◇△△2540
	5 600	83	58	0,35	1,5	2,72	25 x 45	ECS1HBB562M◇◇△△2545
		83	58	0,35	1,5	2,58	30 x 35	ECS1HBB562M◇◇△△3035
		83	58	0,35	1,5	2,35	35 x 30	ECS1HBB562M◇◇△△3530
	6 800	69	48	0,35	1,5	3,01	30 x 40	ECS1HBB682M◇◇△△3040
		69	48	0,35	1,5	2,91	35 x 35	ECS1HBB682M◇◇△△3535
		57	40	0,35	1,5	3,63	30 x 50	ECS1HBB822M◇◇△△3050
	8 200	57	40	0,35	1,5	3,36	35 x 40	ECS1HBB822M◇◇△△3540
		47	33	0,35	1,5	3,79	35 x 45	ECS1HBB103M◇◇△△3545
	12 000	39	27	0,35	1,5	4,06	35 x 50	ECS1HBB123M◇◇△△3550

63 (79) 1J	2 700	148	103	0,30	1,5	2,10	22 x 45	ECS1JBB272M◇◇△△2245
		148	103	0,30	1,5	2,03	25 x 35	ECS1JBB272M◇◇△△2535
		148	103	0,30	1,5	2,01	30 x 30	ECS1JBB272M◇◇△△3030
	3 300	121	84	0,30	1,5	2,33	25 x 40	ECS1JBB332M◇◇△△2540
		103	72	0,30	1,5	2,58	25 x 45	ECS1JBB392M◇◇△△2545
		103	72	0,30	1,5	2,46	30 x 35	ECS1JBB392M◇◇△△3035
	3 900	103	72	0,30	1,5	2,31	35 x 30	ECS1JBB392M◇◇△△3530
		85	59	0,30	1,5	2,82	30 x 40	ECS1JBB472M◇◇△△3040
		85	59	0,30	1,5	2,77	35 x 35	ECS1JBB472M◇◇△△3535
	4 700	72	50	0,30	1,5	3,22	30 x 45	ECS1JBB562M◇◇△△3045
		72	50	0,30	1,5	3,20	35 x 40	ECS1JBB562M◇◇△△3540
	6 800	59	41	0,30	1,5	3,61	35 x 45	ECS1JBB682M◇◇△△3545
	8 200	49	34	0,30	1,5	3,94	35 x 50	ECS1JBB822M◇◇△△3550

80 (100) 1K	1 500	222	155	0,25	1,2	1,70	22 x 40	ECS1KBB152M◇◇△△2240
		151	106	0,25	1,5	2,22	25 x 45	ECS1KBB222M◇◇△△2545
		151	106	0,25	1,5	2,02	30 x 30	ECS1KBB222M◇◇△△3030
	2 200	123	86	0,25	1,5	2,50	30 x 35	ECS1KBB272M◇◇△△3035
		123	86	0,25	1,5	2,45	35 x 30	ECS1KBB272M◇◇△△3530
		101	70	0,25	1,5	2,69	30 x 40	ECS1KBB332M◇◇△△3040
	3 300	101	70	0,25	1,5	2,60	35 x 35	ECS1KBB332M◇◇△△3535
		86	60	0,25	1,5	2,94	30 x 45	ECS1KBB392M◇◇△△3045
		86	60	0,25	1,5	3,00	35 x 40	ECS1KBB392M◇◇△△3540
	4 700	71	49	0,25	1,5	3,44	35 x 45	ECS1KBB472M◇◇△△3545
	5 600	60	42	0,25	1,5	3,72	35 x 50	ECS1KBB562M◇◇△△3550
	6 800	51	36	0,25	1,5	3,93	35 x 60	ECS1KBB682M◇◇△△3560

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
100 (125) 2A	1 200	222	155	0,20	1,2	1,76	25 x 35	ECS2ABB122M◇◇△△2535
		222	155	0,20	1,2	1,76	30 x 30	ECS2ABB122M◇◇△△3030
		177	124	0,20	1,5	2,00	22 x 50	ECS2ABB152M◇◇△△2250
	1 500	177	124	0,20	1,5	2,03	25 x 40	ECS2ABB152M◇◇△△2540
		148	103	0,20	1,5	2,29	25 x 45	ECS2ABB182M◇◇△△2545
		148	103	0,20	1,5	2,19	30 x 35	ECS2ABB182M◇◇△△3035
	1 800	148	103	0,20	1,5	2,15	35 x 30	ECS2ABB182M◇◇△△3530
		121	84	0,20	1,5	2,52	30 x 40	ECS2ABB222M◇◇△△3040
		121	84	0,20	1,5	2,48	35 x 35	ECS2ABB222M◇◇△△3535
	2 200	99	69	0,20	1,5	2,86	30 x 45	ECS2ABB272M◇◇△△3045
		99	69	0,20	1,5	2,87	35 x 40	ECS2ABB272M◇◇△△3540
	3 300	81	56	0,20	1,5	3,25	35 x 45	ECS2ABB332M◇◇△△3545
	3 900	69	48	0,20	1,5	3,56	35 x 50	ECS2ABB392M◇◇△△3550
	4 700	57	40	0,20	1,5	3,72	35 x 50	ECS2ABB472M◇◇△△3550

160 (200) 2C	560	356	249	0,15	0,9	1,26	22 x 45	ECS2CBB561M◇◇△△2245
		293	205	0,15	1,1	1,44	22 x 45	ECS2CBB681M◇◇△△2245
		293	205	0,15	1,1	1,43	25 x 40	ECS2CBB681M◇◇△△2540
	680	293	205	0,15	1,1	1,50	30 x 35	ECS2CBB681M◇◇△△3035
		243	170	0,15	1,3	1,63	25 x 45	ECS2CBB821M◇◇△△2545
		243	170	0,15	1,3	1,66	30 x 40	ECS2CBB821M◇◇△△3040
	1 000	199	139	0,15	1,5	1,89	30 x 45	ECS2CBB102M◇◇△△3045
		199	139	0,15	1,5	1,89	35 x 35	ECS2CBB102M◇◇△△3535
		166	116	0,15	1,5	2,16	30 x 50	ECS2CBB122M◇◇△△3050
	1 200	166	116	0,15	1,5	2,23	35 x 40	ECS2CBB122M◇◇△△3540
		133	93	0,15	1,5	2,61	35 x 45	ECS2CBB152M◇◇△△3545
		111	77	0,15	1,5	2,97	35 x 50	ECS2CBB182M◇◇△△3550
	2 200	90	62	0,15	1,5	3,22	30 x 55	ECS2CBB222M◇◇△△3055
	3 300	61	42	0,15	1,5	3,51	35 x 60	ECS2CBB332M◇◇△△3560

200 (250) 2D	470	424	296	0,15	0,9	1,17	22 x 45	ECS2DDB471M◇◇△△2245
		424	296	0,15	0,9	1,22	25 x 40	ECS2DDB471M◇◇△△2540
		424	296	0,15	0,9	1,17	30 x 30	ECS2DDB471M◇◇△△3030
	560	356	249	0,15	1,1	1,39	25 x 45	ECS2DDB561M◇◇△△2545
		356	249	0,15	1,1	1,38	30 x 35	ECS2DDB561M◇◇△△3035
		293	205	0,15	1,4	1,58	25 x 50	ECS2DDB681M◇◇△△2550
	680	293	205	0,15	1,4	1,61	30 x 40	ECS2DDB681M◇◇△△3040
		293	205	0,15	1,4	1,49	35 x 30	ECS2DDB681M◇◇△△3530
		243	170	0,15	1,5	1,85	30 x 45	ECS2DDB821M◇◇△△3045
	820	243	170	0,15	1,5	1,75	35 x 35	ECS2DDB821M◇◇△△3535
		199	139	0,15	1,5	2,11	30 x 50	ECS2DDB102M◇◇△△3050
		199	139	0,15	1,5	2,07	35 x 40	ECS2DDB102M◇◇△△3540
	1 200	166	116	0,15	1,5	2,38	30 x 50	ECS2DDB122M◇◇△△3050
	1 500	133	93	0,15	1,5	2,76	35 x 50	ECS2DDB152M◇◇△△3550

250 (300) 2E	330	603	422	0,15	0,8	1,01	22 x 45	ECS2EBB331M◇◇△△2245
		603	422	0,15	0,8	1,00	30 x 30	ECS2EBB331M◇◇△△3030
	390	511	357	0,15	1,0	1,13	22 x 50	ECS2EBB391M◇◇△△2250
		511	357	0,15	1,0	1,13	25 x 40	ECS2EBB391M◇◇△△2540
	470	511	357	0,15	1,0	1,15	30 x 35	ECS2EBB391M◇◇△△3035
		424	296	0,15	1,2	1,29	25 x 45	ECS2EBB471M◇◇△△2545
		424	296	0,15	1,2	1,24	35 x 30	ECS2EBB471M◇◇△△3530
	560	356	249	0,15	1,4	1,45	25 x 50	ECS2EBB561M◇◇△△2550
		356	249	0,15	1,4	1,48	30 x 40	ECS2EBB561M◇◇△△3040
		356	249	0,15	1,4	1,49	35 x 35	ECS2EBB561M◇◇△△3535
	680	293	205	0,15	1,5	1,71	30 x 45	ECS2EBB681M◇◇△△3045
		293	205	0,15	1,5	1,74	35 x 40	ECS2EBB681M◇◇△△3540
	820	243	170	0,15	1,5	1,94	30 x 50	ECS2EBB821M◇◇△△3050
	1 000	199	139	0,15	1,5	2,20	35 x 45	ECS2EBB102M◇◇△△3545
1 200	166	111	0,15	1,5	2,45	35 x 45	ECS2EBB122M◇◇△△3545	



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	

315 (365) 2F	560	356	196	0,15	1,5	1,34	25 x 50	ECS2FBB561M◇◇△△2550
	680	294	162	0,15	1,5	1,72	30 x 50	ECS2FBB681M◇◇△△3050
		294	162	0,15	1,5	1,78	35 x 40	ECS2FBB681M◇◇△△3540
	820	243	134	0,15	1,5	1,95	30 x 50	ECS2FBB821M◇◇△△3050
	1 000	199	109	0,15	1,5	2,35	35 x 45	ECS2FBB102M◇◇△△3545
	1 200	166	91	0,15	1,5	2,70	35 x 50	ECS2FBB122M◇◇△△3550
	1 500	133	73	0,15	1,5	3,15	35 x 60	ECS2FBB152M◇◇△△3560
		133	73	0,15	1,5	3,46	35 x 75	ECS2FBB152M◇◇△△3575

350 (400) 2V	150	1 327	730	0,15	0,5	0,59	22 x 40	ECS2VBB151M◇◇△△2240
		1 327	730	0,15	0,5	0,60	25 x 35	ECS2VBB151M◇◇△△2535
		1 106	608	0,15	0,6	0,68	22 x 45	ECS2VBB181M◇◇△△2245
	180	1 106	608	0,15	0,6	0,70	25 x 40	ECS2VBB181M◇◇△△2540
		1 106	680	0,15	0,6	0,71	30 x 30	ECS2VBB181M◇◇△△3030
		905	498	0,15	0,8	0,78	22 x 50	ECS2VBB221M◇◇△△2250
	220	905	498	0,15	0,8	0,82	25 x 45	ECS2VBB221M◇◇△△2545
		905	498	0,15	0,8	0,82	30 x 35	ECS2VBB221M◇◇△△3035
		737	406	0,15	0,9	0,94	25 x 50	ECS2VBB271M◇◇△△2550
	270	737	406	0,15	0,9	0,93	30 x 40	ECS2VBB271M◇◇△△3040
		737	406	0,15	0,9	0,90	35 x 30	ECS2VBB271M◇◇△△3530
		603	332	0,15	1,2	1,05	30 x 45	ECS2VBB331M◇◇△△3045
	330	603	332	0,15	1,2	1,01	35 x 35	ECS2VBB331M◇◇△△3535
		511	281	0,15	1,4	1,18	30 x 50	ECS2VBB391M◇◇△△3050
		511	281	0,15	1,4	1,13	35 x 40	ECS2VBB391M◇◇△△3540
	470	424	233	0,15	1,5	1,26	35 x 45	ECS2VBB471M◇◇△△3545
	560	356	196	0,15	1,5	1,39	35 x 50	ECS2VBB561M◇◇△△3550

■ = non-preferred

400 (450) 2G	150	1 327	690	0,15	0,6	0,65	25 x 30	ECS2GBB151M◇◇△△2530
		905	471	0,15	0,9	0,79	22 x 50	ECS2GBB221M◇◇△△2250
		905	471	0,15	0,9	0,85	25 x 35	ECS2GBB221M◇◇△△2535
	220	905	471	0,15	0,9	0,89	35 x 20	ECS2GBB221M◇◇△△3520
		737	383	0,15	1,1	0,96	35 x 25	ECS2GBB271M◇◇△△3525
		603	314	0,15	1,3	1,07	30 x 35	ECS2GBB331M◇◇△△3035
	330	603	314	0,15	1,3	1,12	30 x 50	ECS2GBB331M◇◇△△3050
		603	314	0,15	1,3	1,18	35 x 30	ECS2GBB331M◇◇△△3530
		511	265	0,15	1,5	1,21	30 x 35	ECS2GBB391M◇◇△△3035
	390	511	265	0,15	1,3	1,27	30 x 50	ECS2GBB391M◇◇△△3050
		424	220	0,15	1,5	1,31	30 x 50	ECS2GBB471M◇◇△△3050
		424	220	0,15	1,5	1,33	35 x 50	ECS2GBB471M◇◇△△3550
	560	356	185	0,15	1,5	1,49	30 x 50	ECS2GBB561M◇◇△△3050
		356	185	0,15	1,5	1,53	35 x 50	ECS2GBB561M◇◇△△3550
		293	153	0,15	1,5	1,82	30 x 50	ECS2GBB681M◇◇△△3050
	680	293	153	0,15	1,5	1,88	30 x 55	ECS2GBB681M◇◇△△3055
		243	126	0,15	1,5	2,16	35 x 55	ECS2GBB821M◇◇△△3555
		199	100	0,15	1,5	2,57	35 x 60	ECS2GBB102M◇◇△△3560
	1 000	199	100	0,15	1,5	2,82	35 x 75	ECS2GBB102M◇◇△△3575
		166	86	0,15	1,5	3,28	35 x 75	ECS2GBB122M◇◇△△3575

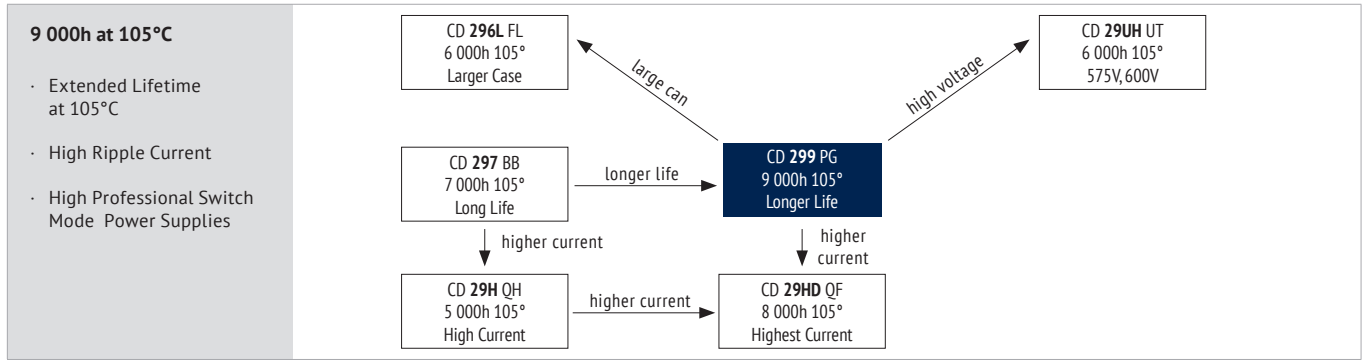
450 (500) 2W	120	2 211	1 106	0,20	0,6	0,58	22 x 30	ECS2WBB121M◇◇△△2230
	150	1 769	884	0,20	0,7	0,66	22 x 35	ECS2WBB151M◇◇△△2235
		1 769	884	0,20	0,7	0,68	25 x 40	ECS2WBB151M◇◇△△2540
		1 474	737	0,20	0,7	0,74	25 x 45	ECS2WBB181M◇◇△△2545
	180	1 474	737	0,20	0,8	0,77	30 x 30	ECS2WBB181M◇◇△△3030
	220	1 206	603	0,20	1,0	0,88	30 x 30	ECS2WBB221M◇◇△△3030
	270	983	491	0,20	1,2	0,99	25 x 50	ECS2WBB271M◇◇△△2550
		983	491	0,20	1,2	1,01	30 x 30	ECS2WBB271M◇◇△△3030
		804	402	0,20	1,5	1,12	30 x 35	ECS2WBB331M◇◇△△3035
	330	804	402	0,20	1,5	1,15	35 x 30	ECS2WBB331M◇◇△△3530
		681	340	0,20	1,5	1,26	30 x 40	ECS2WBB391M◇◇△△3040
		681	340	0,20	1,5	1,28	35 x 35	ECS2WBB391M◇◇△△3535
	470	565	282	0,20	1,5	1,47	35 x 40	ECS2WBB471M◇◇△△3540
		565	282	0,20	1,5	1,50	35 x 45	ECS2WBB471M◇◇△△3545
		476	245	0,20	1,5	1,68	35 x 50	ECS2WBB561M◇◇△△3550
	560	395	200	0,20	1,5	1,92	35 x 50	ECS2WBB681M◇◇△△3550
		395	200	0,20	1,5	1,97	35 x 60	ECS2WBB681M◇◇△△3560
		328	165	0,20	1,5	2,18	35 x 60	ECS2WBB821M◇◇△△3560

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	

500 (550) 2H	1 000	270	135	0,20	1,5	2,56	35 x 70	ECS2WBB102M◇◇△△3570
		270	135	0,20	1,5	2,66	35 x 75	ECS2WBB102M◇◇△△3575
	100	2 653	1 327	0,20	0,5	0,67	25 x 30	ECS2HBB101M◇◇△△2530
	120	2 211	1 106	0,20	0,7	0,77	25 x 30	ECS2HBB121M◇◇△△2530
	180	1 474	737	0,20	0,9	0,98	25 x 50	ECS2HBB181M◇◇△△2550
	220	1 206	603	0,20	1,1	1,12	30 x 35	ECS2HBB221M◇◇△△3035
	270	983	492	0,20	1,4	1,25	30 x 50	ECS2HBB271M◇◇△△3050
	330	804	402	0,20	1,5	1,36	35 x 45	ECS2HBB331M◇◇△△3545
	390	681	340	0,20	1,5	1,54	35 x 50	ECS2HBB391M◇◇△△3550
	470	565	282	0,20	1,5	1,69	35 x 60	ECS2HBB471M◇◇△△3560
	560	476	238	0,20	1,5	1,86	35 x 60	ECS2HBB561M◇◇△△3560
	680	395	198	0,20	1,5	2,17	35 x 70	ECS2HBB681M◇◇△△3570

550 (600) 2Y	150	1 769	885	0,20	0,8	0,92	30 x 35	ECS2YBB151M◇◇△△3035
	180	1 474	737	0,20	1,0	1,03	30 x 40	ECS2YBB181M◇◇△△3040
	220	1 206	603	0,20	1,2	1,15	30 x 50	ECS2YBB221M◇◇△△3050
	270	983	492	0,20	1,5	1,30	35 x 45	ECS2YBB271M◇◇△△3545
	330	804	402	0,20	1,5	1,48	35 x 55	ECS2YBB331M◇◇△△3555
	390	681	340	0,20	1,5	1,65	35 x 60	ECS2YBB391M◇◇△△3560
	470	565	282	0,20	1,5	1,90	35 x 60	ECS2YBB471M◇◇△△3560
		565	282	0,20	1,5	1,92	35 x 70	ECS2YBB471M◇◇△△3570
		560	473	0,20	1,5	2,05	35 x 80	ECS2YBB561M◇◇△△3580
	680	390	196	0,20	1,5	2,39	40 x 75	ECS2YBB681M◇◇△△4075





ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105	Lower Voltages on request.
Voltage Range (V)	160 ~ 250	315 ~ 500	
Capacitance Range (µF)	120 ~ 2 200		
Capacitance Tolerance (20°C, 120Hz)	± 20%		

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	≤ 250	315 ~ 500
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	3	8
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	12	-

Fast Charge-Discharge **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

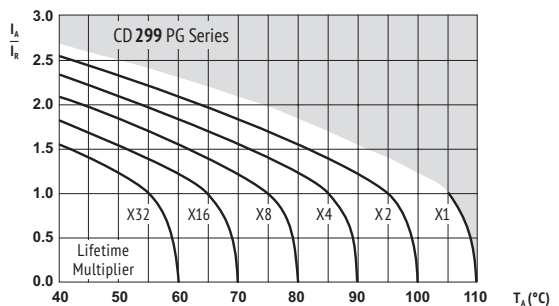
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	9 000h	> 200 000h	7 000h	7 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 50°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Rated Voltage (V)	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 40 kHz
160 ~ 250	0,80	1,00	1,17	1,30	1,45	1,50
≥ 315	0,80	1,00	1,16	1,30	1,43	1,45

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

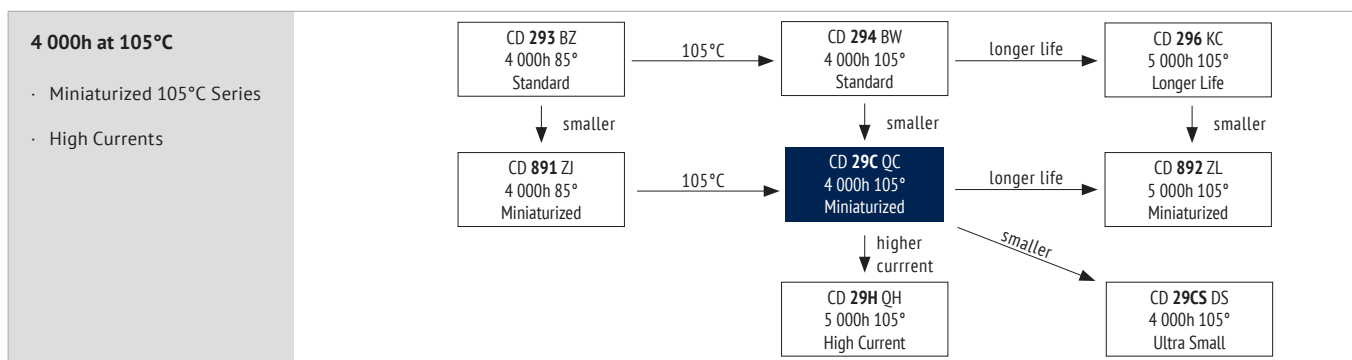
! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
160 (200) 2C	560	356	249	0,15	0,9	1,50	22 x 40	ECS2CPG561M◇◇△△2240
		356	249	0,15	0,9	1,50	30 x 25	ECS2CPG561M◇◇△△3025
		293	205	0,15	1,1	1,70	22 x 45	ECS2CPG681M◇◇△△2245
	680	293	205	0,15	1,1	1,70	25 x 35	ECS2CPG681M◇◇△△2535
		293	205	0,15	1,1	1,70	30 x 30	ECS2CPG681M◇◇△△3030
		243	170	0,15	1,3	2,00	25 x 40	ECS2CPG821M◇◇△△2540
	1 000	199	139	0,15	1,5	2,20	25 x 45	ECS2CPG102M◇◇△△2545
		199	139	0,15	1,5	2,20	30 x 35	ECS2CPG102M◇◇△△3035
		166	116	0,15	1,5	2,30	25 x 50	ECS2CPG122M◇◇△△2550
	1 200	166	116	0,15	1,5	2,30	30 x 40	ECS2CPG122M◇◇△△3040
		166	116	0,15	1,5	2,30	35 x 35	ECS2CPG122M◇◇△△3535
		133	93	0,15	1,5	2,50	30 x 45	ECS2CPG152M◇◇△△3045
	1 500	133	93	0,15	1,5	2,50	35 x 40	ECS2CPG152M◇◇△△3540
		111	77	0,15	1,5	2,70	30 x 50	ECS2CPG182M◇◇△△3050
		111	77	0,15	1,5	2,70	35 x 45	ECS2CPG182M◇◇△△3545
	2 200	91	63	0,15	1,5	2,90	35 x 50	ECS2CPG222M◇◇△△3550
200 (250) 2D	470	424	296	0,15	0,9	1,40	22 x 40	ECS2DPG471M◇◇△△2240
		424	296	0,15	0,9	1,40	25 x 35	ECS2DPG471M◇◇△△2535
		424	296	0,15	0,9	1,40	30 x 30	ECS2DPG471M◇◇△△3030
	560	356	249	0,15	1,1	1,50	22 x 45	ECS2DPG561M◇◇△△2245
		293	205	0,15	1,4	1,70	25 x 40	ECS2DPG681M◇◇△△2540
		293	205	0,15	1,4	1,70	30 x 35	ECS2DPG681M◇◇△△3035
	680	243	170	0,15	1,5	2,00	25 x 50	ECS2DPG821M◇◇△△2550
		243	170	0,15	1,5	2,00	30 x 40	ECS2DPG821M◇◇△△3040
		243	170	0,15	1,5	2,00	35 x 30	ECS2DPG821M◇◇△△3530
	1 000	199	139	0,15	1,5	2,20	30 x 45	ECS2DPG102M◇◇△△3045
		199	139	0,15	1,5	2,20	35 x 35	ECS2DPG102M◇◇△△3535
		166	116	0,15	1,5	2,30	30 x 50	ECS2DPG122M◇◇△△3050
	1 200	166	116	0,15	1,5	2,30	35 x 40	ECS2DPG122M◇◇△△3540
		133	93	0,15	1,5	2,50	35 x 50	ECS2DPG152M◇◇△△3550
250 (300) 2E	330	603	422	0,15	0,8	1,20	22 x 40	ECS2EPG331M◇◇△△2240
		603	422	0,15	0,8	1,20	25 x 35	ECS2EPG331M◇◇△△2535
		511	357	0,15	1,0	1,30	22 x 45	ECS2EPG391M◇◇△△2245
	390	511	357	0,15	1,0	1,30	25 x 40	ECS2EPG391M◇◇△△2540
		511	357	0,15	1,0	1,30	30 x 30	ECS2EPG391M◇◇△△3030
		424	296	0,15	1,2	1,40	25 x 45	ECS2EPG471M◇◇△△2545
	470	424	296	0,15	1,2	1,40	30 x 35	ECS2EPG471M◇◇△△3035
		424	296	0,15	1,2	1,40	35 x 30	ECS2EPG471M◇◇△△3530
		356	249	0,15	1,4	1,50	25 x 50	ECS2EPG561M◇◇△△2550
	680	293	205	0,15	1,5	1,70	30 x 45	ECS2EPG681M◇◇△△3045
		293	205	0,15	1,5	1,70	35 x 35	ECS2EPG681M◇◇△△3535
		243	170	0,15	1,5	2,00	30 x 50	ECS2EPG821M◇◇△△3050
	820	243	170	0,15	1,5	2,00	35 x 40	ECS2EPG821M◇◇△△3540
		199	139	0,15	1,5	2,20	35 x 45	ECS2EPG102M◇◇△△3545
	1 000	166	116	0,15	1,5	2,30	35 x 50	ECS2EPG122M◇◇△△3550
315 (365) 2F	220	905	498	0,15	0,7	1,00	22 x 45	ECS2FPG221M◇◇△△2245
		905	498	0,15	0,7	1,00	25 x 40	ECS2FPG221M◇◇△△2540
		905	498	0,15	0,7	1,00	30 x 30	ECS2FPG221M◇◇△△3030
	270	737	406	0,15	0,9	1,10	25 x 45	ECS2FPG271M◇◇△△2545
		737	406	0,15	0,9	1,10	30 x 35	ECS2FPG271M◇◇△△3035
		737	406	0,15	0,9	1,10	35 x 30	ECS2FPG271M◇◇△△3530
	330	603	332	0,15	1,0	1,20	25 x 50	ECS2FPG331M◇◇△△2550
		603	332	0,15	1,0	1,20	30 x 40	ECS2FPG331M◇◇△△3040
		511	281	0,15	1,2	1,30	30 x 45	ECS2FPG391M◇◇△△3045
	390	511	281	0,15	1,2	1,30	35 x 35	ECS2FPG391M◇◇△△3535
		424	233	0,15	1,5	1,40	30 x 50	ECS2FPG471M◇◇△△3050
		424	233	0,15	1,5	1,40	35 x 40	ECS2FPG471M◇◇△△3540
	560	356	196	0,15	1,5	1,50	35 x 45	ECS2FPG561M◇◇△△3545
		293	161	0,15	1,5	1,70	35 x 50	ECS2FPG681M◇◇△△3550
350 (400) 2V	180	1 106	608	0,15	0,6	0,90	22 x 45	ECS2VPG181M◇◇△△2245
		1 106	608	0,15	0,6	0,90	25 x 35	ECS2VPG181M◇◇△△2535
		1 106	608	0,15	0,6	0,90	30 x 30	ECS2VPG181M◇◇△△3030
	220	905	498	0,15	0,8	1,00	22 x 50	ECS2VPG221M◇◇△△2250
		905	498	0,15	0,8	1,00	25 x 40	ECS2VPG221M◇◇△△2540

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
350 (400) 2V	270	737	406	0,15	0,9	1,10	25 x 50	ECS2VPG271M◇◇△△2550
		737	406	0,15	0,9	1,10	30 x 35	ECS2VPG271M◇◇△△3035
		737	406	0,15	0,9	1,10	35 x 30	ECS2VPG271M◇◇△△3530
	330	603	332	0,15	1,2	1,20	30 x 45	ECS2VPG331M◇◇△△3045
		603	332	0,15	1,2	1,20	35 x 35	ECS2VPG331M◇◇△△3535
		511	281	0,15	1,4	1,30	30 x 50	ECS2VPG391M◇◇△△3050
	390	511	281	0,15	1,4	1,30	35 x 40	ECS2VPG391M◇◇△△3540
		356	196	0,15	1,5	1,50	35 x 50	ECS2VPG561M◇◇△△3550
400 (450) 2G	120	1 658	912	0,15	0,5	0,62	22 x 40	ECS2GPG121M◇◇△△2240
		1 658	912	0,15	0,5	0,64	25 x 35	ECS2GPG121M◇◇△△2535
	150	1 327	730	0,15	0,6	0,69	22 x 50	ECS2GPG151M◇◇△△2250
		1 327	730	0,15	0,6	0,69	25 x 40	ECS2GPG151M◇◇△△2540
	180	1 106	608	0,15	0,7	0,72	25 x 45	ECS2GPG181M◇◇△△2545
		1 106	608	0,15	0,7	0,78	30 x 35	ECS2GPG181M◇◇△△3035
	220	905	498	0,15	0,9	0,83	25 x 50	ECS2GPG221M◇◇△△2550
		905	498	0,15	0,9	0,81	30 x 40	ECS2GPG221M◇◇△△3040
	270	737	406	0,15	1,1	0,89	30 x 35	ECS2GPG271M◇◇△△3035
		737	406	0,15	1,1	0,82	35 x 25	ECS2GPG271M◇◇△△3525
	330	603	332	0,15	1,3	1,07	30 x 40	ECS2GPG331M◇◇△△3040
		603	332	0,15	1,3	1,02	35 x 30	ECS2GPG331M◇◇△△3530
	390	511	281	0,15	1,5	1,21	30 x 45	ECS2GPG391M◇◇△△3045
		511	281	0,15	1,5	1,18	35 x 35	ECS2GPG391M◇◇△△3535
	470	424	233	0,15	1,5	1,23	30 x 50	ECS2GPG471M◇◇△△3050
		424	233	0,15	1,5	1,22	35 x 40	ECS2GPG471M◇◇△△3540
	560	356	196	0,15	1,5	1,50	30 x 55	ECS2GPG561M◇◇△△3055
		356	196	0,15	1,5	1,50	35 x 45	ECS2GPG561M◇◇△△3545
	680	293	161	0,15	1,5	1,79	35 x 50	ECS2GPG681M◇◇△△3550
	820	243	135	0,15	1,5	2,07	35 x 55	ECS2GPG821M◇◇△△3555
450 (500) 2W	120	2 211	995	0,20	0,5	0,69	25 x 30	ECS2WPG121M◇◇△△2530
		1 769	796	0,20	0,7	0,77	25 x 35	ECS2WPG151M◇◇△△2535
	150	1 769	796	0,20	0,7	0,73	30 x 25	ECS2WPG151M◇◇△△3025
		1 474	664	0,20	0,8	0,83	25 x 40	ECS2WPG181M◇◇△△2540
	180	1 474	664	0,20	0,8	0,81	30 x 30	ECS2WPG181M◇◇△△3030
		1 206	543	0,20	1,0	0,96	30 x 35	ECS2WPG221M◇◇△△3035
	220	1 206	543	0,20	1,0	0,89	35 x 25	ECS2WPG221M◇◇△△3525
		983	442	0,20	1,2	1,09	30 x 40	ECS2WPG271M◇◇△△3040
	270	783	442	0,20	1,2	1,04	35 x 30	ECS2WPG271M◇◇△△3530
		804	362	0,20	1,5	1,21	30 x 45	ECS2WPG331M◇◇△△3045
	330	804	362	0,20	1,5	1,18	35 x 35	ECS2WPG331M◇◇△△3535
		680	306	0,20	1,5	1,24	30 x 50	ECS2WPG391M◇◇△△3050
	390	680	306	0,20	1,5	1,23	35 x 40	ECS2WPG391M◇◇△△3540
		565	254	0,20	1,5	1,41	30 x 55	ECS2WPG471M◇◇△△3055
	470	565	254	0,20	1,5	1,41	35 x 45	ECS2WPG471M◇◇△△3545
		474	213	0,20	1,5	1,58	30 x 60	ECS2WPG561M◇◇△△3060
	560	474	213	0,20	1,5	1,60	35 x 50	ECS2WPG561M◇◇△△3550
		390	176	0,20	1,5	1,83	35 x 55	ECS2WPG681M◇◇△△3555
	680	324	146	0,20	1,5	2,07	35 x 60	ECS2WPG821M◇◇△△3560
500 (550) 2H	120	2 211	1 106	0,20	0,6	0,72	22 x 50	ECS2HPG121M◇◇△△2250
		2 211	1 106	0,20	0,6	0,68	25 x 40	ECS2HPG121M◇◇△△2540
	150	1 769	885	0,20	0,8	0,85	25 x 45	ECS2HPG151M◇◇△△2545
		1 769	885	0,20	0,8	0,80	30 x 30	ECS2HPG151M◇◇△△3030
	180	1 474	737	0,20	0,9	0,92	25 x 50	ECS2HPG181M◇◇△△2



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105	
Voltage Range (V)	200 ~ 250	400 ~ 450	Lower Voltages on request.
Capacitance Range (µF)	180 ~ 2 700		
Capacitance Tolerance (20°C, 120Hz)	± 20%		

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current: After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	200	250	400	450
Impedance Ratio	$Z_{-25°C} / Z_{+20°C}$	4		8	
	$Z_{-40°C} / Z_{+20°C}$	12		-	

Fast Charge-Discharge: **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

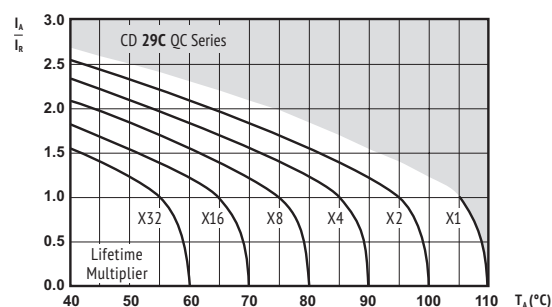
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	4 000h	> 180 000h	2 000h	3 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Rated Voltage (V)	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
200 ~ 250	0,80	1,00	1,17	1,32	1,45	1,50
400 ~ 450	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
200 (250) 2D	560	355	248	0,15	1,1	1,48	25 x 30	ECS2DQC561M◇◇△△2530
		293	204	0,15	1,4	1,62	22 x 40	ECS2DQC681M◇◇△△2240
		293	204	0,15	1,4	1,60	25 x 30	ECS2DQC681M◇◇△△2530
	680	293	204	0,15	1,4	1,60	30 x 25	ECS2DQC681M◇◇△△3025
		243	169	0,15	1,5	1,75	22 x 45	ECS2DQC821M◇◇△△2245
		243	169	0,15	1,5	1,75	25 x 35	ECS2DQC821M◇◇△△2535
	820	243	169	0,15	1,5	1,75	30 x 30	ECS2DQC821M◇◇△△3030
		199	139	0,15	1,5	2,04	22 x 50	ECS2DQC102M◇◇△△2250
		199	139	0,15	1,5	2,04	25 x 40	ECS2DQC102M◇◇△△2540
	1 000	199	139	0,15	1,5	2,04	30 x 35	ECS2DQC102M◇◇△△3035
		199	139	0,15	1,5	2,04	35 x 25	ECS2DQC102M◇◇△△3525
		166	116	0,15	1,5	2,30	25 x 45	ECS2DQC122M◇◇△△2545
	1 200	166	116	0,15	1,5	2,30	30 x 35	ECS2DQC122M◇◇△△3035
		133	92	0,15	1,5	2,57	30 x 40	ECS2DQC152M◇◇△△3040
	1 500	133	92	0,15	1,5	2,57	35 x 30	ECS2DQC152M◇◇△△3530
		111	77	0,15	1,5	2,68	30 x 50	ECS2DQC182M◇◇△△3050
	1 800	111	77	0,15	1,5	2,68	35 x 35	ECS2DQC182M◇◇△△3535
		91	63	0,15	1,5	2,92	35 x 45	ECS2DQC222M◇◇△△3545
	2 700	74	51	0,15	1,5	3,30	35 x 50	ECS2DQC272M◇◇△△3550

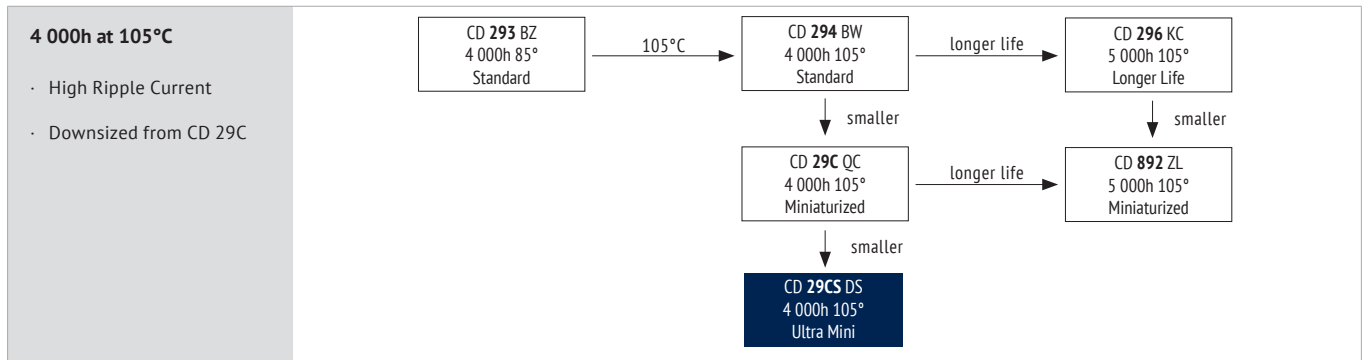
U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
450 (500) 2W	330	804	422	0,20	1,5	1,28	25 x 50	ECS2WQC331M◇◇△△2550
		804	422	0,20	1,5	1,31	30 x 35	ECS2WQC331M◇◇△△3035
		804	422	0,20	1,5	1,25	35 x 30	ECS2WQC331M◇◇△△3530
	390	681	357	0,20	1,5	1,41	30 x 40	ECS2WQC391M◇◇△△3040
		681	357	0,20	1,5	1,45	35 x 35	ECS2WQC391M◇◇△△3535
		565	296	0,20	1,5	1,52	30 x 45	ECS2WQC471M◇◇△△3045
	470	565	296	0,20	1,5	1,61	35 x 40	ECS2WQC471M◇◇△△3540
		560	474	0,20	1,5	1,75	35 x 45	ECS2WQC561M◇◇△△3545
	680	391	204	0,20	1,5	1,93	35 x 50	ECS2WQC681M◇◇△△3550

250 (300) 2E	470	424	296	0,15	1,2	1,56	22 x 40	ECS2EQC471M◇◇△△2240
		424	296	0,15	1,2	1,56	25 x 30	ECS2EQC471M◇◇△△2530
		356	248	0,15	1,4	1,74	22 x 45	ECS2EQC561M◇◇△△2245
	560	356	248	0,15	1,4	1,74	25 x 35	ECS2EQC561M◇◇△△2535
		293	204	0,15	1,5	1,92	22 x 50	ECS2EQC681M◇◇△△2250
		293	204	0,15	1,5	1,92	25 x 40	ECS2EQC681M◇◇△△2540
	680	293	204	0,15	1,5	1,92	30 x 30	ECS2EQC681M◇◇△△3030
		243	169	0,15	1,5	2,13	25 x 45	ECS2EQC821M◇◇△△2545
		243	169	0,15	1,5	2,13	30 x 35	ECS2EQC821M◇◇△△3035
	1 000	199	139	0,15	1,5	2,40	25 x 50	ECS2EQC102M◇◇△△2550
		199	139	0,15	1,5	2,40	30 x 40	ECS2EQC102M◇◇△△3040
		199	139	0,15	1,5	2,40	35 x 30	ECS2EQC102M◇◇△△3530
	1 200	166	139	0,15	1,5	2,55	30 x 40	ECS2EQC122M◇◇△△3040
		133	92	0,15	1,5	2,73	30 x 50	ECS2EQC152M◇◇△△3050
	1 500	133	92	0,15	1,5	2,73	35 x 40	ECS2EQC152M◇◇△△3540
		111	77	0,15	1,5	2,82	35 x 45	ECS2EQC182M◇◇△△3545
	2 200	91	63	0,15	1,5	2,95	35 x 50	ECS2EQC222M◇◇△△3550

400 (450) 2G	220	905	633	0,15	0,9	0,87	25 x 30	ECS2GQC221M◇◇△△2530
		737	516	0,15	1,1	0,93	22 x 40	ECS2GQC271M◇◇△△2240
		737	516	0,15	1,1	1,05	25 x 35	ECS2GQC271M◇◇△△2535
	270	737	516	0,15	1,1	1,02	30 x 25	ECS2GQC271M◇◇△△3025
		603	422	0,15	1,3	1,16	22 x 50	ECS2GQC331M◇◇△△2250
		603	422	0,15	1,3	1,14	25 x 40	ECS2GQC331M◇◇△△2540
	330	603	422	0,15	1,3	1,14	30 x 30	ECS2GQC331M◇◇△△3030
		603	422	0,15	1,3	1,13	35 x 25	ECS2GQC331M◇◇△△3525
		511	357	0,15	1,5	1,45	25 x 45	ECS2GQC391M◇◇△△2545
	390	511	357	0,15	1,5	1,47	30 x 35	ECS2GQC391M◇◇△△3035
		511	357	0,15	1,5	1,50	35 x 30	ECS2GQC391M◇◇△△3530
		424	296	0,15	1,5	1,54	25 x 50	ECS2GQC471M◇◇△△2550
	470	424	296	0,15	1,5	1,61	30 x 40	ECS2GQC471M◇◇△△3040
		424	296	0,15	1,5	1,50	35 x 30	ECS2GQC471M◇◇△△3530
		356	248	0,15	1,5	1,70	30 x 45	ECS2GQC561M◇◇△△3045
	560	356	248	0,15	1,5	1,67	35 x 35	ECS2GQC561M◇◇△△3535
		293	204	0,15	1,5	1,82	30 x 50	ECS2GQC681M◇◇△△3050
		293	204	0,15	1,5	1,87	35 x 40	ECS2GQC681M◇◇△△3540
	680	243	169	0,15	1,5	2,08	35 x 45	ECS2GQC821M◇◇△△3545
		243	169	0,15	1,5	2,14	30 x 60	ECS2GQC821M◇◇△△3060

450 (500) 2W	180	1474	774	0,20	0,8	0,79	25 x 30	ECS2WQC181M◇◇△△2530
		1206	633	0,20	1,0	0,85	22 x 45	ECS2WQC221M◇◇△△2245
		1206	633	0,20	1,0	0,87	25 x 35	ECS2WQC221M◇◇△△2535
		1206	633	0,20	1,0	0,89	30 x 30	ECS2WQC221M◇◇△△3030
	270	983	516	0,20	1,2	1,00	22 x 50	ECS2WQC271M◇◇△△2250
		983	516	0,20	1,2	1,10	25 x 40	ECS2WQC271M◇◇△△2540
		983	516	0,20	1,2	1,01	30 x 30	ECS2WQC271M◇◇△△3030
		983	516	0,20	1,2	1,00	35 x 25	ECS2WQC271M◇◇△△3525





ITEM	CHARACTERISTICS	
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Operating Temperature Range (°C)	-25 ~ +105	
Voltage Range (V)	400 ~ 450	Lower Voltages on request.
Capacitance Range (µF)	220 ~ 820	
Capacitance Tolerance (20°C, 120Hz)	± 20%	
Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.	
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	
	400	420
	Impedance Ratio	$Z_{-25°C} / Z_{+20°C}$
		8
Fast Charge-Discharge	Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray	

The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

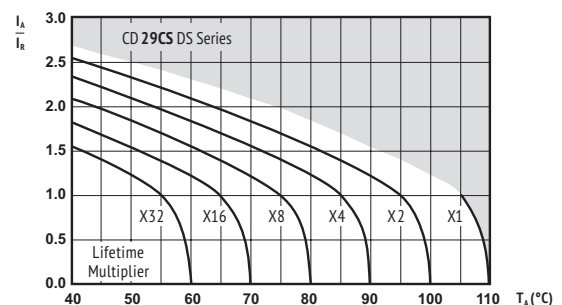
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	4 000h	≥ 180 000h	2 000h	3 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
Rated Voltage (V)						
400 ~ 450	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

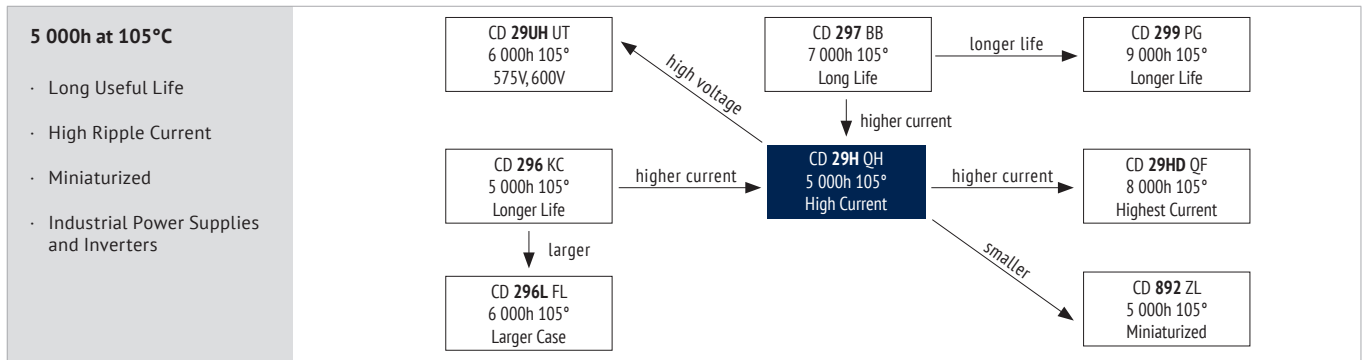
SAFETY FACTOR

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	Details: Page 105
400 (450) 2G	270	737	383	0,15	1,08	1,43	25x30	ECS2GDS271M◇◇△△2530
	330	603	314	0,15	1,32	1,77	22x45	ECS2GDS331M◇◇△△2245
		603	314	0,15	1,32	1,65	25x35	ECS2GDS331M◇◇△△2535
	390	510	265	0,15	1,50	1,97	22x50	ECS2GDS391M◇◇△△2250
		510	265	0,15	1,50	1,85	25x40	ECS2GDS391M◇◇△△2540
		510	265	0,15	1,50	1,65	30x30	ECS2GDS391M◇◇△△3030
	470	424	220	0,15	1,50	2,07	25x45	ECS2GDS471M◇◇△△2545
		424	220	0,15	1,50	1,89	30x35	ECS2GDS471M◇◇△△3035
	560	355	185	0,15	1,50	2,12	30x40	ECS2GDS561M◇◇△△3040
	680	293	153	0,15	1,50	2,00	30x45	ECS2GDS681M◇◇△△3045
	820	242	126	0,15	1,50	2,48	30x50	ECS2GDS821M◇◇△△3050
420 (470) 2X	270	983	472	0,20	1,14	1,27	22x40	ECS2XDS271M◇◇△△2240
		983	472	0,20	1,14	1,28	25x30	ECS2XDS271M◇◇△△2530
		983	472	0,20	1,14	1,28	30x25	ECS2XDS271M◇◇△△3025
	330	804	402	0,20	1,39	1,44	22x45	ECS2XDS331M◇◇△△2245
		804	402	0,20	1,39	1,48	25x35	ECS2XDS331M◇◇△△2535
	390	681	340	0,20	1,50	1,63	22x55	ECS2XDS391M◇◇△△2255
		681	340	0,20	1,50	1,64	25x40	ECS2XDS391M◇◇△△2540
		681	340	0,20	1,50	1,55	30x30	ECS2XDS391M◇◇△△3030
	470	565	282	0,20	1,50	1,86	25x50	ECS2XDS471M◇◇△△2550
		565	282	0,20	1,50	1,74	30x35	ECS2XDS471M◇◇△△3035
	560	472	237	0,20	1,50	2,09	25x55	ECS2XDS561M◇◇△△2555
		472	237	0,20	1,50	1,96	30x40	ECS2XDS561M◇◇△△3040
	680	391	196	0,20	1,50	2,25	30x50	ECS2XDS681M◇◇△△3050
	820	324	162	0,20	1,50	2,52	30x55	ECS2XDS821M◇◇△△3055
450 (500) 2W	220	1206	603	0,20	0,99	1,16	25x30	ECS2WDS221M◇◇△△2530
	270	983	492	0,20	1,22	1,30	22x45	ECS2WDS271M◇◇△△2245
		983	492	0,20	1,22	1,34	25x35	ECS2WDS271M◇◇△△2535
		983	492	0,20	1,22	1,28	30x25	ECS2WDS271M◇◇△△3025
		804	402	0,20	1,49	1,47	22x50	ECS2WDS331M◇◇△△2250
	330	804	402	0,20	1,49	1,51	25x40	ECS2WDS331M◇◇△△2540
		804	402	0,20	1,49	1,43	30x30	ECS2WDS331M◇◇△△3030
		681	340	0,20	1,50	1,63	22x55	ECS2WDS391M◇◇△△2255
	390	681	340	0,20	1,50	1,67	25x45	ECS2WDS391M◇◇△△2545
		681	340	0,20	1,50	1,59	30x35	ECS2WDS391M◇◇△△3035
		565	283	0,20	1,50	1,91	25x55	ECS2WDS471M◇◇△△2555
	470	565	283	0,20	1,50	1,79	30x40	ECS2WDS471M◇◇△△3040
		473	237	0,20	1,50	2,13	25x60	ECS2WDS561M◇◇△△2560
	560	473	237	0,20	1,50	2,01	30x45	ECS2WDS561M◇◇△△3045
		391	196	0,20	1,50	2,25	30x50	ECS2WDS681M◇◇△△3050
	820	324	162	0,20	1,50	2,56	30x60	ECS2WDS821M◇◇△△3060

Special dimensions for AI and 475V on request.



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	200 ~ 450
Capacitance Range (µF)	47 ~ 2 200
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
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Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	200 ~ 450
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	4
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	8

Fast Charge-Discharge **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

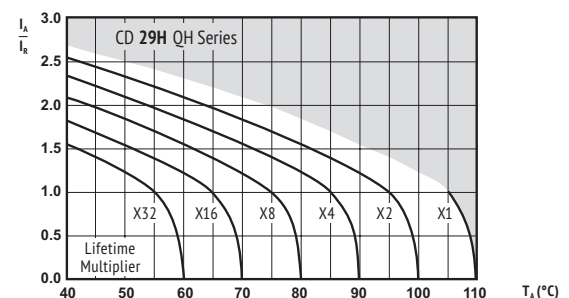
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	5 000h	> 100 000h	3 000h	3 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 50°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
Coefficient	0,80	1,00	1,16	1,30	1,41	1,45

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U _{RDC} (Surge Voltage) Code	C _R Rated Capaci- tance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipa- tion Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	

200 (250) 2D	470	424	260	0,15	0,9	1,53	22 x 35	ECS2DQH471M◇◇△△2235
	560	356	220	0,15	1,1	1,65	25 x 35	ECS2DQH561M◇◇△△2535
	680	293	180	0,15	1,4	1,92	25 x 40	ECS2DQH681M◇◇△△2540
	820	243	150	0,15	1,5	2,10	30 x 30	ECS2DQH821M◇◇△△3030
	1 000	199	120	0,15	1,5	2,40	30 x 40	ECS2DQH102M◇◇△△3040
		199	120	0,15	1,5	2,40	35 x 35	ECS2DQH102M◇◇△△3535
	1 200	166	100	0,15	1,5	2,71	30 x 40	ECS2DQH122M◇◇△△3040
	1 500	133	80	0,15	1,5	3,13	25 x 50	ECS2DQH152M◇◇△△2550
	1 800	111	68	0,15	1,5	3,90	30 x 50	ECS2DQH182M◇◇△△3050
	2 200	91	56	0,15	1,5	4,50	35 x 50	ECS2DQH222M◇◇△△3550

250 (300) 2E	330	603	380	0,15	0,8	1,23	22 x 35	ECS2EQH331M◇◇△△2235
		603	380	0,15	0,8	1,35	25 x 30	ECS2EQH331M◇◇△△2530
		424	268	0,15	1,2	1,52	25 x 35	ECS2EQH471M◇◇△△2535
	470	424	268	0,15	1,2	1,65	30 x 30	ECS2EQH471M◇◇△△3030
		356	225	0,15	1,4	1,85	25 x 45	ECS2EQH561M◇◇△△2545
	680	293	185	0,15	1,5	2,20	25 x 50	ECS2EQH681M◇◇△△2550
		293	185	0,15	1,5	2,18	30 x 35	ECS2EQH681M◇◇△△3035
	820	243	153	0,15	1,5	2,25	30 x 35	ECS2EQH821M◇◇△△3035
	1 000	199	125	0,15	1,5	2,90	30 x 50	ECS2EQH102M◇◇△△3050
		199	125	0,15	1,5	2,90	35 x 40	ECS2EQH102M◇◇△△3540
		166	105	0,15	1,5	2,97	35 x 35	ECS2EQH122M◇◇△△3535
	1 500	133	85	0,15	1,5	3,80	35 x 50	ECS2EQH152M◇◇△△3550

350 (400) 2V	68	2 926	1 280	0,15	0,2	0,70	22 x 25	ECS2VQH680M◇◇△△2225
	100	1 990	1 060	0,15	0,4	0,87	22 x 30	ECS2VQH101M◇◇△△2230
		1 990	1 060	0,15	0,4	0,87	25 x 25	ECS2VQH101M◇◇△△2525
		1 658	880	0,15	0,4	0,90	22 x 35	ECS2VQH121M◇◇△△2235
	150	1 327	700	0,15	0,5	0,98	22 x 40	ECS2VQH151M◇◇△△2240
		1 327	700	0,15	0,5	1,02	25 x 30	ECS2VQH151M◇◇△△2530
		1 327	700	0,15	0,5	1,02	30 x 25	ECS2VQH151M◇◇△△3025
	180	1 106	580	0,15	0,6	1,11	22 x 45	ECS2VQH181M◇◇△△2245
		1 106	580	0,15	0,6	1,11	25 x 35	ECS2VQH181M◇◇△△2535
		1 106	580	0,15	0,6	1,12	30 x 30	ECS2VQH181M◇◇△△3030
	220	905	470	0,15	0,8	1,16	22 x 50	ECS2VQH221M◇◇△△2250
		905	480	0,15	0,8	1,20	25 x 40	ECS2VQH221M◇◇△△2540
		905	480	0,15	0,8	1,20	35 x 25	ECS2VQH221M◇◇△△3525
	270	737	390	0,15	0,9	1,26	25 x 50	ECS2VQH271M◇◇△△2550
		737	390	0,15	0,9	1,31	30 x 35	ECS2VQH271M◇◇△△3035
		737	390	0,15	0,9	1,26	35 x 30	ECS2VQH271M◇◇△△3530
	330	603	320	0,15	1,2	1,45	30 x 45	ECS2VQH331M◇◇△△3045
		603	320	0,15	1,2	1,45	35 x 35	ECS2VQH331M◇◇△△3535
		603	320	0,15	1,2	1,45	35 x 35	ECS2VQH331M◇◇△△3535
	390	511	270	0,15	1,4	1,58	30 x 50	ECS2VQH391M◇◇△△3050
		511	270	0,15	1,4	1,58	35 x 40	ECS2VQH391M◇◇△△3540
	470	424	228	0,15	1,5	1,69	35 x 45	ECS2VQH471M◇◇△△3545
	560	356	190	0,15	1,5	1,89	35 x 50	ECS2VQH561M◇◇△△3550

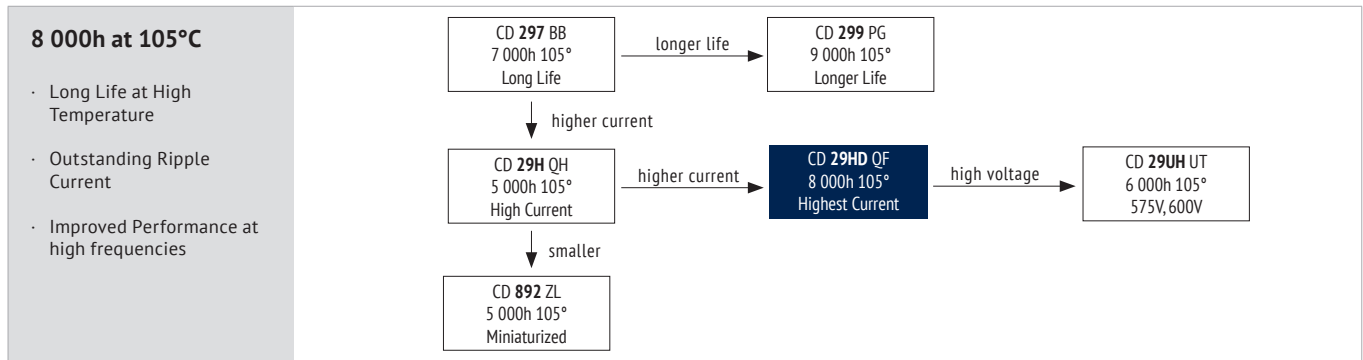
400 (450) 2G	150	1 062	575	0,12	0,6	0,85	22 x 40	ECS2GQH151M◇◇△△2240
		1 062	575	0,12	0,6	0,85	25 x 35	ECS2GQH151M◇◇△△2535
		885	479	0,12	0,7	1,00	22 x 50	ECS2GQH181M◇◇△△2250
	180	885	479	0,12	0,7	1,00	25 x 40	ECS2GQH181M◇◇△△2540
		724	292	0,12	0,9	1,20	25 x 45	ECS2GQH221M◇◇△△2545
	220	724	292	0,12	0,9	1,15	30 x 25	ECS2GQH221M◇◇△△3025
		590	319	0,12	1,1	1,25	22 x 50	ECS2GQH271M◇◇△△2250
	270	590	319	0,12	1,1	1,35	35 x 30	ECS2GQH271M◇◇△△3530
		483	260	0,12	1,3	1,44	25 x 45	ECS2GQH331M◇◇△△2545
	330	483	260	0,12	1,3	1,35	30 x 30	ECS2GQH331M◇◇△△3030
		409	220	0,12	1,5	1,72	25 x 50	ECS2GQH391M◇◇△△2550
	390	409	220	0,12	1,5	1,80	35 x 40	ECS2GQH391M◇◇△△3540
		339	183	0,12	1,5	2,00	30 x 50	ECS2GQH471M◇◇△△3050
	470	339	183	0,12	1,5	2,10	35 x 45	ECS2GQH471M◇◇△△3545
		285	154	0,12	1,5	1,98	35 x 35	ECS2GQH561M◇◇△△3535
	560	285	154	0,12	1,5	2,20	35 x 45	ECS2GQH561M◇◇△△3545
		285	154	0,12	1,5	2,30	35 x 50	ECS2GQH561M◇◇△△3550
	680	234	127	0,12	1,5	2,58	35 x 55	ECS2GQH681M◇◇△△3555
	820	194	105	0,12	1,5	2,84	35 x 60	ECS2GQH821M◇◇△△3560

U _{RDC} (Surge Voltage) Code	C _R Rated Capaci- tance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipa- tion Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	

450 (500) 2W	150	1 062	530	0,12	0,7	0,84	22 x 35	ECS2WQH151M◇◇△△2235
		1 062	530	0,12	0,7	0,84	25 x 30	ECS2WQH151M◇◇△△2530
		1 062	530	0,12	0,7	0,88	30 x 25	ECS2WQH151M◇◇△△3025
	180	885	440	0,12	0,8	0,88	25 x 30	ECS2WQH181M◇◇△△2530
		885	440	0,12	0,8	0,92	30 x 25	ECS2WQH181M◇◇△△3025
	220	724	360	0,12	1,0	1,10	25 x 40	ECS2WQH221M◇◇△△2540
		724	360	0,12	1,0	1,10	30 x 30	ECS2WQH221M◇◇△△3030
	270	590	295	0,12	1,2	1,36	30 x 30	ECS2WQH271M◇◇△△3030
		590	295	0,12	1,2	1,41	30 x 35	ECS2WQH271M◇◇△△3035
	330	483	240	0,12	1,5	1,44	30 x 30	ECS2WQH331M◇◇△△3030
		483	240	0,12	1,5	1,49	30 x 35	ECS2WQH331M◇◇△△3035
		483	240	0,12	1,5	1,65	35 x 40	ECS2WQH331M◇◇△△3540
	390	409	205	0,12	1,5	1,67	25 x 50	ECS2WQH391M◇◇△△2550
		409	205	0,12	1,5	1,55	30 x 35	ECS2WQH391M◇◇△△3035
		409	205	0,12	1,5	1,60	35 x 30	ECS2WQH391M◇◇△△3530
	470	339	170	0,12	1,5	1,92	30 x 45	ECS2WQH471M◇◇△△3045
		339	170	0,12	1,5	2,10	35 x 40	ECS2WQH471M◇◇△△3540
		339	170	0,12	1,5	2,20	35 x 50	ECS2WQH471M◇◇△△3550
	560	284	142	0,12	1,5	2,10	30 x 50	ECS2WQH561M◇◇△△3050
		284	142	0,12	1,5	2,30	35 x 45	ECS2WQH561M◇◇△△3545
	680	234	116	0,12	1,5	2,50	35 x 50	ECS2WQH681M◇◇△△3550
		195	95	0,12	1,5	2,72	30 x 60	ECS2WQH821M◇◇△△3060
	820	194	95	0,12	1,5	3,00	35 x 60	ECS2WQH821M◇◇△△3560

■ = not preferred





ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	
Voltage Range (V)	200 ~ 450	
Capacitance Range (µF)	220 ~ 3 900	
Capacitance Tolerance (20°C, 120Hz)	± 20%	
Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.	
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	200 ~ 400
		450
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	3
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	7
		12
Fast Charge-Discharge	⚠ Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray	

⚠ The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

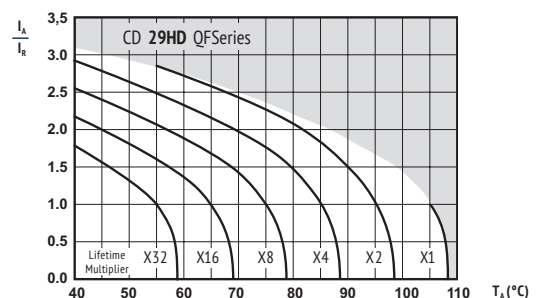
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	8 000h	> 200 000h	3 000h	4 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R $I_R = 0$ 105°C	U_R $1,35 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Rated Voltage (V)	50Hz	120Hz	300Hz	1kHz	10kHz	≥50kHz
200 ~ 350	0,80	1,00	1,35	1,50	1,59	1,60
400	0,80	1,00	1,35	1,60	1,72	1,72
450	0,80	1,00	1,32	1,50	1,62	1,63

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature & ripple current load

⚠ Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
200 (250) 2D	1 000	199	80	0,15	1,5	3,20	30 x 35	ECS2DQF102M◇◇△△3035
	1 200	166	66	0,15	1,5	3,70	30 x 40	ECS2DQF122M◇◇△△3040
	1 500	133	53	0,15	1,5	4,36	30 x 50	ECS2DQF152M◇◇△△3050
		133	53	0,15	1,5	4,32	35 x 40	ECS2DQF152M◇◇△△3540
	1 800	111	48	0,15	1,5	4,58	30 x 55	ECS2DQF182M◇◇△△3055
		111	48	0,15	1,5	4,67	35 x 45	ECS2DQF182M◇◇△△3545
		111	48	0,15	1,5	4,35	40 x 35	ECS2DQF182M◇◇△△4035
	2 200	91	42	0,15	1,5	5,46	35 x 50	ECS2DQF222M◇◇△△3550
		91	42	0,15	1,5	5,38	40 x 40	ECS2DQF222M◇◇△△4040
	2 700	74	34	0,15	1,5	5,95	35 x 55	ECS2DQF272M◇◇△△3555
		74	34	0,15	1,5	6,05	40 x 50	ECS2DQF272M◇◇△△4050
	3 300	61	30	0,15	1,5	6,41	35 x 65	ECS2DQF332M◇◇△△3565
		61	30	0,15	1,5	6,52	40 x 55	ECS2DQF332M◇◇△△4055
	3 900	52	26	0,15	1,5	7,15	40 x 65	ECS2DQF392M◇◇△△4065

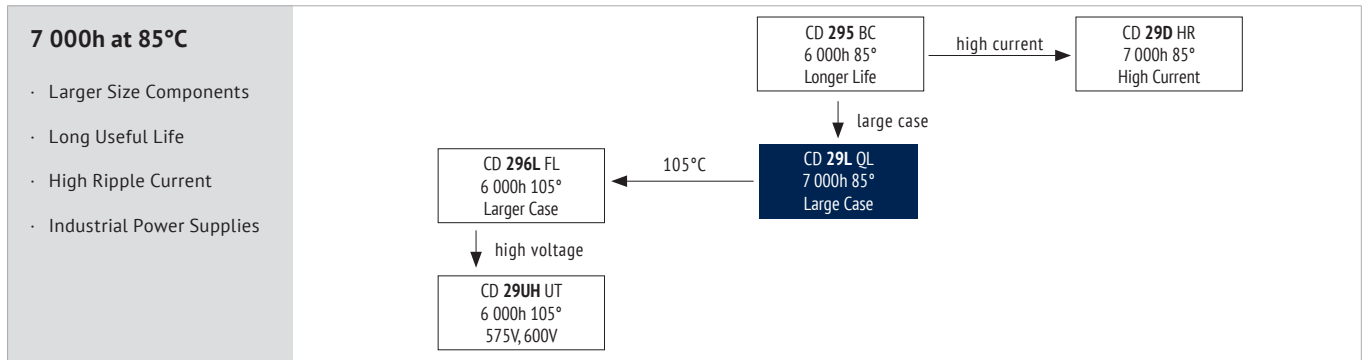
250 (300) 2E	680	293	117	0,15	1,5	2,65	30 x 35	ECS2EQF681M◇◇△△3035
	820	243	97	0,15	1,5	3,00	30 x 40	ECS2EQF821M◇◇△△3040
		243	97	0,15	1,5	3,05	35 x 35	ECS2EQF821M◇◇△△3535
	1 000	199	80	0,15	1,5	3,56	30 x 50	ECS2EQF102M◇◇△△3050
		199	80	0,15	1,5	3,52	35 x 40	ECS2EQF102M◇◇△△3540
	1 200	166	66	0,15	1,5	3,93	30 x 55	ECS2EQF122M◇◇△△3055
		166	66	0,15	1,5	3,87	35 x 45	ECS2EQF122M◇◇△△3545
	1 500	133	62	0,15	1,5	4,30	30 x 60	ECS2EQF152M◇◇△△3060
		133	62	0,15	1,5	4,38	35 x 50	ECS2EQF152M◇◇△△3550
	1 800	111	55	0,15	1,5	4,70	35 x 55	ECS2EQF182M◇◇△△3555
		111	55	0,15	1,5	4,85	40 x 45	ECS2EQF182M◇◇△△4045
	2 200	91	45	0,15	1,5	5,15	35 x 65	ECS2EQF222M◇◇△△3565
		91	45	0,15	1,5	5,35	40 x 50	ECS2EQF222M◇◇△△4050
	2 700	74	37	0,15	1,5	5,92	40 x 60	ECS2EQF272M◇◇△△4060

350 (400) 2V	330	603	241	0,15	1,2	2,12	30 x 35	ECS2VQF331M◇◇△△3035
	390	511	204	0,15	1,4	2,36	30 x 40	ECS2VQF391M◇◇△△3040
	470	424	169	0,15	1,5	2,60	30 x 45	ECS2VQF471M◇◇△△3045
		424	169	0,15	1,5	2,53	35 x 35	ECS2VQF471M◇◇△△3535
	560	356	142	0,15	1,5	2,86	30 x 50	ECS2VQF561M◇◇△△3050
		356	142	0,15	1,5	2,83	35 x 40	ECS2VQF561M◇◇△△3540
	680	293	117	0,15	1,5	3,06	30 x 55	ECS2VQF681M◇◇△△3055
		293	117	0,15	1,5	3,10	35 x 45	ECS2VQF681M◇◇△△3545
		293	117	0,15	1,5	3,20	40 x 40	ECS2VQF681M◇◇△△4040
	820	243	97	0,15	1,5	3,40	30 x 65	ECS2VQF821M◇◇△△3065
		243	97	0,15	1,5	3,23	35 x 50	ECS2VQF821M◇◇△△3550
		243	97	0,15	1,5	3,46	40 x 45	ECS2VQF821M◇◇△△4045
	1 000	199	80	0,15	1,5	3,82	35 x 60	ECS2VQF102M◇◇△△3560
		199	80	0,15	1,5	3,80	40 x 50	ECS2VQF102M◇◇△△4050
	1 200	166	66	0,15	1,5	4,25	40 x 55	ECS2VQF122M◇◇△△4055
	1 500	133	53	0,15	1,5	4,72	40 x 65	ECS2VQF152M◇◇△△4065

400 (450) 2G	270	737	270	0,15	1,1	1,62	30 x 35	ECS2GQF271M◇◇△△3035
	330	603	221	0,15	1,3	2,10	30 x 35	ECS2GQF331M◇◇△△3035
	390	511	187	0,15	1,5	2,20	30 x 40	ECS2GQF391M◇◇△△3040
		511	187	0,15	1,5	2,31	35 x 35	ECS2GQF391M◇◇△△3535
	470	424	155	0,15	1,5	2,70	30 x 50	ECS2GQF471M◇◇△△3050
		424	155	0,15	1,5	2,60	35 x 40	ECS2GQF471M◇◇△△3540
		424	155	0,15	1,5	2,75	40 x 35	ECS2GQF471M◇◇△△4035
	560	356	130	0,15	1,5	2,90	30 x 55	ECS2GQF561M◇◇△△3055
		356	130	0,15	1,5	2,95	35 x 45	ECS2GQF561M◇◇△△3545
		356	130	0,15	1,5	3,01	40 x 40	ECS2GQF561M◇◇△△4040
	680	293	107	0,15	1,5	3,25	35 x 50	ECS2GQF681M◇◇△△3550
		293	107	0,15	1,5	3,45	40 x 45	ECS2GQF681M◇◇△△4045
	820	243	89	0,15	1,5	3,81	35 x 55	ECS2GQF821M◇◇△△3555
		243	89	0,15	1,5	3,92	40 x 50	ECS2GQF821M◇◇△△4050
	1 000	199	73	0,15	1,5	4,30	35 x 65	ECS2GQF102M◇◇△△3565
		199	73	0,15	1,5	4,35	40 x 55	ECS2GQF102M◇◇△△4055
	1 200	166	61	0,15	1,5	4,80	40 x 65	ECS2GQF122M◇◇△△4065

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
450 (500) 2W	220	1206	362	0,20	1,0	1,67	30 x 35	ECS2WQF221M◇◇△△3035
	270	983	295	0,20	1,2	1,88	30 x 40	ECS2WQF271M◇◇△△3040
	330	804	241	0,20	1,5	2,18	30 x 45	ECS2WQF331M◇◇△△3045
		804	241	0,20	1,5	2,09	35 x 35	ECS2WQF331M◇◇△△3535
	390	681	204	0,20	1,5	2,45	30 x 50	ECS2WQF391M◇◇△△3050
		681	204	0,20	1,5	2,43	35 x 40	ECS2WQF391M◇◇△△3540
	470	565	169	0,20	1,5	2,79	30 x 55	ECS2WQF471M◇◇△△3055
		565	169	0,20	1,5	2,83	35 x 45	ECS2WQF471M◇◇△△3545
		565	169	0,20	1,5	2,70	40 x 35	ECS2WQF471M◇◇△△4035
	560	474	142	0,20	1,5	3,15	30 x 60	ECS2WQF561M◇◇△△3060
		474	142	0,20	1,5	3,20	35 x 50	ECS2WQF561M◇◇△△3550
		474	142	0,20	1,5	3,00	40 x 40	ECS2WQF561M◇◇△△4040
	680	391	117	0,20	1,5	3,53	35 x 55	ECS2WQF681M◇◇△△3555
		391	117	0,20	1,5	3,40	40 x 45	ECS2WQF681M◇◇△△4045
	820	324	97	0,20	1,5	3,85	35 x 65	ECS2WQF821M◇◇△△3565
		324	97	0,20	1,5	3,88	40 x 55	ECS2WQF821M◇◇△△4055
	1 000	266	80	0,20	1,5	4,26	40 x 65	ECS2WQF102M◇◇△△4065





ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85	-25 ~ +85	Lower Voltages on request.
Voltage Range (V)	160 ~ 400	450 ~ 500	
Capacitance Range (µF)	390 ~ 4 700		
Capacitance Tolerance (20°C, 120Hz)	± 20%		



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current: After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	160 ~ 200	250 ~ 400	450	500
$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		3		4	
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$		6	8		-

Fast Charge-Discharge: **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

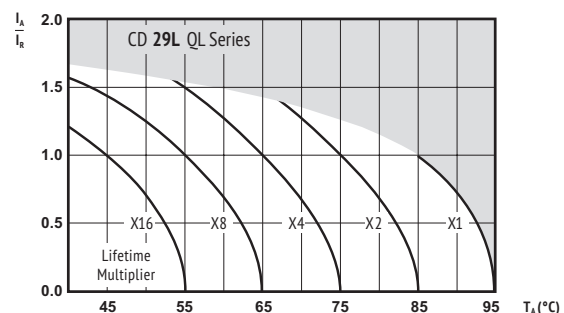
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	7 000h	> 100 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,2 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥50kHz
Rated Voltage (V)						
≥ 160	0,80	1,00	1,16	1,30	1,41	1,45

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/ lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	

160 (200) 2C	2 200	91	63	0,15	1,5	4,9	35 x 45	ECS2CQL222M◇◇△△3545
	2 700	74	52	0,15	1,5	5,3	35 x 50	ECS2CQL272M◇◇△△3550
	3 300	61	42	0,15	1,5	5,5	35 x 70	ECS2CQL332M◇◇△△3570
		61	42	0,15	1,5	5,5	40 x 60	ECS2CQL332M◇◇△△4060
	3 900	52	36	0,15	1,5	5,9	35 x 80	ECS2CQL392M◇◇△△3580
	4 700	43	30	0,15	1,5	7,3	40 x 80	ECS2CQL472M◇◇△△4080

200 (250) 2D	1 500	133	93	0,15	1,5	4,3	35 x 40	ECS2DQL152M◇◇△△3540
	1 800	111	77	0,15	1,5	4,7	35 x 45	ECS2DQL182M◇◇△△3545
	2 200	91	63	0,15	1,5	5,4	35 x 50	ECS2DQL222M◇◇△△3550
		91	63	0,15	1,5	5,4	40 x 40	ECS2DQL222M◇◇△△4040
	2 700	74	52	0,15	1,5	5,9	35 x 60	ECS2DQL272M◇◇△△3560
		74	52	0,15	1,5	5,9	40 x 50	ECS2DQL272M◇◇△△4050
	3 300	61	42	0,15	1,5	6,5	35 x 80	ECS2DQL332M◇◇△△3580
		61	42	0,15	1,5	6,5	40 x 60	ECS2DQL332M◇◇△△4060
	3 900	52	36	0,15	1,5	7,0	40 x 80	ECS2DQL392M◇◇△△4080
	4 700	43	30	0,15	1,5	9,2	40 x 90	ECS2DQL472M◇◇△△4090

250 (300) 2E	1 000	199	139	0,15	1,5	3,5	35 x 35	ECS2EQL102M◇◇△△3535
	1 200	166	116	0,15	1,5	3,6	35 x 40	ECS2EQL122M◇◇△△3540
	1 500	133	93	0,15	1,5	4,2	35 x 45	ECS2EQL152M◇◇△△3545
	1 800	111	77	0,15	1,5	4,6	35 x 50	ECS2EQL182M◇◇△△3550
		111	77	0,15	1,5	4,6	40 x 40	ECS2EQL182M◇◇△△4040
	2 200	91	63	0,15	1,5	5,1	35 x 60	ECS2EQL222M◇◇△△3560
	2 700	74	52	0,15	1,5	6,0	40 x 60	ECS2EQL272M◇◇△△4060

400 (450) 2G	560	356	249	0,15	1,5	3,0	35 x 45	ECS2GQL561M◇◇△△3545
		356	249	0,15	1,5	2,8	40 x 40	ECS2GQL561M◇◇△△4040
	680	293	205	0,15	1,5	3,5	35 x 50	ECS2GQL681M◇◇△△3550
		293	205	0,15	1,5	3,3	40 x 40	ECS2GQL681M◇◇△△4040
	820	243	170	0,15	1,5	3,8	35 x 50	ECS2GQL821M◇◇△△3550
		243	170	0,15	1,5	4,1	40 x 50	ECS2GQL821M◇◇△△4050
	1 000	199	139	0,15	1,5	4,4	35 x 55	ECS2GQL102M◇◇△△3555
		199	139	0,15	1,5	4,8	40 x 60	ECS2GQL102M◇◇△△4060
	1 200	166	116	0,15	1,5	5,3	35 x 70	ECS2GQL122M◇◇△△3570
		166	116	0,15	1,5	5,5	40 x 60	ECS2GQL122M◇◇△△4060
	1 500	133	93	0,15	1,5	6,5	40 x 80	ECS2GQL152M◇◇△△4080
		133	93	0,15	1,5	6,3	45 x 60	ECS2GQL152M◇◇△△4560
	1 800	111	77	0,15	1,5	7,3	35 x 90	ECS2GQL182M◇◇△△3590
		111	77	0,15	1,5	7,9	40 x 100	ECS2GQL182M◇◇△△40100
	2 200	91	63	0,15	1,5	8,6	40 x 100	ECS2GQL222M◇◇△△40100
		91	63	0,15	1,5	8,1	45 x 80	ECS2GQL222M◇◇△△4580

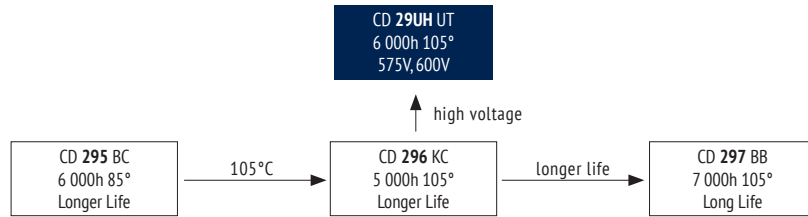
450 (500) 2W	470	424	296	0,15	1,5	2,7	35 x 45	ECS2WQL471M◇◇△△3545
	560	356	249	0,15	1,5	3,1	35 x 50	ECS2WQL561M◇◇△△3550
		356	249	0,15	1,5	3,1	40 x 40	ECS2WQL561M◇◇△△4040
	680	293	205	0,15	1,5	3,5	35 x 60	ECS2WQL681M◇◇△△3560
		293	205	0,15	1,5	3,4	40 x 50	ECS2WQL681M◇◇△△4050
	820	243	170	0,15	1,5	4,4	35 x 70	ECS2WQL821M◇◇△△3570
		243	170	0,15	1,5	4,4	40 x 60	ECS2WQL821M◇◇△△4060
	1 000	199	139	0,15	1,5	5,2	35 x 80	ECS2WQL102M◇◇△△3580
		199	139	0,15	1,5	5,2	40 x 60	ECS2WQL102M◇◇△△4060
	1 200	166	116	0,15	1,5	5,9	40 x 70	ECS2WQL122M◇◇△△4070
		166	116	0,15	1,5	6,0	45 x 60	ECS2WQL122M◇◇△△4560
	1 500	133	93	0,15	1,5	6,8	40 x 85	ECS2WQL152M◇◇△△4085
		133	93	0,15	1,5	6,7	45 x 70	ECS2WQL152M◇◇△△4570
	1 800	111	77	0,15	1,5	7,6	40 x 100	ECS2WQL182M◇◇△△40100
	2 200	91	64	0,15	1,5	8,6	45 x 100	ECS2WQL222M◇◇△△45100

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	

500 (550) 2H	390	511	357	0,15	1,5	2,4	35 x 45	ECS2HQL391M◇◇△△3545
	470	424	296	0,15	1,5	2,8	35 x 50	ECS2HQL471M◇◇△△3550
	560	356	249	0,15	1,5	3,3	35 x 60	ECS2HQL561M◇◇△△3560
		356	249	0,15	1,5	3,3	40 x 50	ECS2HQL561M◇◇△△4050
	680	293	205	0,15	1,5	3,8	35 x 70	ECS2HQL681M◇◇△△3570
		293	205	0,15	1,5	3,7	40 x 60	ECS2HQL681M◇◇△△4060
	820	243	170	0,15	1,5	4,6	35 x 80	ECS2HQL821M◇◇△△3580
		243	170	0,15	1,5	4,6	40 x 70	ECS2HQL821M◇◇△△4070
	1 000	199	139	0,15	1,5	5,4	40 x 80	ECS2HQL102M◇◇△△4080
		199	139	0,15	1,5	5,4	45 x 70	ECS2HQL102M◇◇△△4570
	1 200	166	116	0,15	1,5	6,4	40 x 90	ECS2HQL122M◇◇△△4090
	1 500	133	93	0,15	1,5	7,2	40 x 100	ECS2HQL152M◇◇△△40100

6 000h at 105°C

- Ultra High Voltage
- Long Life at High Temperature
- High Ripple Current



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-25 ~ +105
Voltage Range (V)	575 ~ 600
Capacitance Range (µF)	56 ~ 390
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	575	600
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	8	

Fast Charge-Discharge **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

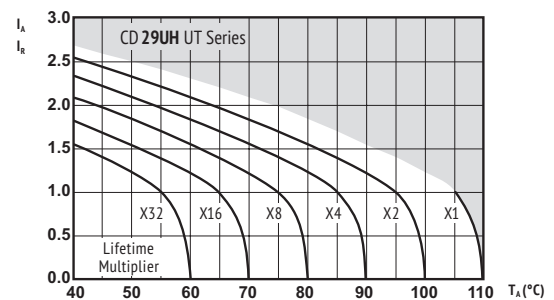
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	6 000h	> 200 000h	3 000h	3 000h	500h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
Coefficient	0,75	1,00	1,16	1,30	1,41	1,45

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

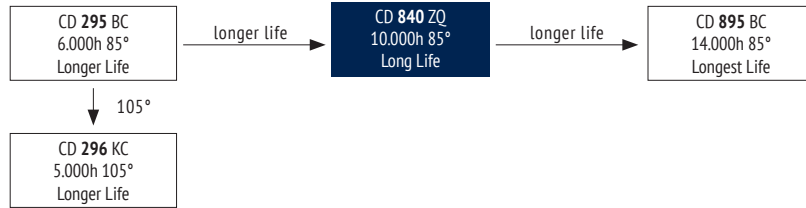
This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
575 (625) 2Z	68	3903	1659	0,20	0,4	0,52	30 x 25	ECS2ZUT680M◇◇△△3025
	82	3236	1376	0,20	0,5	0,58	30 x 30	ECS2ZUT820M◇◇△△3030
	100	2654	1128	0,20	0,6	0,63	30 x 35	ECS2ZUT101M◇◇△△3035
	120	2212	940	0,20	0,7	0,70	30 x 40	ECS2ZUT121M◇◇△△3040
	150	1769	752	0,20	0,9	0,81	30 x 45	ECS2ZUT151M◇◇△△3045
	180	1474	627	0,20	1,0	0,89	30 x 50	ECS2ZUT181M◇◇△△3050
	220	1206	513	0,20	1,3	1,01	30 x 60	ECS2ZUT221M◇◇△△3060
	270	983	418	0,20	1,5	1,12	30 x 70	ECS2ZUT271M◇◇△△3070
		983	418	0,20	1,5	1,12	35 x 55	ECS2ZUT271M◇◇△△3555
	330	804	342	0,20	1,5	1,21	30 x 85	ECS2ZUT331M◇◇△△3085
		804	342	0,20	1,5	1,21	35 x 60	ECS2ZUT331M◇◇△△3560
		804	342	0,20	1,5	1,21	40 x 50	ECS2ZUT331M◇◇△△4050
	390	680	289	0,20	1,5	1,30	35 x 65	ECS2ZUT391M◇◇△△3565
		680	289	0,20	1,5	1,30	40 x 60	ECS2ZUT391M◇◇△△4060
600 (650) 2S	56	4739	2014	0,20	0,3	0,50	30 x 25	ECS2SUT560M◇◇△△3025
	68	3903	1659	0,20	0,4	0,56	30 x 30	ECS2SUT680M◇◇△△3030
	82	3236	1376	0,20	0,5	0,61	30 x 35	ECS2SUT820M◇◇△△3035
		3236	1376	0,20	0,5	0,61	35 x 25	ECS2SUT820M◇◇△△3525
	100	2654	1128	0,20	0,6	0,67	30 x 40	ECS2SUT101M◇◇△△3040
		2654	1128	0,20	0,6	0,67	35 x 30	ECS2SUT101M◇◇△△3530
	120	2212	940	0,20	0,7	0,74	30 x 45	ECS2SUT121M◇◇△△3045
		2212	940	0,20	0,7	0,74	35 x 35	ECS2SUT121M◇◇△△3535
	150	1769	752	0,20	0,9	0,83	30 x 50	ECS2SUT151M◇◇△△3050
		1769	752	0,20	0,9	0,83	35 x 40	ECS2SUT151M◇◇△△3540
	180	1474	627	0,20	1,1	0,91	30 x 55	ECS2SUT181M◇◇△△3055
		1474	627	0,20	1,1	0,91	35 x 45	ECS2SUT181M◇◇△△3545
	220	1206	513	0,20	1,3	1,05	30 x 60	ECS2SUT221M◇◇△△3060
		1206	513	0,20	1,3	1,05	35 x 50	ECS2SUT221M◇◇△△3550
	270	983	418	0,20	1,5	1,17	35 x 55	ECS2SUT271M◇◇△△3555
	330	804	342	0,20	1,5	1,27	35 x 65	ECS2SUT331M◇◇△△3565

10 000h at 85°C

- Long Useful Life at 85°C
- Outstanding Ripple Current
- Inverter of highest grade



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85
Voltage Range (V)	200 ~ 450
Capacitance Range (µF)	68 ~ 2 200
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	200 ~ 450
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	4

Fast Charge-Discharge **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

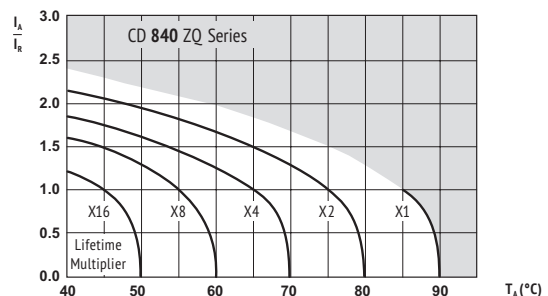
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	10 000h	> 100 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 15% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 150% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,5 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Rated Voltage (V) \ Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
200 ~ 250	0,87	1,00	1,17	1,32	1,45	1,50
400 ~ 500	0,80	1,00	1,16	1,30	1,41	1,45

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

! Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



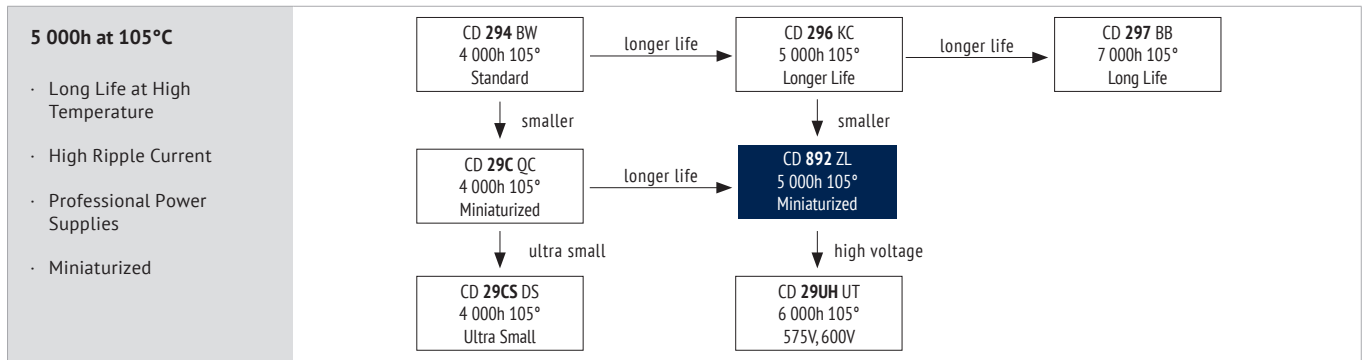
U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
200 (250) 2D	330	603	423	0,15	0,7	1,59	25 x 25	ECS2DZQ331M◇◇△△2525
		511	358	0,15	0,8	1,81	25 x 30	ECS2DZQ391M◇◇△△2530
		511	358	0,15	0,8	1,88	30 x 25	ECS2DZQ391M◇◇△△3025
	470	424	297	0,15	0,9	1,99	25 x 30	ECS2DZQ471M◇◇△△2530
		424	297	0,15	0,9	2,06	30 x 25	ECS2DZQ471M◇◇△△3025
	560	356	249	0,15	1,1	2,26	25 x 35	ECS2DZQ561M◇◇△△2535
		356	249	0,15	1,1	2,36	30 x 30	ECS2DZQ561M◇◇△△3030
	680	293	205	0,15	1,4	2,58	25 x 40	ECS2DZQ681M◇◇△△2540
		293	205	0,15	1,4	2,60	30 x 30	ECS2DZQ681M◇◇△△3030
		293	205	0,15	1,4	2,58	35 x 25	ECS2DZQ681M◇◇△△3525
	820	243	170	0,15	1,5	2,92	25 x 45	ECS2DZQ821M◇◇△△2545
		243	170	0,15	1,5	2,97	30 x 35	ECS2DZQ821M◇◇△△3035
		243	170	0,15	1,5	3,22	35 x 30	ECS2DZQ821M◇◇△△3530
	1 000	199	140	0,15	1,5	3,32	25 x 50	ECS2DZQ102M◇◇△△2550
		199	140	0,15	1,5	3,69	30 x 40	ECS2DZQ102M◇◇△△3040
		199	140	0,15	1,5	3,70	35 x 35	ECS2DZQ102M◇◇△△3535
	1 200	166	117	0,15	1,5	4,17	30 x 45	ECS2DZQ122M◇◇△△3045
		166	117	0,15	1,5	4,05	35 x 35	ECS2DZQ122M◇◇△△3535
	1 500	133	93	0,15	1,5	4,80	30 x 50	ECS2DZQ152M◇◇△△3050
		133	93	0,15	1,5	4,69	35 x 40	ECS2DZQ152M◇◇△△3540
	1 800	111	78	0,15	1,5	5,30	35 x 45	ECS2DZQ182M◇◇△△3545
	2 200	91	63	0,15	1,5	6,17	35 x 55	ECS2DZQ222M◇◇△△3555

250 (300) 2E	270	737	516	0,15	0,7	1,52	25 x 25	ECS2EZQ271M◇◇△△2525
	330	603	423	0,15	0,8	1,76	25 x 30	ECS2EZQ331M◇◇△△2530
		511	358	0,15	1,0	2,00	25 x 35	ECS2EZQ391M◇◇△△2535
		511	358	0,15	1,0	1,99	30 x 25	ECS2EZQ391M◇◇△△3025
	470	424	297	0,15	1,2	2,19	25 x 35	ECS2EZQ471M◇◇△△2535
		424	297	0,15	1,2	2,29	30 x 30	ECS2EZQ471M◇◇△△3030
	560	356	249	0,15	1,4	2,48	25 x 40	ECS2EZQ561M◇◇△△2540
		356	249	0,15	1,4	2,50	30 x 30	ECS2EZQ561M◇◇△△3030
		356	249	0,15	1,4	2,52	35 x 25	ECS2EZQ561M◇◇△△3525
	680	293	205	0,15	1,5	2,82	25 x 45	ECS2EZQ681M◇◇△△2545
		293	205	0,15	1,5	2,87	30 x 35	ECS2EZQ681M◇◇△△3035
		293	205	0,15	1,5	3,10	35 x 30	ECS2EZQ681M◇◇△△3530
	820	243	170	0,15	1,5	3,27	25 x 55	ECS2EZQ821M◇◇△△2555
		243	170	0,15	1,5	3,47	30 x 40	ECS2EZQ821M◇◇△△3040
		243	170	0,15	1,5	3,54	35 x 35	ECS2EZQ821M◇◇△△3535
	1 000	199	140	0,15	1,5	3,96	30 x 45	ECS2EZQ102M◇◇△△3045
		199	140	0,15	1,5	3,90	35 x 35	ECS2EZQ102M◇◇△△3535
	1 200	166	117	0,15	1,5	4,58	30 x 55	ECS2EZQ122M◇◇△△3055
		166	117	0,15	1,5	4,43	35 x 40	ECS2EZQ122M◇◇△△3540
	1 500	133	94	0,15	1,5	5,25	35 x 50	ECS2EZQ152M◇◇△△3550
	1 800	111	78	0,15	1,5	5,89	35 x 55	ECS2EZQ182M◇◇△△3555

400 (450) 2G	100	1990	1035	0,15	0,4	1,04	25 x 25	ECS2GZQ101M◇◇△△2525
	120	1658	863	0,15	0,5	1,19	25 x 30	ECS2GZQ121M◇◇△△2530
		1327	690	0,15	0,6	1,39	25 x 35	ECS2GZQ151M◇◇△△2535
	150	1327	690	0,15	0,6	1,39	30 x 25	ECS2GZQ151M◇◇△△3025
		1106	575	0,15	0,7	1,58	25 x 40	ECS2GZQ181M◇◇△△2540
	180	1106	575	0,15	0,7	1,59	30 x 30	ECS2GZQ181M◇◇△△3030
		1106	575	0,15	0,7	1,60	35 x 25	ECS2GZQ181M◇◇△△3525
		905	471	0,15	0,9	1,75	25 x 40	ECS2GZQ221M◇◇△△2540
	220	905	471	0,15	0,9	1,76	30 x 30	ECS2GZQ221M◇◇△△3030
		905	471	0,15	0,9	1,97	35 x 30	ECS2GZQ221M◇◇△△3530
		737	384	0,15	1,1	2,00	25 x 45	ECS2GZQ271M◇◇△△2545
	270	737	384	0,15	1,1	2,03	30 x 35	ECS2GZQ271M◇◇△△3035
		737	384	0,15	1,1	2,18	35 x 30	ECS2GZQ271M◇◇△△3530
		603	314	0,15	1,3	2,33	25 x 55	ECS2GZQ331M◇◇△△2555
	330	603	314	0,15	1,3	2,55	30 x 45	ECS2GZQ331M◇◇△△3045
		603	314	0,15	1,3	2,51	35 x 35	ECS2GZQ331M◇◇△△3535
		511	266	0,15	1,5	2,78	30 x 45	ECS2GZQ391M◇◇△△3045
	390	511	266	0,15	1,5	2,72	35 x 35	ECS2GZQ391M◇◇△△3535
		424	221	0,15	1,5	3,14	30 x 50	ECS2GZQ471M◇◇△△3050
	470	424	221	0,15	1,5	3,19	35 x 45	ECS2GZQ471M◇◇△△3545
		356	185	0,15	1,5	3,58	35 x 50	ECS2GZQ561M◇◇△△3550
	680	293	147	0,15	1,5	4,05	35 x 55	ECS2GZQ681M◇◇△△3555

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
450 (500) 2W	68	3901	1951	0,20	0,3	0,80	25 x 25	ECS2WZQ680M◇◇△△2525
	82	3235	1618	0,20	0,4	0,92	25 x 30	ECS2WZQ820M◇◇△△2530
		2653	1327	0,20	0,5	1,01	25 x 30	ECS2WZQ101M◇◇△△2530
	100	2653	1327	0,20	0,5	1,05	30 x 25	ECS2WZQ101M◇◇△△3025
		2211	1106	0,20	0,5	1,16	25 x 35	ECS2WZQ121M◇◇△△2535
	120	2211	1106	0,20	0,5	1,21	30 x 30	ECS2WZQ121M◇◇△△3030
		1769	885	0,20	0,7	1,29	25 x 35	ECS2WZQ151M◇◇△△2535
	150	1769	885	0,20	0,7	1,35	30 x 30	ECS2WZQ151M◇◇△△3030
		1769	885	0,20	0,7	1,36	35 x 25	ECS2WZQ151M◇◇△△3525
		1474	737	0,20	0,8	1,51	25 x 45	ECS2WZQ181M◇◇△△2545
	180	1474	737	0,20	0,8	1,54	30 x 35	ECS2WZQ181M◇◇△△3035
		1474	737	0,20	0,8	1,69	35 x 30	ECS2WZQ181M◇◇△△3530
		1206	603	0,20	1,0	1,72	25 x 50	ECS2WZQ221M◇◇△△2550
	220	1206	603	0,20	1,0	1,92	30 x 40	ECS2WZQ221M◇◇△△3040
		1206	603	0,20	1,0	1,87	35 x 30	ECS2WZQ221M◇◇△△3530
	270	983	492	0,20	1,2	1,96	25 x 55	ECS2WZQ271M◇◇△△2555
		983	492	0,20	1,2	2,12	30 x 40	ECS2WZQ271M◇◇△△3040
		983	492	0,20	1,2	2,16	35 x 35	ECS2WZQ271M◇◇△△3535
	330	804	402	0,20	1,5	2,49	30 x 50	ECS2WZQ331M◇◇△△3050
		804	402	0,20	1,5	2,47	35 x 40	ECS2WZQ331M◇◇△△3540
	390	681	341	0,20	1,5	2,78	30 x 55	ECS2WZQ391M◇◇△△3055
		681	341	0,20	1,5	2,77	35 x 45	ECS2WZQ391M◇◇△△3545
	470	565	283	0,20	1,5	3,15	35 x 50	ECS2WZQ471M◇◇△△3550
	560	474	238	0,20	1,5	3,50	35 x 55	ECS2WZQ561M◇◇△△3555





ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-25 ~ +105	
Voltage Range (V)	400 ~ 500	
Capacitance Range (µF)	47 ~ 18 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	
Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.	
Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	400 ~ 500
	Z _{-25°C} / Z _{+20°C}	4
Fast Charge-Discharge	⚠ Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray	

⚠ The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

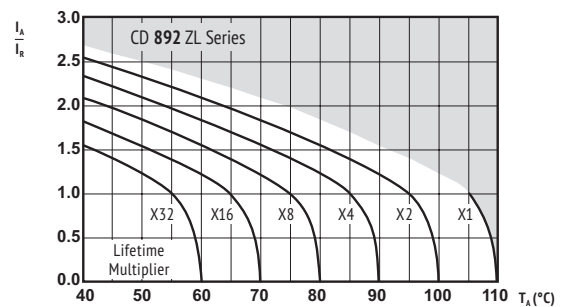
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	5 000h	> 200 000h	3 000h	4 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	≥ 50 kHz
Coefficient	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

⚠ Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$ (mm)	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)		
400 (450) 2G	47	4233	2350	0,15	0,2	0,39	22 x 20	ECS2GZL470M◇◇△△2220
	82	2427	1340	0,15	0,3	0,56	22 x 25	ECS2GZL820M◇◇△△2225
	100	1990	1035	0,15	0,4	0,65	22 x 25	ECS2GZL101M◇◇△△2225
		1990	1035	0,15	0,4	0,70	22 x 30	ECS2GZL101M◇◇△△2230
		1990	1035	0,15	0,4	0,58	25 x 25	ECS2GZL101M◇◇△△2525
		1990	1035	0,15	0,4	0,72	25 x 30	ECS2GZL101M◇◇△△2530
	150	1327	690	0,15	0,6	0,88	25 x 30	ECS2GZL151M◇◇△△2530
		1106	575	0,15	0,7	0,70	22 x 45	ECS2GZL181M◇◇△△2245
		1106	575	0,15	0,7	0,95	22 x 50	ECS2GZL181M◇◇△△2250
		1106	575	0,15	0,7	0,82	25 x 35	ECS2GZL181M◇◇△△2535
	220	1106	575	0,15	0,7	0,78	35 x 20	ECS2GZL181M◇◇△△3520
		905	471	0,15	0,9	1,00	25 x 45	ECS2GZL221M◇◇△△2545
		905	471	0,15	0,9	0,86	30 x 30	ECS2GZL221M◇◇△△3030
		905	471	0,15	0,9	1,10	35 x 25	ECS2GZL221M◇◇△△3525
	270	905	471	0,15	0,9	1,30	35 x 30	ECS2GZL221M◇◇△△3530
		737	385	0,15	1,1	1,35	25 x 45	ECS2GZL271M◇◇△△2545
		737	385	0,15	1,1	1,48	30 x 30	ECS2GZL271M◇◇△△3030
		737	385	0,15	1,1	1,58	30 x 40	ECS2GZL271M◇◇△△3040
	330	603	314	0,15	1,3	1,50	25 x 50	ECS2GZL331M◇◇△△2550
		603	314	0,15	1,3	1,11	30 x 40	ECS2GZL331M◇◇△△3040
		603	314	0,15	1,3	1,10	35 x 30	ECS2GZL331M◇◇△△3530
		603	314	0,15	1,3	1,70	35 x 40	ECS2GZL331M◇◇△△3540
	390	511	266	0,15	1,5	1,15	30 x 45	ECS2GZL391M◇◇△△3045
		511	266	0,15	1,5	1,26	35 x 35	ECS2GZL391M◇◇△△3535
	470	424	221	0,15	1,5	1,31	30 x 50	ECS2GZL471M◇◇△△3050
		424	221	0,15	1,5	1,50	35 x 35	ECS2GZL471M◇◇△△3535
		424	221	0,15	1,5	2,30	35 x 40	ECS2GZL471M◇◇△△3540
		424	221	0,15	1,5	1,65	40 x 40	ECS2GZL471M◇◇△△4040
	560	424	221	0,15	1,5	3,30	45 x 50	ECS2GZL471M◇◇△△4550
		356	185	0,15	1,5	1,90	30 x 45	ECS2GZL561M◇◇△△3045
		356	185	0,15	1,5	1,75	35 x 45	ECS2GZL561M◇◇△△3545
	680	293	153	0,15	1,5	2,20	30 x 55	ECS2GZL681M◇◇△△3055
		293	153	0,15	1,5	2,10	35 x 45	ECS2GZL681M◇◇△△3545
		293	153	0,15	1,5	2,50	35 x 50	ECS2GZL681M◇◇△△3550
		293	153	0,15	1,5	2,15	40 x 40	ECS2GZL681M◇◇△△4040
	820	243	145	0,15	1,5	3,50	35 x 55	ECS2GZL821M◇◇△△3555
		199	130	0,15	1,5	2,80	35 x 55	ECS2GZL102M◇◇△△3555
	1 000	199	130	0,15	1,5	3,30	35 x 100	ECS2GZL102M◇◇△△35100
		199	130	0,15	1,5	3,50	40 x 70	ECS2GZL102M◇◇△△4070
		199	130	0,15	1,5	3,80	40 x 80	ECS2GZL102M◇◇△△4080
	1 200	166	108	0,15	1,5	3,80	35 x 80	ECS2GZL122M◇◇△△3580
		166	108	0,15	1,5	4,50	35 x 100	ECS2GZL122M◇◇△△35100
		166	108	0,15	1,5	4,50	40 x 75	ECS2GZL122M◇◇△△4075
	1 500	133	90	0,15	1,5	4,25	40 x 100	ECS2GZL152M◇◇△△40100
	1 800	111	72	0,15	1,5	6,10	40 x 100	ECS2GZL182M◇◇△△40100

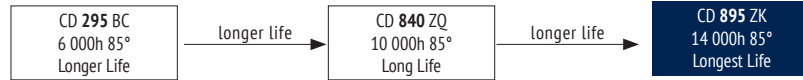
U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	Details: Page 105
450 (500) 2W	47	5644	2890	0,20	0,2	0,35	20 x 25	ECS2WZL470M◇◇△△2025
		5644	2890	0,20	0,2	0,42	22 x 25	ECS2WZL470M◇◇△△2225
	68	3901	1951	0,20	0,3	0,55	22 x 25	ECS2WZL680M◇◇△△2225
	82	3235	1618	0,20	0,4	0,50	22 x 25	ECS2WZL820M◇◇△△2225
		2653	1327	0,20	0,5	0,60	22 x 30	ECS2WZL101M◇◇△△2230
		2653	1327	0,20	0,5	0,64	22 x 35	ECS2WZL101M◇◇△△2235
		2653	1327	0,20	0,5	0,70	25 x 25	ECS2WZL101M◇◇△△2525
		2653	1327	0,20	0,5	0,80	25 x 30	ECS2WZL101M◇◇△△2530
		2211	1106	0,20	0,5	1,00	22 x 35	ECS2WZL121M◇◇△△2235
	120	2211	1106	0,20	0,5	0,70	25 x 30	ECS2WZL121M◇◇△△2530
		2211	1106	0,20	0,5	0,70	30 x 25	ECS2WZL121M◇◇△△3025
		150	1769	885	0,20	0,7	0,90	22 x 30
	1769		885	0,20	0,7	0,80	25 x 30	ECS2WZL151M◇◇△△2530
	1769		885	0,20	0,7	0,73	30 x 25	ECS2WZL151M◇◇△△3025
	180	1474	737	0,20	0,8	1,00	22 x 40	ECS2WZL181M◇◇△△2240
		1474	737	0,20	0,8	1,00	30 x 30	ECS2WZL181M◇◇△△3030
		1474	737	0,20	0,8	1,00	35 x 25	ECS2WZL181M◇◇△△3525
	220	1206	603	0,20	1,0	1,10	25 x 40	ECS2WZL221M◇◇△△2540
		1206	603	0,20	1,0	1,10	30 x 30	ECS2WZL221M◇◇△△3030
	270	983	492	0,20	1,2	0,97	25 x 50	ECS2WZL271M◇◇△△2550
		983	492	0,20	1,2	0,97	30 x 40	ECS2WZL271M◇◇△△3040
		983	492	0,20	1,2	1,30	30 x 60	ECS2WZL271M◇◇△△3060
		983	492	0,20	1,2	1,50	35 x 30	ECS2WZL271M◇◇△△3530
		804	402	0,20	1,5	1,30	25 x 55	ECS2WZL331M◇◇△△2555
	330	804	402	0,20	1,5	1,10	30 x 45	ECS2WZL331M◇◇△△3045
		804	402	0,20	1,5	1,18	35 x 30	ECS2WZL331M◇◇△△3530
		804	402	0,20	1,5	1,80	35 x 35	ECS2WZL331M◇◇△△3535
		681	340	0,20	1,5	1,31	30 x 45	ECS2WZL391M◇◇△△3045
	390	681	340	0,20	1,5	1,70	35 x 35	ECS2WZL391M◇◇△△3535
		681	340	0,20	1,5	2,00	35 x 40	ECS2WZL391M◇◇△△3540
		565	282	0,20	1,5	2,00	30 x 50	ECS2WZL471M◇◇△△3050
	470	565	282	0,20	1,5	1,60	35 x 40	ECS2WZL471M◇◇△△3540
		565	282	0,20	1,5	2,00	35 x 45	ECS2WZL471M◇◇△△3545
		565	282	0,20	1,5	2,20	35 x 50	ECS2WZL471M◇◇△△3550
		565	282	0,20	1,5	1,50	40 x 40	ECS2WZL471M◇◇△△4040
		474	237	0,20	1,5	2,10	35 x 50	ECS2WZL561M◇◇△△3550
	560	474	237	0,20	1,5	2,10	40 x 50	ECS2WZL561M◇◇△△4050
		680	391	196	0,20	1,5	2,50	35 x 60
	391		196	0,20	1,5	2,40	40 x 55	ECS2WZL681M◇◇△△4055
	820	324	162	0,20	1,5	2,70	35 x 70	ECS2WZL821M◇◇△△3570
		324	162	0,20	1,5	2,80	40 x 70	ECS2WZL821M◇◇△△4070
		324	162	0,20	1,5	3,00	45 x 45	ECS2WZL821M◇◇△△4545
		266	139	0,20	1,5	3,40	35 x 105	ECS2WZL102M◇◇△△35105
	1 000	266	139	0,20	1,5	4,00	40 x 80	ECS2WZL102M◇◇△△4080
		1 200	222	114	0,20	1,5	3,50	40 x 90
	222		114	0,20	1,5	4,50	40 x 100	ECS2WZL122M◇◇△△40100
	1 500	177	100	0,20	1,5	3,80	40 x 100	ECS2WZL152M◇◇△△40100

420 (470) 2X	100	2653	1300	0,20	0,4	0,70	22 x 30	ECS2XZL101M◇◇△△2230
		2653	1300	0,20	0,4	0,60	25 x 25	ECS2XZL101M◇◇△△2525
		2653	1300	0,20	0,4	0,60	30 x 20	ECS2XZL101M◇◇△△3020
	120	2211	1100	0,20	0,5	0,71	25 x 30	ECS2XZL121M◇◇△△2530
		1769	890	0,20	0,6	0,78	22 x 40	ECS2XZL151M◇◇△△2240
		1769	890	0,20	0,6	0,72	25 x 35	ECS2XZL151M◇◇△△2535
		1769	890	0,20	0,6	0,72	30 x 25	ECS2XZL151M◇◇△△3025
	150	1769	890	0,20	0,6	0,72	35 x 30	ECS2XZL151M◇◇△△3530
		1474	737	0,20	0,8	0,81	25 x 30	ECS2XZL181M◇◇△△2530
		1206	603	0,20	0,9	0,90	25 x 40	ECS2XZL221M◇◇△△2540
		1206	603	0,20	0,9	0,85	30 x 35	ECS2XZL221M◇◇△△3035
	180	1206	603	0,20	0,9	0,85	35 x 25	ECS2XZL221M◇◇△△3525
		983	492	0,20	1,1	0,90	25 x 45	ECS2XZL271M◇◇△△2545
		983	492	0,20	1,1	1,10	25 x 50	ECS2XZL271M◇◇△△2550
	220	804	402	0,20	1,4	1,20	30 x 45	ECS2XZL331M◇◇△△3045
		804	402	0,20	1,4	1,20	35 x 35	ECS2XZL331M◇◇△△3535
		681	340	0,20	1,5	1,30	30 x 50	ECS2XZL391M◇◇△△3050
	270	565	282	0,20	1,5	1,60	30 x 55	ECS2XZL471M◇◇△△3055
		565	282	0,20	1,5	1,40	35 x 45	ECS2XZL471M◇◇△△3545
		474	237	0,20	1,5	1,70	30 x 60	ECS2XZL561M◇◇△△3060
		474	237	0,20	1,5	1,80	35 x 55	ECS2XZL561M◇◇△△3555
	330	391	196	0,20	1,5	2,50	35 x 50	ECS2XZL681M◇◇△△3550
		391	196	0,20	1,5	3,30	35 x 55	ECS2XZL681M◇◇△△3555

500 (550) 2H	180	1474	737	0,20	0,9	1,10	35 x 30	ECS2HZL181M◇◇△△3530
	330	804	402	0,20	1,5	1,30	30 x 50	ECS2HZL331M◇◇△△3050
	390	681	341	0,20	1,5	1,70	35 x 50	ECS2HZL391M◇◇△△3550
	470	565	286	0,20	1,5	1,70	35 x 50	ECS2HZL471M◇◇△△3550
		565	286	0,20	1,5	1,80	35 x 55	ECS2HZL471M◇◇△△3555
		565	286	0,20	1,5	2,00	35 x 60	ECS2HZL471M◇◇△△3560
	560	474	241	0,20	1,5	1,80	35 x 60	ECS2HZL561M◇◇△△3560
		474	241	0,20	1,5	2,20	40 x 60	ECS2HZL561M◇◇△△4060
	680	391	200	0,20	1,5	2,50	35 x 80	ECS2HZL681M◇◇△△3580
820	324	165	0,20	1,5	2,70	35 x 90	ECS2HZL821M◇◇△△3590	

14 000h at 85°C

- Ultra Long Life at 85°C



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85	-25 ~ +85
Voltage Range (V)	16 ~ 100	160 ~ 500
Capacitance Range (µF)	39 ~ 47 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.	
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Stability at Low Temperature (Impedance Ratio at 120Hz)	Rated Voltage (V)	16~100	160~200	250~500
	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	4		
	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	15	-	

Fast Charge-Discharge Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

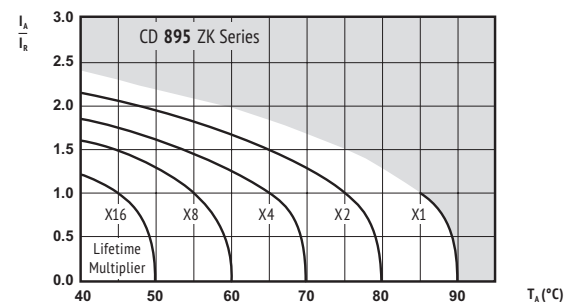
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	14 000h	> 150 000h	6 000h	9 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 20% of initial value	Within ± 15% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 150% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,5 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Rated Voltage (V)	50Hz	120Hz	300Hz	1kHz	10kHz	≥50kHz
≤ 100	0,95	1,00	1,07	1,13	1,19	1,20
160 ~ 250	0,87	1,00	1,17	1,32	1,45	1,50
≥ 350	0,80	1,00	1,16	1,30	1,41	1,43

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

Max. Current Snap-In Terminal: 15A. For more current use Lug-Terminals.

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
16 (20) 1C	6 800	98	69	0,50	1,1	1,68	22 x 25	ECS1CZK682M◇◇△△2225
		67	47	0,50	1,5	2,09	22 x 30	ECS1CZK103M◇◇△△2230
		67	47	0,50	1,5	2,09	25 x 25	ECS1CZK103M◇◇△△2525
	10 000	56	39	0,50	1,5	2,39	22 x 35	ECS1CZK123M◇◇△△2235
		56	39	0,50	1,5	2,41	25 x 30	ECS1CZK123M◇◇△△2530
		56	39	0,50	1,5	2,50	30 x 25	ECS1CZK123M◇◇△△3025
	12 000	45	31	0,50	1,5	2,77	22 x 40	ECS1CZK153M◇◇△△2240
		45	31	0,50	1,5	2,81	25 x 35	ECS1CZK153M◇◇△△2535
		37	26	0,50	1,5	3,13	22 x 45	ECS1CZK183M◇◇△△2245
	15 000	37	26	0,50	1,5	3,19	25 x 40	ECS1CZK183M◇◇△△2540
		37	26	0,50	1,5	3,15	30 x 30	ECS1CZK183M◇◇△△3030
		37	26	0,50	1,5	3,26	35 x 25	ECS1CZK183M◇◇△△3525
	18 000	31	22	0,50	1,5	3,57	25 x 45	ECS1CZK223M◇◇△△2545
		31	22	0,50	1,5	3,56	30 x 35	ECS1CZK223M◇◇△△3035
		25	18	0,50	1,5	4,00	25 x 50	ECS1CZK273M◇◇△△2550
	22 000	25	18	0,50	1,5	4,02	30 x 40	ECS1CZK273M◇◇△△3040
		25	18	0,50	1,5	3,92	35 x 30	ECS1CZK273M◇◇△△3530
		21	15	0,50	1,5	4,52	30 x 45	ECS1CZK333M◇◇△△3045
	27 000	21	15	0,50	1,5	4,45	35 x 35	ECS1CZK333M◇◇△△3535
		18	12	0,50	1,5	4,98	30 x 50	ECS1CZK393M◇◇△△3050
		18	12	0,50	1,5	4,96	35 x 40	ECS1CZK393M◇◇△△3540
	33 000	15	10	0,50	1,5	5,53	35 x 45	ECS1CZK473M◇◇△△3545
		15	10	0,50	1,5	5,53	35 x 45	ECS1CZK473M◇◇△△3545
		15	10	0,50	1,5	5,53	35 x 45	ECS1CZK473M◇◇△△3545

25 (32) 1E	4 700	113	80	0,40	1,2	1,63	22 x 25	ECS1EZK472M◇◇△△2225
		79	55	0,40	1,5	2,01	22 x 30	ECS1EZK682M◇◇△△2230
		79	55	0,40	1,5	2,01	25 x 25	ECS1EZK682M◇◇△△2525
	6 800	65	46	0,40	1,5	2,25	22 x 35	ECS1EZK822M◇◇△△2235
		65	46	0,40	1,5	2,27	25 x 30	ECS1EZK822M◇◇△△2530
		65	46	0,40	1,5	2,36	30 x 25	ECS1EZK822M◇◇△△3025
	8 200	54	38	0,40	1,5	2,52	22 x 40	ECS1EZK103M◇◇△△2240
		54	38	0,40	1,5	2,56	25 x 35	ECS1EZK103M◇◇△△2535
		45	31	0,40	1,5	2,83	22 x 45	ECS1EZK123M◇◇△△2245
	10 000	45	31	0,40	1,5	2,88	25 x 40	ECS1EZK123M◇◇△△2540
		45	31	0,40	1,5	2,84	30 x 30	ECS1EZK123M◇◇△△3030
		45	31	0,40	1,5	2,94	35 x 25	ECS1EZK123M◇◇△△3525
	12 000	36	25	0,40	1,5	3,31	25 x 45	ECS1EZK153M◇◇△△2545
		36	25	0,40	1,5	3,29	30 x 35	ECS1EZK153M◇◇△△3035
		36	25	0,40	1,5	3,38	35 x 30	ECS1EZK153M◇◇△△3530
	15 000	30	21	0,40	1,5	3,72	25 x 50	ECS1EZK183M◇◇△△2550
		30	21	0,40	1,5	3,72	30 x 40	ECS1EZK183M◇◇△△3040
		25	17	0,40	1,5	4,45	30 x 45	ECS1EZK223M◇◇△△3045
	18 000	25	17	0,40	1,5	4,16	35 x 35	ECS1EZK223M◇◇△△3535
		20	14	0,40	1,5	4,99	35 x 45	ECS1EZK273M◇◇△△3545
		17	12	0,40	1,5	5,66	35 x 50	ECS1EZK333M◇◇△△3550
	22 000	17	12	0,40	1,5	5,66	35 x 50	ECS1EZK333M◇◇△△3550
		17	12	0,40	1,5	5,66	35 x 50	ECS1EZK333M◇◇△△3550
		17	12	0,40	1,5	5,66	35 x 50	ECS1EZK333M◇◇△△3550

35 (44) 1V	3 300	141	99	0,35	1,2	1,50	22 x 25	ECS1VZK332M◇◇△△2225
		120	84	0,35	1,4	1,73	22 x 30	ECS1VZK392M◇◇△△2230
		99	70	0,35	1,5	1,87	25 x 25	ECS1VZK472M◇◇△△2525
	4 700	83	59	0,35	1,5	2,12	22 x 35	ECS1VZK562M◇◇△△2235
		83	59	0,35	1,5	2,14	25 x 30	ECS1VZK562M◇◇△△2530
		83	59	0,35	1,5	2,22	30 x 25	ECS1VZK562M◇◇△△3025
	5 600	69	48	0,35	1,5	2,39	22 x 40	ECS1VZK682M◇◇△△2240
		69	48	0,35	1,5	2,43	25 x 35	ECS1VZK682M◇◇△△2535
		57	40	0,35	1,5	2,80	22 x 50	ECS1VZK822M◇◇△△2250
	6 800	57	40	0,35	1,5	2,73	25 x 40	ECS1VZK822M◇◇△△2540
		57	40	0,35	1,5	2,69	30 x 30	ECS1VZK822M◇◇△△3030
		57	40	0,35	1,5	2,92	35 x 25	ECS1VZK822M◇◇△△3525
	8 200	47	33	0,35	1,5	3,07	25 x 45	ECS1VZK103M◇◇△△2545
		47	33	0,35	1,5	3,07	30 x 35	ECS1VZK103M◇◇△△3035
		39	28	0,35	1,5	3,42	25 x 50	ECS1VZK123M◇◇△△2550
	10 000	39	28	0,35	1,5	3,44	30 x 40	ECS1VZK123M◇◇△△3040
		39	28	0,35	1,5	3,36	35 x 30	ECS1VZK123M◇◇△△3530
		31	22	0,35	1,5	3,93	30 x 45	ECS1VZK153M◇◇△△3045
	12 000	31	22	0,35	1,5	3,88	35 x 35	ECS1VZK153M◇◇△△3535
		26	19	0,35	1,5	4,37	35 x 40	ECS1VZK183M◇◇△△3540
		22	15	0,35	1,5	5,17	35 x 50	ECS1VZK223M◇◇△△3550
	15 000	22	15	0,35	1,5	5,17	35 x 50	ECS1VZK223M◇◇△△3550
		22	15	0,35	1,5	5,17	35 x 50	ECS1VZK223M◇◇△△3550
		22	15	0,35	1,5	5,17	35 x 50	ECS1VZK223M◇◇△△3550

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
50 (63) 1H	1 800	222	155	0,30	0,9	1,37	22 x 25	ECS1HZK182M◇◇△△2225
		181	127	0,30	1,1	1,53	22 x 30	ECS1HZK222M◇◇△△2230
		148	104	0,30	1,4	1,79	22 x 30	ECS1HZK272M◇◇△△2230
	2 200	148	104	0,30	1,4	1,79	25 x 25	ECS1HZK272M◇◇△△2525
		121	85	0,30	1,5	2,05	22 x 35	ECS1HZK332M◇◇△△2235
		121	85	0,30	1,5	2,10	25 x 30	ECS1HZK332M◇◇△△2530
	2 700	103	72	0,30	1,5	2,36	22 x 40	ECS1HZK392M◇◇△△2240
		103	72	0,30	1,5	2,39	25 x 35	ECS1HZK392M◇◇△△2535
		103	72	0,30	1,5	2,33	30 x 25	ECS1HZK392M◇◇△△3025
	3 300	85	60	0,30	1,5	2,69	22 x 45	ECS1HZK472M◇◇△△2245
		85	60	0,30	1,5	2,71	30 x 30	ECS1HZK472M◇◇△△3030
		85	60	0,30	1,5	2,80	35 x 25	ECS1HZK472M◇◇△△3525
	3 900	72	50	0,30	1,5	3,03	22 x 50	ECS1HZK562M◇◇△△2250
		72	50	0,30	1,5	2,95	25 x 40	ECS1HZK562M◇◇△△2540
		72	50	0,30	1,5	3,10	30 x 35	ECS1HZK562M◇◇△△3035
	4 700	59	41	0,30	1,5	3,54	25 x 50	ECS1HZK682M◇◇△△2550
		59	41	0,30	1,5	3,56	30 x 40	ECS1HZK682M◇◇△△3040
		59	41	0,30	1,5	3,48	35 x 30	ECS1HZK682M◇◇△△3530
	5 600	49	34	0,30	1,5	3,90	30 x 45	ECS1HZK822M◇◇△△3045
		49	34	0,30	1,5	3,84	35 x 35	ECS1HZK822M◇◇△△3535
		40	28	0,30	1,5	4,29	30 x 50	ECS1HZK103M◇◇△△3050
	6 800	40	28	0,30	1,5	4,27	35 x 40	ECS1HZK103M◇◇△△3540
		34	24	0,30	1,5	4,73	35 x 45	ECS1HZK123M◇◇△△3545
		34	24	0,30	1,5	4,73	35 x 45	ECS1HZK123M◇◇△△3545

63 (79) 1J	1 200	222	155	0,20	0,8	1,31	22 x 25	ECS1JZK122M◇◇△△2225
		148	104	0,20	1,1	1,60	22 x 30	ECS1JZK182M◇◇△△2230
		148	104	0,20	1,1	1,60	25 x 25	ECS1JZK182M◇◇△△2525
	2 200	121	85	0,20	1,4	1,82	22 x 35	ECS1JZK222M◇◇△△2235
		121	85	0,20	1,4	1,84	25 x 30	ECS1JZK222M◇◇△△2530
		99	69	0,20	1,5	2,07	22 x 40	ECS1JZK272M◇◇△△2240
	2 700	99	69	0,20	1,5	2,09	25 x 35	ECS1JZK272M◇◇△△2535
		99	69	0,20	1,5	2,03	30 x 25	ECS1JZK272M◇◇△△3025
		81	57	0,20	1,5	2,44	22 x 50	ECS1JZK332M◇◇△△2250
	3 300	81	57	0,20	1,5	2,38	25 x 40	ECS1JZK332M◇◇△△2540
		81	57	0,20	1,5	2,35	30 x 30	ECS1JZK332M◇◇△△3030
		81	57	0,20	1,5	2,53	35 x 25	ECS1JZK332M◇◇△△3525
	3 900	69	48	0,20	1,5	2,67	25 x 45	ECS1JZK392M◇◇△△2545
		69	48	0,20	1,5	2,68	30 x 35	ECS1JZK392M◇◇△△3035
		57	40	0,20	1,5	3,02	25 x 50	ECS1JZK472M◇◇△△2550
	4 700	57	40	0,20	1,5	3,05	30 x 40	ECS1JZK472M◇◇△△3040
		57	40	0,20	1,5	2,97	35 x 30	ECS1JZK472M◇◇△△3530
		48	34	0,20	1,5	3,44	30 x 45	ECS1JZK562M◇◇△△3045
	5 600	48	34	0,20	1,5	3,40	35 x 35	ECS1JZK562M◇◇△△3535
		40	28	0,20	1,5	3,92	30 x 50	ECS1JZK682M◇◇△△3050
		40	28	0,20	1,5	3,90	35 x 40	ECS1JZK682M◇◇△△3540
	8 200	33	23	0,20	1,5	4,37	35 x 45	ECS1JZK822M◇◇△△3545
	10 000	27	19	0,20	1,5	4,92	35 x 50	ECS1JZK1032M◇◇△△3550

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	

80 (100) 1K	4 700	57	40	0,20	1,5	3,74	30 x 50	ECS1KZK472M◇◇△△3050
		57	40	0,20	1,5	3,68	35 x 40	ECS1KZK472M◇◇△△3540
		5 600	48	34	0,20	4,06	35 x 45	ECS1KZK562M◇◇△△3545
		6 800	40	28	0,20	1,5	35 x 50	ECS1KZK682M◇◇△△3550

100 (125) 2A	560	474	332	0,20	0,6	1,12	22 x 25	ECS2AZK561M◇◇△△2225
		324	227	0,20	0,8	1,42	22 x 30	ECS2AZK821M◇◇△△2230
		324	227	0,20	0,8	1,42	25 x 25	ECS2AZK821M◇◇△△2525
	820	266	186	0,20	1,0	1,62	22 x 35	ECS2AZK102M◇◇△△2235
		266	186	0,20	1,0	1,64	25 x 30	ECS2AZK102M◇◇△△2530
	1 000	222	155	0,20	1,2	1,83	22 x 40	ECS2AZK122M◇◇△△2240
		222	155	0,20	1,2	1,85	25 x 35	ECS2AZK122M◇◇△△2535
		222	155	0,20	1,2	1,80	30 x 25	ECS2AZK122M◇◇△△3025
	1 200	177	124	0,20	1,5	2,09	22 x 45	ECS2AZK152M◇◇△△2245
		177	124	0,20	1,5	2,13	25 x 40	ECS2AZK152M◇◇△△2540
		177	124	0,20	1,5	2,10	30 x 30	ECS2AZK152M◇◇△△3030
	1 500	177	124	0,20	1,5	2,17	35 x 25	ECS2AZK152M◇◇△△3525
		148	104	0,20	1,5	2,39	25 x 45	ECS2AZK182M◇◇△△2545
		148	104	0,20	1,5	2,38	30 x 35	ECS2AZK182M◇◇△△3035
	1 800	121	85	0,20	1,5	2,70	25 x 50	ECS2AZK222M◇◇△△2550
		121	85	0,20	1,5	2,72	30 x 40	ECS2AZK222M◇◇△△3040
		121	85	0,20	1,5	2,65	35 x 30	ECS2AZK222M◇◇△△3530
	2 200	99	69	0,20	1,5	3,09	30 x 45	ECS2AZK272M◇◇△△3045
		99	69	0,20	1,5	3,05	35 x 35	ECS2AZK272M◇◇△△3535
	2 700	81	57	0,20	1,5	3,49	30 x 50	ECS2AZK332M◇◇△△3050
		81	57	0,20	1,5	3,48	35 x 40	ECS2AZK332M◇◇△△3540
	3 300	69	48	0,20	1,5	3,88	35 x 45	ECS2AZK392M◇◇△△3545
		69	48	0,20	1,5	3,88	35 x 45	ECS2AZK392M◇◇△△3545
	4 700	57	40	0,20	1,5	4,35	35 x 50	ECS2AZK472M◇◇△△3550

160 (200) 2C	330	603	423	0,15	0,5	1,22	22 x 25	ECS2CZK331M◇◇△△2225
		390	511	0,15	0,6	1,50	22 x 30	ECS2CZK391M◇◇△△2230
	470	424	297	0,15	0,8	1,60	22 x 35	ECS2CZK471M◇◇△△2235
		424	297	0,15	0,8	1,63	25 x 25	ECS2CZK471M◇◇△△2525
	560	356	249	0,15	0,9	1,70	22 x 40	ECS2CZK561M◇◇△△2240
		356	249	0,15	0,9	1,82	25 x 30	ECS2CZK561M◇◇△△2530
	680	293	205	0,15	1,1	1,79	22 x 45	ECS2CZK681M◇◇△△2245
		293	205	0,15	1,1	1,90	25 x 35	ECS2CZK681M◇◇△△2535
		293	205	0,15	1,1	1,91	30 x 25	ECS2CZK681M◇◇△△3025
	820	243	170	0,15	1,3	1,90	22 x 50	ECS2CZK821M◇◇△△2250
		243	170	0,15	1,3	2,08	25 x 40	ECS2CZK821M◇◇△△2540
		243	170	0,15	1,3	2,08	30 x 30	ECS2CZK821M◇◇△△3030
		243	170	0,15	1,3	2,03	35 x 25	ECS2CZK821M◇◇△△3525
	1 000	199	140	0,15	1,5	2,14	25 x 45	ECS2CZK102M◇◇△△2545
		199	140	0,15	1,5	2,25	30 x 35	ECS2CZK102M◇◇△△3035
		166	117	0,15	1,5	2,23	25 x 50	ECS2CZK122M◇◇△△2550
	1 200	166	117	0,15	1,5	2,33	30 x 40	ECS2CZK122M◇◇△△3040
		166	117	0,15	1,5	2,52	35 x 30	ECS2CZK122M◇◇△△3530
	1 500	133	93	0,15	1,5	2,58	30 x 45	ECS2CZK152M◇◇△△3045
		133	93	0,15	1,5	2,66	35 x 35	ECS2CZK152M◇◇△△3535
	1 800	111	78	0,15	1,5	3,13	35 x 45	ECS2CZK182M◇◇△△3545
	2 200	91	64	0,15	1,5	3,26	35 x 50	ECS2CZK222M◇◇△△3550

200 (250) 2D	220	905	634	0,15	0,4	1,13	22 x 25	ECS2DZK221M◇◇△△2225
		270	737	0,15	0,5	1,26	22 x 30	ECS2DZK271M◇◇△△2230
	330	603	423	0,15	0,7	1,36	22 x 30	ECS2DZK331M◇◇△△2230
		603	423	0,15	0,7	1,42	25 x 25	ECS2DZK331M◇◇△△2525
	390	511	358	0,15	0,8	1,48	22 x 35	ECS2DZK391M◇◇△△2235
		424	297	0,15	0,9	1,58	22 x 40	ECS2DZK471M◇◇△△2240
	470	424	297	0,15	0,9	1,54	25 x 30	ECS2DZK471M◇◇△△2530
		424	297	0,15	0,9	1,64	30 x 25	ECS2DZK471M◇◇△△3025
	560	356	249	0,15	1,1	1,66	22 x 45	ECS2DZK561M◇◇△△2245
		356	249	0,15	1,1	1,73	25 x 35	ECS2DZK561M◇◇△△2535
	680	293	205	0,15	1,4	1,76	22 x 50	ECS2DZK681M◇◇△△2250
		293	205	0,15	1,4	1,89	25 x 40	ECS2DZK681M◇◇△△2540
		293	205	0,15	1,4	1,91	30 x 30	ECS2DZK681M◇◇△△3030
		293	205	0,15	1,4	2,06	35 x 25	ECS2DZK681M◇◇△△3525

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	

200 (250) 2D	820	243	170	0,15	1,5	1,96	25 x 50	ECS2DZK821M◇◇△△2550
		243	170	0,15	1,5	2,09	30 x 35	ECS2DZK821M◇◇△△3035
		243	170	0,15	1,5	2,17	35 x 30	ECS2DZK821M◇◇△△3530
	1 000	199	140	0,15	1,5	2,28	30 x 45	ECS2DZK102M◇◇△△3045
		199	140	0,15	1,5	2,33	35 x 35	ECS2DZK102M◇◇△△3535
	1 200	166	117	0,15	1,5	2,33	30 x 50	ECS2DZK122M◇◇△△3050
		166	117	0,15	1,5	2,54	35 x 40	ECS2DZK122M◇◇△△3540
	1 500	133	93	0,15	1,5	2,72	35 x 45	ECS2DZK152M◇◇△△3545
	1 800	111	78	0,15	1,5	2,84	35 x 50	ECS2DZK182M◇◇△△3550

250 (300) 2E	180	1106	774	0,15	0,5	0,99	22 x 25	ECS2EZK181M◇◇△△2225
		905	634	0,15	0,6	1,15	22 x 30	ECS2EZK221M◇◇△△2230
	220	905	634	0,15	0,6	1,21	25 x 25	ECS2EZK221M◇◇△△2525
		737	516	0,15	0,7	1,19	22 x 35	ECS2EZK271M◇◇△△2235
	270	603	423	0,15	0,8	1,26	22 x 40	ECS2EZK331M◇◇△△2240
		603	423	0,15	0,8	1,37	25 x 30	ECS2EZK331M◇◇△△2530
	330	603	423	0,15	0,8	1,37	30 x 25	ECS2EZK331M◇◇△△3025
		511	358	0,15	1,0	1,32	22 x 45	ECS2EZK391M◇◇△△2245
	390	511	358	0,15	1,0	1,48	25 x 35	ECS2EZK391M◇◇△△2535
		424	297	0,15	1,2	1,44	22 x 50	ECS2EZK471M◇◇△△2250
	470	424	297	0,15	1,2	1,60	25 x 40	ECS2EZK471M◇◇△△2540
		424	297	0,15	1,2	1,43	30 x 30	ECS2EZK471M◇◇△△3030
	560	424	297	0,15	1,2	1,47	35 x 25	ECS2EZK471M◇◇△△3525
		356	249	0,15	1,4	1,67	25 x 45	ECS2EZK561M◇◇△△2545
	680	356	249	0,15	1,4	1,65	30 x 35	ECS2EZK561M◇◇△△3035
		356	249	0,15	1,4	1,64	35 x 30	ECS2EZK561M◇◇△△3530
	820	293	205	0,15	1,5	1,85	25 x 50	ECS2EZK681M◇◇△△2550
		293	205	0,15	1,5	1,85	30 x 40	ECS2EZK681M◇◇△△3040
	1 000	243	170	0,15	1,5	1,92	30 x 45	ECS2EZK821M◇◇△△3045
		243	170	0,15	1,5	1,91	35 x 35	ECS2EZK821M◇◇△△3535
	1 200	199	140	0,15	1,5	1,96	30 x 50	ECS2EZK102M◇◇△△3050
		199	140	0,15	1,5	2,09	35 x 40	ECS2EZK102M◇◇△△3540
	1 500	166	117	0,15	1,5	2,20	35 x 45	ECS2EZK122M◇◇△△3545

350 (400) 2V	68	2926	1610	0,15	0,2	0,59	22 x 25	ECS2VZK680M◇◇△△2225
		1990	1095	0,15	0,4	0,74	22 x 30	ECS2VZK101M◇◇△△2230
	100	1990	1950	0,15	0,4	0,74	25 x 25	ECS2VZK101M◇◇△△2525
		120	1658	912	0,15	0,4	0,77	22 x 35
	1327		730	0,15	0,5	0,83	22 x 40	ECS2VZK151M◇◇△△2240
	150	1327	730	0,15	0,5	0,86	25 x 30	ECS2VZK151M◇◇△△2530
		1327	730	0,15	0,5	0,86	30 x 25	ECS2VZK151M◇◇△△3025
	180	1106	608	0,15	0,6	0,85	22 x 45	ECS2VZK181M◇◇△△2245
		1106	608	0,15	0,6	0,93	25 x 35	ECS2VZK181M◇◇△△2535
	220	1106	608	0,15	0,6	0,95	30 x 30	ECS2VZK181M◇◇△△3030
		905	498	0,15	0,8	0,98	22 x 50	ECS2VZK221M◇◇△△2250
	270	905	498	0,15	0,8	1,01	25 x 40	ECS2VZK221M◇◇△△2540
		905	498	0,15	0,8	1,03	35 x 25	ECS2VZK221M◇◇△△3525
	330	737	406	0,15	0,9	1,06	25 x 50	ECS2VZK271M◇◇△△2550
		737	406	0,15	0,9	1,10	30 x 35	ECS2VZK271M◇◇△△3035
	390	737	406	0,15	0,9	1,06	35 x 30	ECS2VZK271M◇◇△△3530
603		332	0,15	1,2	1,22	30 x 45	ECS2VZK331M◇◇△△3045	
470	603	332	0,15	1,2	1,22	35 x 35	ECS2VZK331M◇◇△△3535	
	511	281	0,15	1,4	1,32	30 x 50	ECS2VZK391M◇◇△△3050	
560	511	281	0,15	1,4	1,32	35 x 40	ECS2VZK391M◇◇△△3540	
	424	233	0,15	1,5	1,42	35 x 45	ECS2VZK471M◇◇△△3545	
		356	196	0,15	1,5	1,59	35 x 50	ECS2VZK561M◇◇△△3550



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 105
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
400 (450) 2G	180	1106	575	0,15	0,7	0,82	22 x 50	ECS2GZK181M◇◇△△2250
		1106	575	0,15	0,7	0,86	25 x 40	ECS2GZK181M◇◇△△2540
		1106	575	0,15	0,7	0,87	30 x 30	ECS2GZK181M◇◇△△3030
		1106	575	0,15	0,7	0,90	35 x 25	ECS2GZK181M◇◇△△3525
	220	905	471	0,15	0,9	0,91	25 x 45	ECS2GZK221M◇◇△△2545
		905	471	0,15	0,9	0,90	30 x 35	ECS2GZK221M◇◇△△3035
	270	737	384	0,15	1,1	0,99	25 x 50	ECS2GZK271M◇◇△△2550
		737	384	0,15	1,1	1,00	30 x 40	ECS2GZK271M◇◇△△3040
		737	384	0,15	1,1	0,96	35 x 30	ECS2GZK271M◇◇△△3530
	330	603	314	0,15	1,3	1,17	30 x 45	ECS2GZK331M◇◇△△3045
		603	314	0,15	1,3	1,19	35 x 35	ECS2GZK331M◇◇△△3535
	390	511	266	0,15	1,5	1,21	30 x 50	ECS2GZK391M◇◇△△3050
		511	266	0,15	1,5	1,32	35 x 40	ECS2GZK391M◇◇△△3540
	470	424	221	0,15	1,5	1,38	35 x 45	ECS2GZK471M◇◇△△3545
	560	356	185	0,15	1,5	1,58	35 x 50	ECS2GZK561M◇◇△△3550
450 (500) 2W	56	4737	2369	0,20	0,3	0,49	22 x 25	ECS2WZK560M◇◇△△2225
	68	3901	1951	0,20	0,3	0,59	22 x 30	ECS2WZK680M◇◇△△2230
		3901	1951	0,20	0,3	0,63	25 x 25	ECS2WZK680M◇◇△△2525
	82	3235	1618	0,20	0,4	0,67	22 x 35	ECS2WZK820M◇◇△△2235
	100	2653	1327	0,20	0,5	0,74	22 x 40	ECS2WZK101M◇◇△△2240
		2653	1327	0,20	0,5	0,74	25 x 30	ECS2WZK101M◇◇△△2530
		2653	1327	0,20	0,5	0,82	30 x 25	ECS2WZK101M◇◇△△3025
	120	2211	1106	0,20	0,5	0,77	22 x 45	ECS2WZK121M◇◇△△2245
		2211	1106	0,20	0,5	0,77	25 x 35	ECS2WZK121M◇◇△△2535
	150	1769	885	0,20	0,7	0,82	22 x 50	ECS2WZK151M◇◇△△2250
		1769	885	0,20	0,7	0,86	25 x 40	ECS2WZK151M◇◇△△2540
		1769	885	0,20	0,7	0,87	30 x 30	ECS2WZK151M◇◇△△3030
		1769	885	0,20	0,7	0,90	35 x 25	ECS2WZK151M◇◇△△3525
	180	1474	737	0,20	0,8	0,91	25 x 45	ECS2WZK181M◇◇△△2545
		1474	737	0,20	0,8	0,90	30 x 35	ECS2WZK181M◇◇△△3035
	220	1206	603	0,20	1,0	0,99	25 x 50	ECS2WZK221M◇◇△△2550
		1206	603	0,20	1,0	1,00	30 x 40	ECS2WZK221M◇◇△△3040
		1206	603	0,20	1,0	0,96	35 x 30	ECS2WZK221M◇◇△△3530
	270	983	492	0,20	1,2	1,17	30 x 45	ECS2WZK271M◇◇△△3045
		983	492	0,20	1,2	1,19	35 x 35	ECS2WZK271M◇◇△△3535
	330	804	402	0,20	1,5	1,21	30 x 50	ECS2WZK331M◇◇△△3050
		804	402	0,20	1,5	1,32	35 x 40	ECS2WZK331M◇◇△△3540
	390	681	341	0,20	1,5	1,38	35 x 45	ECS2WZK391M◇◇△△3545
	470	565	283	0,20	1,5	1,58	35 x 50	ECS2WZK471M◇◇△△3550
500 (550) 2H	39	6802	3401	0,20	0,2	0,37	22 x 30	ECS2HZK390M◇◇△△2230
	47	5644	2822	0,20	0,2	0,43	22 x 35	ECS2HZK470M◇◇△△2235
	56	4737	2369	0,20	0,3	0,49	22 x 40	ECS2HZK560M◇◇△△2240
	68	3901	1951	0,20	0,3	0,57	22 x 45	ECS2HZK680M◇◇△△2245
	82	3235	1618	0,20	0,4	0,65	25 x 40	ECS2HZK820M◇◇△△2540
	100	2653	1327	0,20	0,5	0,70	25 x 45	ECS2HZK101M◇◇△△2545
	120	2211	1106	0,20	0,6	0,81	25 x 50	ECS2HZK121M◇◇△△2550
		2211	1106	0,20	0,6	0,76	35 x 30	ECS2HZK121M◇◇△△3530
	150	1769	885	0,20	0,8	0,89	30 x 40	ECS2HZK151M◇◇△△3040
	180	1474	737	0,20	0,9	1,06	30 x 50	ECS2HZK181M◇◇△△3050
	220	1206	603	0,20	1,1	1,18	35 x 45	ECS2HZK221M◇◇△△3545
	270	983	492	0,20	1,4	1,35	35 x 50	ECS2HZK271M◇◇△△3550





ELECTROLYTIC CAPACITORS

Screw Type

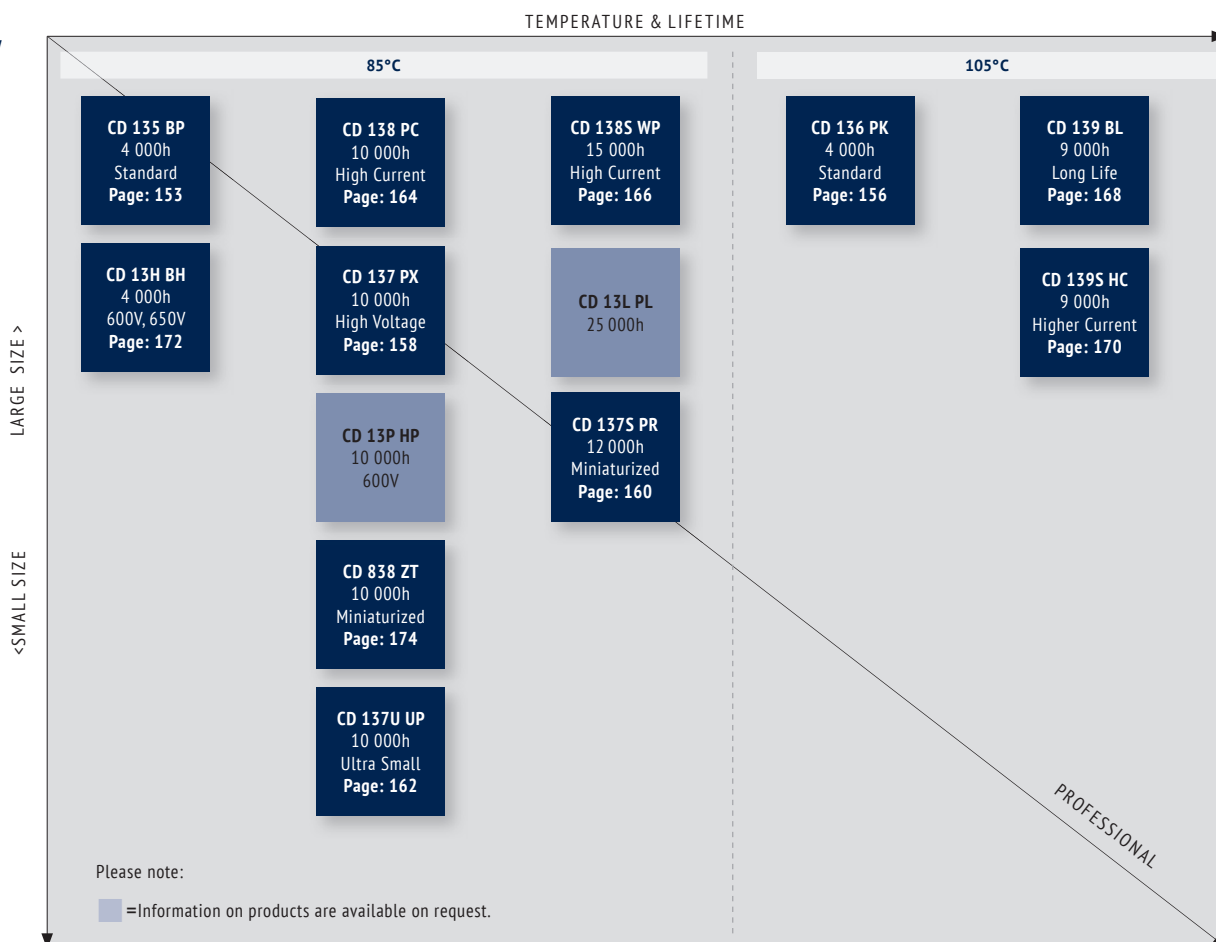
OVERVIEW SCREW

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Portfolio: All Screw Type at a glance & Order Code	150
Technical Specifications	151

SERIES SCREW	CODE	TYPE	TEMPERATURE	VOLTAGE	LIFETIME	INFO	
CD 135	BP	Screw	85°C	10-500V	4 000h	Standard	153
CD 136	PK	Screw	105°C	25-450V	4 000h	Standard	156
CD 137	PX	Screw	85°C	400-550V	10 000h	Long Life, High Voltage	158
CD 137S	PR	Screw	85°C	350-500V	12 000h	Miniaturized, Prolonged Lifetime	160
CD 137U	UP	Screw	85°C	400-450V	10 000h	Ultra Small	162
CD 138	PC	Screw	85°C	350-450V	10 000h	Long Life, High Current	164
CD 138S	WP	Screw	85°C	350-500V	15 000h	Longest Life, Highest Currents	166
CD 139	BL	Screw	105°C	350-450V	9 000h	Long Life 105°C	168
CD 139S	HC	Screw	105°C	350-450V	9 000h	Long Life 105°C, High Current	170
CD 13H	BH	Screw	85°C	600-650V	4 000h	600V, 650V	172
CD 838	ZT	Screw	85°C	350-450V	10 000h	Miniaturized, Long Life	174

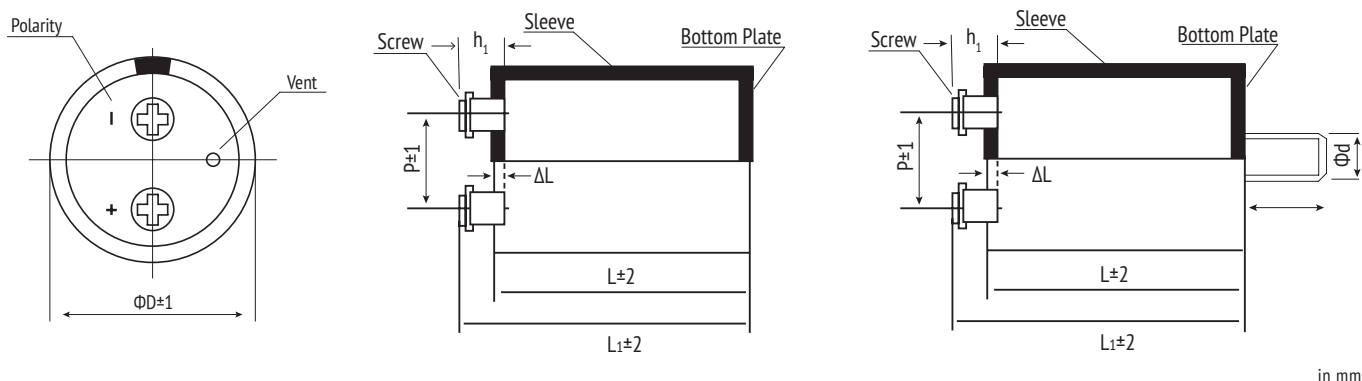
SCREW



ORDER CODE SCREW TYPE

EC	G	2G	BP	102	M	B	E	160	A771	-	JExxxxx
Techno- logy	Terminal Type	Rated Voltage Code	Series Code	Capacitance Code	Capacitance Tolerance	Mounting	Diameter	Length	For Terminal Code see tables on the right	Material Code	for Specials only
EC = Electrolytic Capacitor	Screw	G	10 1A	CD 135 BP	100 101	±20% M	Bolt B	36 A	53 053	-	-
		16 1C	CD 136 PK	1 000 102	±10% K	Flat bottom, no bracket, single sleeve N	40 B	65 065		PVC V	
		25 1E	CD 137 PX	10 000 103	+30/-10% Q	Flat bottom, no bracket, full double sleeve D	51 C	96 096		PET E	
		35 1V	CD 137S PR		+20/-0% R	Flat bottom incl. 2 stoppers bracket I	64 D	100 100		Polyolefin O	
		40 1G	CD 137U UP		+20/-10% V	Flat bottom incl. 3 stoppers bracket Y	77 E	115 115		Standard: PVC Sleeve	
		50 1H	CD 138 PC		+50/-10% T	Details of Sleeving see table on the right	90 F	236 236			
		63 1J	CD 138S WP		■ = preferred		101 G				
		80 1K	CD 139 BL								
		100 2A	CD 139S HC								
		200 2D	CD 13H BH								
		250 2E	CD 838 ZT								
		350 2V									
		400 2G									
		420 2X									
		450 2W									
		500 2H									
		550 2Y									
		575 2Z									
		600 2S									
		650 S6									

TECHNICAL SPECIFICATION



LENGTH

$L_1 = L + h_1 - \Delta L$
L_1 = Total Capacitor Length
L = Capacitor Case Length (see Capacitor Table)
h_1 = Terminal Length (see Terminal Code)
ΔL = Housing Correction (see Case & Mounting Style)

CASE & MOUNTING STYLE

Order Code	Mounting Style	Sleeving Style (typical design)	Housing Correction ΔL (in mm)
B	Bolt	Single Sleeve	0,8
N	Flat bottom, no bracket	Single Sleeve	0,8
D	Flat bottom, no bracket	Full length Double Sleeve	0,4
I	I-Type Bracket	Diameter 36: Single Sleeve Diameter 51-101: Ur < 350V: ½ length Double Sleeve Ur ≥ 350V: full length Double Sleeve Other Sleeve Versions on request	0,8 0,6 0,4
Y	Y-Type Bracket	Ur < 350V: ½ length Double Sleeve Ur ≥ 350V: full length Double Sleeve Other Sleeve Versions on request	0,6 0,4

Bolt:	Ø D	Ø d	l (mm)	Max. Torque (Nm)
	Ø 36	M8	12	4
	≥ Ø 51	M12	16	12,5

SCREW TERMINAL (Hexagon Head)

Dimension	Min. Thread Depth (mm)	Max. Torque (Nm)	Max. Ripple Current (A)
M5 x 10	8,5	3	60
M6 x 12	8,5	4	100
M8 x 16	8,5	6	100

CAPACITOR POSITION

Screw capacitors need to be mounted into an upright position.
! If a horizontal position is needed please ensure the safety vent is located on the highest position (12 o'clock).

TERMINAL CODE

Terminal Code (cont. page 152)	ØD	Screw	Pitch P	d ₁	d ₂	h ₁	h ₂
A361	36	M5	12,7	8	11	6,8	1,8
A511	51	M5	21,8	10	13,5	6,8	1,8
A513	51	M5-/M6+	21,8	10	13,5	6,8	1,8
D511	51	M5	21,8	10	13	5,5	0
D512	51	M5	21,8	10	13	7,14	0
E511	51	M5	21,8	10	13,5	6,8	1,8
C641	64	M5	28,5	13	0	7,2	0
D641	64	M5	28,2	13	15	6,4	0
D642	64	M6	28,2	13	15	6,4	0
D643	64	M5	28,2	13	15	7,14	0
E641	64	M5	28,2	10	15,5	6,3	1,3
E645	64	M5-/M6+	28,2	10	15,5	6,3	1,3
B771	77	M6	31,4	17,2	0	3,17	0
B773	77	M8	31,4	17,2	0	3,17	0
B778	77	M5	31,4	17,2	0	10,4/6,4	0
C771	77	M5	31,4	17,2	0	3,5	0
C772	77	M6	31,4	17,2	0	3,5	0
C774	77	M5	31,4	17,2	0	6,4	0
C775	77	M6	31,4	17,2	0	6,4	0
C779	77	M6	31,4	13	0	5,5	0
D771	77	M5	31,4	13	15	6,4	0
D774	77	M5	31,4	13	14,2	6,4	0
D775	77	M5	31,4	13	15	7,14	0
E772	77	M5	31,4	10	15,5	6,3	1,3
A901	90	M5	31,4	10	15,5	6,3	1,3
B901	90	M6	31,4	17,2	0	6,4	0
B902	90	M5	31,4	17,2	0	6,4	0
B903	90	M5	31,4	17,2	0	10,4/6,4	0
C902	90	M6	31,4	17,2	0	6,4	0
C906	90	M5	31,4	17,2	0	6,4	0
D901	90	M5	31,4	10	13	5,5	0
D902	90	M5	31,4	13	15	6,4	0
D903	90	M6	31,4	13	15	6,4	0
E903	90	M5	31,4	10	15,5	6,3	1,3
A101	101	M8	41,5	17,2	21,5	11	6

■ = preferred

Other forms on request, especially non-symmetrical layout, watercooling or laser welded terminals.

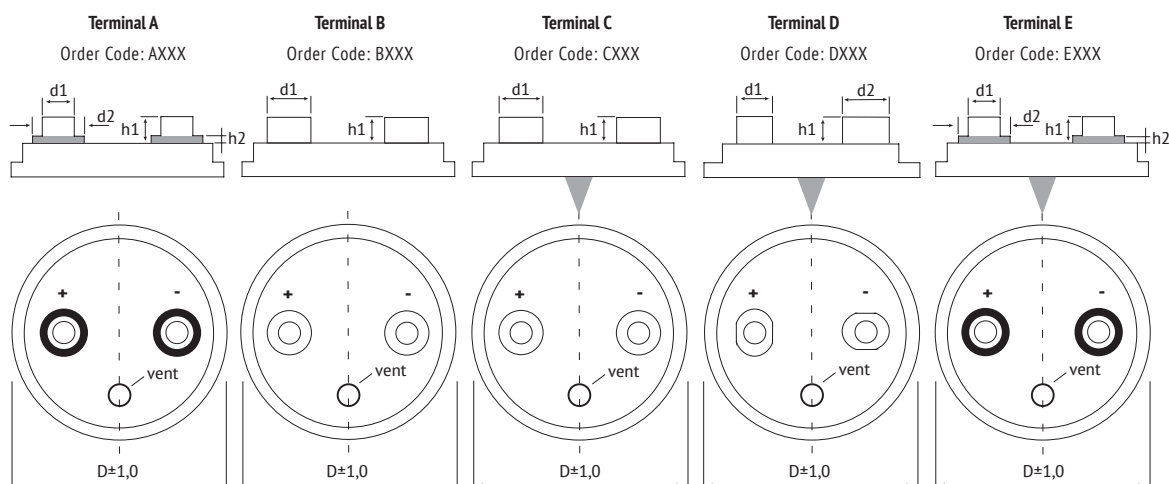
Terminal A101 = A991

Terminal A, B and F include a potting mass filling, Terminal C, D and E use a middle pin fixation without glue.

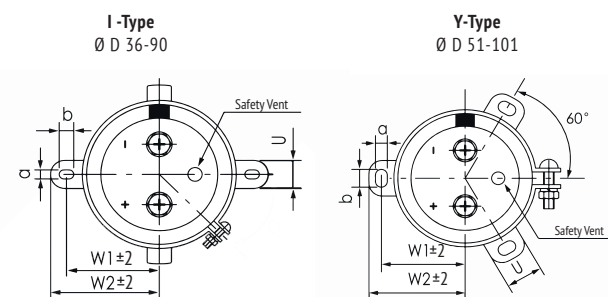
Extended Cathode designs only available with Terminal C, D and E.

Some series of the catalogue might only be available with Terminal C, D and E.

TERMINAL FORM (C, D, E preferred; other designs on request)



BRACKET MOUNTING



ØD	I-bracket						Y-bracket					
	w ₁	w ₂	a	b	U	h	w ₁	w ₂	a	b	U	h
36	24	29	3,8	7	10	15	-	-	-	-	-	-
51	34	40	5	7	14	30	31,8	36,5	5	7	14	30
64	40,5	46,5	5	7	14	30	38,1	42,6	5	7	14	30
77	46,8	53	5	7	14	30	44,5	49,2	5	7	14	30
90	54	60,3	5	7	14	30	50,8	55,6	5	7	14	30
101	-	-	-	-	-	-	57,5	63,5	5,5	8	20	35

■ = preferred

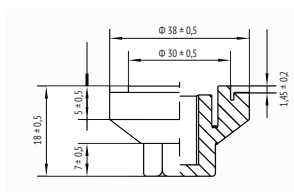
h = Height of brackets

in mm

ACCESSORIES FOR BOLT MOUNTING (Other accessories on request)

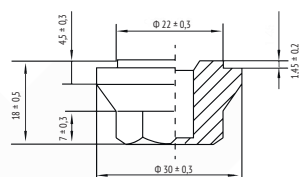
Cap Nut

Order Code: ACCNUT3038M12
For Screw Capacitors with M12 Bolt



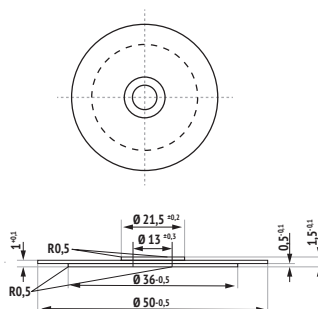
Cap Nut

Order Code: ACCNUT2230M12
For Screw Capacitors with M12 Bolt



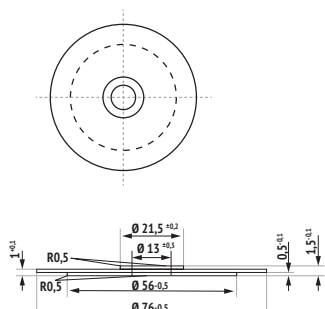
Insulation Washer

Order Code: ACCISO5113
For Screw Capacitors with Diameter 51 and 64

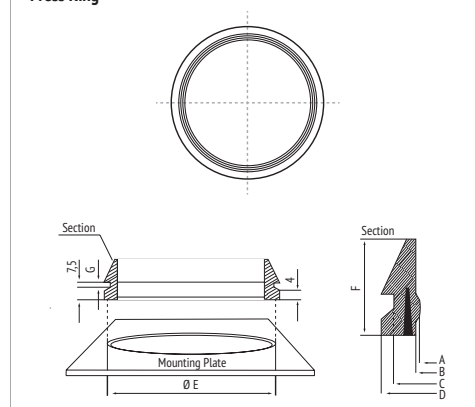


Insulation Washer

Order Code: ACCISO7713
For Screw Capacitors with Diameter 77 and 90

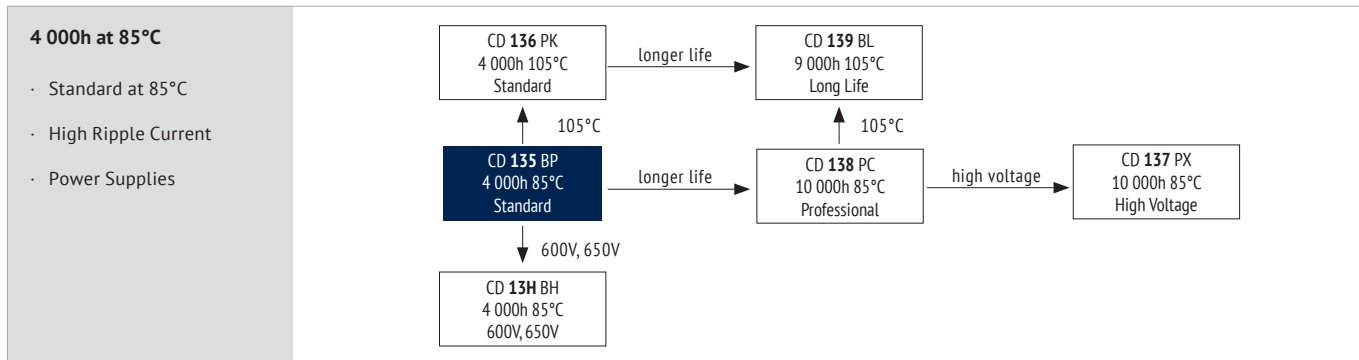


Press Ring



Ø Capacitor	64	77	90
A +0,3	62,3	74,8	88,0
B +0,3	64,1	77,0	90,0
C +0,3	70,5	84,5	97,9
D +0,3	74,5	88,6	102,0
E +0,2	71,2	85,5	98,6
F +0,2	18,0	20,0	23,5
G -0,25	3,0	2,4	3,0
Product Code Agree with RoHS	ACC PR164	ACC PR177	ACC PR190
Product Code Agree with RoHS and UL-94-V0	ACC PR464	ACC PR477	ACC PR490

All dimensions in mm



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85	-25 ~ +85
Voltage Range (V)	10 ~ 250	350 ~ 500
Capacitance Range (µF)	470 ~ 820 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
Fast Charge-Discharge	! Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

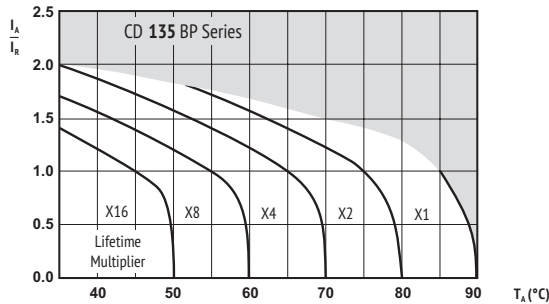
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	4 000h	> 65 000h	2 000h	2 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,2 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement
Terminal and Construction	The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.					
Optional	Self-extinguishing Electrolyte on request					

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Rated Voltage (V)	50Hz	120Hz	300Hz	1kHz	3kHz	5kHz	≥ 10 kHz
10 ~ 50	0,95	1,00	1,04	1,10	1,12	1,13	1,15
63 ~ 100	0,95	1,00	1,06	1,16	1,22	1,26	1,30
160 ~ 500	0,80	1,00	1,10	1,25	1,35	1,40	1,50

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
10 (13) 1A	33 000	33	21	0,80	3,3	4,3	36 x 53	ECG1ABP333M◇A053△△△△
	39 000	28	18	0,80	3,9	4,7	36 x 53	ECG1ABP393M◇A053△△△△
	47 000	23	15	0,80	4,7	5,2	36 x 65	ECG1ABP473M◇A065△△△△
	56 000	19	13	0,80	5,0	6,1	36 x 83	ECG1ABP563M◇A083△△△△
	68 000	16	10	0,80	5,0	6,7	36 x 83	ECG1ABP683M◇A083△△△△
	82 000	13	9,0	0,80	5,0	7,7	36 x 100	ECG1ABP823M◇A100△△△△
	100 000	11	8,0	0,80	5,0	8,8	36 x 100	ECG1ABP104M◇A100△△△△
	120 000	8,9	7,0	0,80	5,0	10,0	36 x 121	ECG1ABP124M◇A121△△△△
	150 000	8,9	7,0	1,00	5,0	10,8	36 x 121	ECG1ABP154M◇A121△△△△
	180 000	7,4	6,0	1,00	5,0	12,0	51 x 96	ECG1ABP184M◇C096△△△△
	220 000	9,1	5,0	1,50	5,0	11,2	51 x 121	ECG1ABP224M◇C121△△△△
	270 000	7,4	4,0	1,50	5,0	12,8	51 x 121	ECG1ABP274M◇C121△△△△
	330 000	6,1	4,0	1,50	5,0	15,3	64 x 96	ECG1ABP334M◇D096△△△△
	390 000	5,2	3,0	1,50	5,0	17,3	64 x 115	ECG1ABP394M◇D115△△△△
	470 000	5,7	3,0	2,00	5,0	16,7	64 x 130	ECG1ABP474M◇D130△△△△
	560 000	4,8	3,0	2,00	5,0	19,0	77 x 115	ECG1ABP564M◇E115△△△△
	680 000	4,0	3,0	2,00	5,0	21,7	77 x 130	ECG1ABP684M◇E130△△△△
	820 000	3,3	2,0	2,00	5,0	24,7	77 x 155	ECG1ABP824M◇E155△△△△

16 (20) 1C	22 000	37	22	0,60	3,5	4,1	36 x 53	ECG1CBP223M◇A053△△△△
	27 000	30	19	0,60	4,3	4,5	36 x 53	ECG1CBP273M◇A053△△△△
	33 000	25	16	0,60	5,0	5,0	36 x 53	ECG1CBP333M◇A053△△△△
	39 000	21	13	0,60	5,0	5,9	36 x 65	ECG1CBP393M◇A065△△△△
	47 000	17	11	0,60	5,0	6,4	36 x 83	ECG1CBP473M◇A083△△△△
	56 000	15	10	0,60	5,0	7,3	36 x 83	ECG1CBP563M◇A083△△△△
	68 000	12	8,0	0,60	5,0	8,4	36 x 100	ECG1CBP683M◇A100△△△△
	82 000	13	7,0	0,80	5,0	8,3	36 x 100	ECG1CBP823M◇A100△△△△
	100 000	11	6,0	0,80	5,0	9,5	36 x 121	ECG1CBP104M◇A121△△△△
	120 000	8,9	5,0	0,80	5,0	10,9	36 x 121	ECG1CBP124M◇A121△△△△
	150 000	8,9	4,0	1,00	5,0	11,3	51 x 96	ECG1CBP154M◇C096△△△△
	180 000	7,4	3,0	1,00	5,0	12,8	51 x 115	ECG1CBP184M◇C115△△△△
	220 000	6,1	3,0	1,00	5,0	15,3	51 x 130	ECG1CBP224M◇C130△△△△
	270 000	5,0	3,0	1,00	5,0	17,6	64 x 96	ECG1CBP274M◇D096△△△△
	330 000	6,1	3,0	1,50	5,0	16,8	64 x 115	ECG1CBP334M◇D115△△△△
	390 000	5,2	3,0	1,50	5,0	18,3	64 x 130	ECG1CBP394M◇D130△△△△
	470 000	4,3	2,0	1,50	5,0	21,3	77 x 115	ECG1CBP474M◇E115△△△△
	560 000	3,6	2,0	1,50	5,0	23,6	77 x 130	ECG1CBP564M◇E130△△△△
	680 000	3,0	2,0	1,50	5,0	27,6	77 x 155	ECG1CBP684M◇E155△△△△
	820 000	3,3	2,0	2,00	5,0	27,1	90 x 157	ECG1CBP824M◇F157△△△△

25 (32) 1E	15 000	45	22	0,50	3,8	3,7	36 x 53	ECG1EBP153M◇A053△△△△
	18 000	37	18	0,50	4,5	4,1	36 x 53	ECG1EBP183M◇A053△△△△
	22 000	31	16	0,50	5,0	4,5	36 x 53	ECG1EBP223M◇A053△△△△
	27 000	25	13	0,50	5,0	5,0	36 x 65	ECG1EBP273M◇A065△△△△
	33 000	21	11	0,50	5,0	5,9	36 x 83	ECG1EBP333M◇A083△△△△
	39 000	18	9,0	0,50	5,0	6,7	36 x 83	ECG1EBP393M◇A083△△△△
	47 000	15	8,0	0,50	5,0	7,7	36 x 100	ECG1EBP473M◇A100△△△△
	56 000	15	7,0	0,60	5,0	7,9	36 x 100	ECG1EBP563M◇A100△△△△
	68 000	12	6,0	0,60	5,0	9,1	36 x 121	ECG1EBP683M◇A121△△△△
	82 000	9,8	5,0	0,60	5,0	9,6	36 x 121	ECG1EBP823M◇A121△△△△
	100 000	11	4,0	0,80	5,0	10,3	51 x 96	ECG1EBP104M◇C096△△△△
	120 000	8,9	4,0	0,80	5,0	11,7	51 x 115	ECG1EBP124M◇C115△△△△
	150 000	7,1	3,0	0,80	5,0	14,1	51 x 130	ECG1EBP154M◇C130△△△△
	180 000	5,9	3,0	0,80	5,0	15,7	64 x 96	ECG1EBP184M◇D096△△△△
	220 000	6,1	3,0	1,00	5,0	16,1	64 x 115	ECG1EBP224M◇D115△△△△
	270 000	5,0	3,0	1,00	5,0	18,6	64 x 130	ECG1EBP274M◇D130△△△△
	330 000	4,1	3,0	1,00	5,0	21,9	64 x 155	ECG1EBP334M◇D155△△△△
	390 000	4,1	2,0	1,20	5,0	22,0	77 x 115	ECG1EBP394M◇E115△△△△
	470 000	3,4	2,0	1,20	5,0	25,6	77 x 155	ECG1EBP474M◇E155△△△△
	560 000	2,9	2,0	1,20	5,0	27,9	90 x 131	ECG1EBP564M◇F131△△△△
	680 000	2,4	2,0	1,20	5,0	32,5	90 x 157	ECG1EBP684M◇F157△△△△

35 (44) 1V	10 000	54	24	0,40	3,5	3,4	36 x 53	ECG1VBP103M◇A053△△△△
	12 000	45	20	0,40	4,2	3,7	36 x 53	ECG1VBP123M◇A053△△△△
	15 000	36	17	0,40	5,0	4,2	36 x 65	ECG1VBP153M◇A065△△△△
	18 000	30	14	0,40	5,0	4,9	36 x 83	ECG1VBP183M◇A083△△△△
	22 000	25	12	0,40	5,0	5,7	36 x 83	ECG1VBP223M◇A083△△△△
	27 000	20	9,0	0,40	5,0	6,3	36 x 100	ECG1VBP273M◇A100△△△△
	33 000	17	9,0	0,40	5,0	7,2	36 x 100	ECG1VBP333M◇A100△△△△
	39 000	18	8,0	0,50	5,0	7,3	36 x 121	ECG1VBP393M◇A121△△△△

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
35 (44) 1V	47 000	15	8,0	0,50	5,0	8,7	51 x 96	ECG1VBP473M◇C096△△△△
	56 000	15	8,0	0,60	5,0	8,6	51 x 96	ECG1VBP563M◇C096△△△△
	68 000	12	6,0	0,60	5,0	9,8	51 x 115	ECG1VBP683M◇C115△△△△
	82 000	9,8	5,0	0,60	5,0	11,6	64 x 96	ECG1VBP823M◇D096△△△△
	100 000	8,0	4,0	0,60	5,0	13,3	64 x 115	ECG1VBP104M◇D115△△△△
	120 000	6,7	4,0	0,60	5,0	14,8	64 x 121	ECG1VBP124M◇D121△△△△
	150 000	7,1	4,0	0,80	5,0	14,9	64 x 130	ECG1VBP154M◇D130△△△△
	180 000	5,9	3,0	0,80	5,0	17,0	77 x 115	ECG1VBP184M◇E115△△△△
	220 000	4,9	3,0	0,80	5,0	20,0	77 x 130	ECG1VBP224M◇E130△△△△
	270 000	5,0	3,0	1,00	5,0	20,3	77 x 155	ECG1VBP274M◇E155△△△△
	330 000	4,1	2,0	1,00	5,0	23,5	90 x 131	ECG1VBP334M◇F131△△△△
	390 000	3,5	2,0	1,00	5,0	26,4	90 x 157	ECG1VBP394M◇F157△△△△
	470 000	2,9	2,0	1,00	5,0	29,6	90 x 157	ECG1VBP474M◇F157△△△△

50 (63) 1H	5 600	72	46	0,30	2,8	3,0	36 x 53	ECG1HBP562M◇A053△△△△
	6 800	59	38	0,30	3,4	3,3	36 x 53	ECG1HBP682M◇A053△△△△
	8 200	49	31	0,30	4,1	3,6	36 x 53	ECG1HBP822M◇A053△△△△
	10 000	40	26	0,30	5,0	4,0	36 x 65	ECG1HBP103M◇A065△△△△
	12 000	34	22	0,30	5,0	4,7	36 x 83	ECG1HBP123M◇A083△△△△
	15 000	27	15	0,30	5,0	5,5	36 x 83	ECG1HBP153M◇A083△△△△
	18 000	23	12	0,30	5,0	6,2	36 x 100	ECG1HBP183M◇A100△△△△
	22 000	25	11	0,40	5,0	6,3	36 x 121	ECG1HBP223M◇A121△△△△
	27 000	20	10	0,40	5,0	7,1	36 x 121	ECG1HBP273M◇A121△△△△
	33 000	17	9,0	0,40	5,0	8,2	51 x 96	ECG1HBP333M◇C096△△△△
	39 000	18	8,0	0,50	5,0	8,6	51 x 96	ECG1HBP393M◇C096△△△△
	47 000	15	8,0	0,50	5,0	9,3	51 x 115	ECG1HBP473M◇C115△△△△
	56 000	12	6,0	0,50	5,0	10,5	64 x 96	ECG1HBP563M◇D096△△△△
	68 000	9,8	5,0	0,50	5,0	12,0	64 x 96	ECG1HBP683M◇D096△△△△
	82 000	8,1	4,0	0,50	5,0	13,7	64 x 115	ECG1HBP823M◇D115△△△△
	100 000	8,0	4,0	0,60	5,0	14,7	77 x 115	ECG1HBP104M◇E115△△△△
	120 000	6,7	3,0	0,60	5,0	16,7	77 x 115	ECG1HBP124M◇E115△△△△
	150 000	5,4	3,0	0,60	5,0	19,3	77 x 130	ECG1HBP154M◇E130△△△△
	180 000	4,5	3,0	0,60	5,0	21,9	77 x 155	ECG1HBP184M◇E155△△△△
	220 000	3,7	2,0	0,60	5,0	23,0	90 x 131	ECG1HBP224M◇F131△△△△
	270 000	3,0	2,0	0,60	5,0	24,6	90 x 157	ECG1HBP274M◇F157△△△△

63 (79) 1J	3 900	86	47	0,25	2,5	2,7	36 x 53	ECG1JBP392M◇A053△△△△
	4 700	71	39	0,25	3,0	3,0	36 x 53	ECG1JBP472M◇A053△△△△
	5 600	60	38	0,25	3,5	3,3	36 x 53	ECG1JBP562M◇A053△△△△
	6 800	49	32	0,25	4,3	3,6	36 x 65	ECG1JBP682M◇A065△△△△
	8 200	41	26	0,25	5,0	4,3	36 x 83	ECG1JBP822M◇A083△△△△
	10 000	34	23	0,25	5,0	4,9	36 x 83	ECG1JBP103M◇A083△△△△
	12 000	28	18	0,25	5,0	5,6	36 x 100	ECG1JBP123M◇A100△△△△
	15 000	27	16	0,30	5,0	5,9	36 x 100	ECG1JBP153M◇A100△△△△
	18 000	23	15	0,30	5,0	6,7	36 x 121	ECG1JBP183M◇A121△△△△
	22 000	19	13	0,30	5,0	7,2	36 x 121	ECG1JBP223M◇A121△△△△
	27 000	20	12	0,40	5,0	7,4	51 x 96	ECG1JBP273M◇C096△△△△
	33 000	17	8,0	0,40	5,0	8,4	51 x 96	ECG1JBP333M◇C096△△△△
	39 000	14	7,0	0,40	5,0	9,5	51 x 115	ECG1JBP393M◇C115△△△△
	47 000	12	6,0	0,40	5,0	11,3	51 x 130	ECG1JBP473M◇C130△△△△
	56 000	9,5	6,0	0,40	5,0	12,2	64 x 115	ECG1JBP563M◇D115△△△△
68 000	9,8	5,0	0,50	5,0	13,2	64 x 121	ECG1JBP683M◇D121△△△△	
82 000	8,1	4,0	0,50	5,0	14,5	64 x 130	ECG1JBP823M◇D130△△△△	
100 000	6,7	4,0	0,50	5,0	16,7	77 x 115	ECG1JBP104M◇E115△△△△	
120 000	5,6	3,0	0,50	5,0	18,9	77 x 130	ECG1JBP124M◇E130△△△△	
150 000	4,5	2,0	0,50	5,0	22,4	77 x 155	ECG1JBP154M◇E155△△△△	
180 000	4,5	2,0	0,60	5,0	24,0	90 x 131	ECG1JBP184M◇F131△△△△	
220 000	3,7	2,0	0,60	5,0	26,2	90 x 157	ECG1JBP224M◇F157△△△△	

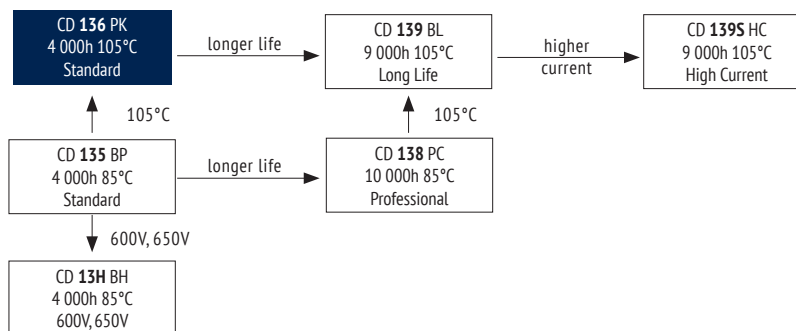


U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
80 (100) 1K	27 000	15	8,0	0,30	5,0	9,2	51 x 96	ECG1KBP273M◇C096△△△△
	33 000	13	7,0	0,30	5,0	10,5	51 x 115	ECG1KBP333M◇C115△△△△
	39 000	11	6,0	0,30	5,0	12,0	51 x 130	ECG1KBP393M◇C130△△△△
	47 000	8,5	5,0	0,30	5,0	12,9	64 x 115	ECG1KBP473M◇D115△△△△
	56 000	9,5	4,0	0,40	5,0	14,0	64 x 130	ECG1KBP563M◇D130△△△△
	68 000	7,9	4,0	0,40	5,0	15,4	77 x 115	ECG1KBP683M◇E115△△△△
	82 000	6,5	4,0	0,40	5,0	17,5	77 x 130	ECG1KBP823M◇E130△△△△
	100 000	5,4	3,0	0,40	5,0	20,5	77 x 155	ECG1KBP104M◇E155△△△△
	120 000	4,5	2,0	0,40	5,0	22,4	90 x 131	ECG1KBP124M◇F131△△△△
	150 000	3,6	2,0	0,40	5,0	26,5	90 x 157	ECG1KBP154M◇F157△△△△
100 (125) 2A	1 800	185	48	0,25	1,8	1,9	36 x 53	ECG2ABP182M◇A053△△△△
	2 200	151	44	0,25	2,2	2,1	36 x 53	ECG2ABP222M◇A053△△△△
	2 700	123	39	0,25	2,7	2,3	36 x 53	ECG2ABP272M◇A053△△△△
	3 300	101	35	0,25	3,3	2,6	36 x 65	ECG2ABP332M◇A065△△△△
	3 900	86	28	0,25	3,9	3,0	36 x 83	ECG2ABP392M◇A083△△△△
	4 700	71	26	0,25	4,7	3,5	36 x 83	ECG2ABP472M◇A083△△△△
	5 600	60	23	0,25	5,0	3,9	36 x 100	ECG2ABP562M◇A100△△△△
	6 800	49	22	0,25	5,0	4,5	36 x 100	ECG2ABP682M◇A100△△△△
	8 200	41	20	0,25	5,0	5,1	36 x 121	ECG2ABP822M◇A121△△△△
	10 000	34	19	0,25	5,0	5,9	36 x 121	ECG2ABP103M◇A121△△△△
	12 000	28	16	0,25	5,0	6,4	51 x 75	ECG2ABP123M◇C075△△△△
	15 000	23	12	0,25	5,0	7,0	51 x 96	ECG2ABP153M◇C096△△△△
	18 000	19	10	0,25	5,0	8,3	51 x 115	ECG2ABP183M◇C115△△△△
	22 000	16	8,0	0,25	5,0	10,0	51 x 130	ECG2ABP223M◇C130△△△△
	27 000	13	7,0	0,25	5,0	11,5	64 x 115	ECG2ABP273M◇D115△△△△
	33 000	11	6,0	0,25	5,0	11,9	64 x 130	ECG2ABP333M◇D130△△△△
	39 000	8,6	5,0	0,25	5,0	13,4	77 x 115	ECG2ABP393M◇E115△△△△
	47 000	9,9	5,0	0,35	5,0	14,2	77 x 130	ECG2ABP473M◇E130△△△△
	56 000	8,3	4,0	0,35	5,0	16,0	77 x 155	ECG2ABP563M◇E155△△△△
	68 000	6,9	3,0	0,35	5,0	18,8	90 x 131	ECG2ABP683M◇F131△△△△
	82 000	5,7	3,0	0,35	5,0	20,5	90 x 157	ECG2ABP823M◇F157△△△△
	100 000	4,7	3,0	0,35	5,0	24,0	90 x 171	ECG2ABP104M◇F171△△△△
160 (200) 2C	3 300	101	31	0,25	5,0	5,2	36 x 121	ECG2CBP332M◇A121△△△△
	4 700	71	21	0,25	5,0	5,9	51 x 75	ECG2CBP472M◇C075△△△△
	5 600	60	19	0,25	5,0	7,0	51 x 96	ECG2CBP562M◇C096△△△△
	6 800	49	16	0,25	5,0	7,8	51 x 96	ECG2CBP682M◇C096△△△△
	10 000	34	13	0,25	5,0	10,4	64 x 96	ECG2CBP103M◇D096△△△△
	12 000	28	10	0,25	5,0	11,6	51 x 120	ECG2CBP123M◇C120△△△△
	15 000	23	9,0	0,25	5,0	14,3	64 x 130	ECG2CBP153M◇D130△△△△
	18 000	19	8,0	0,25	5,0	15,6	64 x 130	ECG2CBP183M◇D130△△△△
	22 000	16	6,0	0,25	5,0	18,3	77 x 130	ECG2CBP223M◇E130△△△△
	33 000	11	4,0	0,25	5,0	23,8	90 x 131	ECG2CBP333M◇F131△△△△
200 (250) 2D	3 300	101	31	0,25	5,0	5,2	36 x 121	ECG2CBP332M◇A121△△△△
	4 700	71	21	0,25	5,0	5,9	51 x 75	ECG2CBP472M◇C075△△△△
	5 600	60	19	0,25	5,0	7,0	51 x 96	ECG2CBP562M◇C096△△△△
	6 800	49	16	0,25	5,0	7,8	51 x 96	ECG2CBP682M◇C096△△△△
	10 000	34	13	0,25	5,0	10,4	64 x 96	ECG2CBP103M◇D096△△△△
	12 000	28	10	0,25	5,0	11,6	51 x 120	ECG2CBP123M◇C120△△△△
	15 000	23	9,0	0,25	5,0	14,3	64 x 130	ECG2CBP153M◇D130△△△△
	18 000	19	8,0	0,25	5,0	15,6	64 x 130	ECG2CBP183M◇D130△△△△
	22 000	16	6,0	0,25	5,0	18,3	77 x 130	ECG2CBP223M◇E130△△△△
	33 000	11	4,0	0,25	5,0	23,8	90 x 131	ECG2CBP333M◇F131△△△△
250 (300) 2E	1 500	222	49	0,25	3,8	3,2	36 x 100	ECG2EBP152M◇A100△△△△
	2 200	151	33	0,25	5,0	4,0	51 x 75	ECG2EBP222M◇C075△△△△
	3 300	101	23	0,25	5,0	5,4	51 x 96	ECG2EBP332M◇C096△△△△
	3 900	86	17	0,25	5,0	6,3	51 x 115	ECG2EBP392M◇C115△△△△
	4 700	71	17	0,25	5,0	7,1	64 x 96	ECG2EBP472M◇D096△△△△
	6 800	49	12	0,25	5,0	9,1	64 x 115	ECG2EBP682M◇D115△△△△
	8 200	41	11	0,25	5,0	10,0	64 x 115	ECG2EBP822M◇D115△△△△
	10 000	34	11	0,25	5,0	11,7	64 x 130	ECG2EBP103M◇D130△△△△
	15 000	23	7,0	0,25	5,0	15,1	77 x 130	ECG2EBP153M◇E130△△△△
	18 000	19	6,0	0,25	5,0	17,7	77 x 155	ECG2EBP183M◇E155△△△△
250 (300) 2E	22 000	16	3,0	0,25	5,0	20,9	90 x 157	ECG2EBP223M◇F157△△△△

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
350 (400) 2V	470	565	228	0,20	1,6	2,2	36 x 83	ECG2VBP471M◇A083△△△△
	680	391	152	0,20	2,4	2,6	36 x 83	ECG2VBP681M◇A083△△△△
	820	324	104	0,20	2,9	3,1	36 x 100	ECG2VBP821M◇A100△△△△
	1 000	266	104	0,20	3,4	3,4	36 x 100	ECG2VBP102M◇A100△△△△
	1 500	177	72	0,20	5,0	4,3	51 x 75	ECG2VBP152M◇C075△△△△
	1 800	148	58	0,20	5,0	5,1	51 x 96	ECG2VBP182M◇C096△△△△
	2 200	121	48	0,20	5,0	5,7	51 x 96	ECG2VBP222M◇C096△△△△
	2 700	99	39	0,20	5,0	7,1	51 x 130	ECG2VBP272M◇C130△△△△
	3 300	81	32	0,20	5,0	7,9	51 x 130	ECG2VBP332M◇C130△△△△
	3 900	69	28	0,20	5,0	9,0	64 x 115	ECG2VBP392M◇D115△△△△
400 (450) 2G	4 700	57	25	0,20	5,0	10,3	64 x 130	ECG2VBP472M◇D130△△△△
	5 600	48	22	0,20	5,0	11,4	77 x 115	ECG2VBP562M◇E115△△△△
	6 800	40	17	0,20	5,0	13,1	77 x 130	ECG2VBP682M◇E130△△△△
	8 200	33	14	0,20	5,0	15,4	77 x 155	ECG2VBP822M◇E155△△△△
	10 000	27	12	0,20	5,0	18,1	90 x 157	ECG2VBP103M◇F157△△△△
	12 000	23	10	0,20	5,0	20,0	90 x 157	ECG2VBP123M◇F157△△△△
	15 000	18	8,0	0,20	5,0	24,5	90 x 196	ECG2VBP153M◇F196△△△△
	18 000	15	6,0	0,20	5,0	28,8	90 x 236	ECG2VBP183M◇F236△△△△
	470	565	178	0,20	1,9	2,2	36 x 83	ECG2GBP471M◇A083△△△△
	680	391	119	0,20	2,7	2,8	36 x 100	ECG2GBP681M◇A100△△△△
450 (500) 2W	1 000	266	82	0,20	4,0	3,5	51 x 75	ECG2GBP102M◇C075△△△△
	1 200	222	68	0,20	4,8	3,8	51 x 75	ECG2GBP122M◇C075△△△△
	1 500	177	58	0,20	5,0	4,7	51 x 96	ECG2GBP152M◇C096△△△△
	1 800	148	47	0,20	5,0	5,2	51 x 96	ECG2GBP182M◇C096△△△△
	2 200	121	35	0,20	5,0	6,4	51 x 120	ECG2GBP222M◇C120△△△△
	2 700	99	33	0,20	5,0	7,0	64 x 96	ECG2GBP272M◇D096△△△△
	3 300	81	31	0,20	5,0	8,2	64 x 115	ECG2GBP332M◇D115△△△△
	3 900	69	25	0,20	5,0	9,4	64 x 130	ECG2GBP392M◇D130△△△△
	4 700	57	24	0,20	5,0	10,4	77 x 115	ECG2GBP472M◇E115△△△△
	5 600	48	19	0,20	5,0	11,9	77 x 130	ECG2GBP562M◇E130△△△△
500 (550) 2H	6 800	40	16	0,20	5,0	14,1	77 x 155	ECG2GBP682M◇E155△△△△
	8 200	33	14	0,20	5,0	16,4	90 x 157	ECG2GBP822M◇F157△△△△
	10 000	27	11	0,20	5,0	18,3	90 x 157	ECG2GBP103M◇F157△△△△
	12 000	23	10	0,20	5,0	21,8	90 x 196	ECG2GBP123M◇F196△△△△
	15 000	18	8,0	0,20	5,0	26,3	90 x 236	ECG2GBP153M◇F236△△△△
	470	565	200	0,20	2,1	2,2	36 x 83	ECG2WBP471M◇A083△△△△
	680	391	140	0,20	3,1	2,8	36 x 100	ECG2WBP681M◇A100△△△△
	820	324	96	0,20	3,7	3,2	51 x 75	ECG2WBP821M◇C075△△△△
	1 000	266	82	0,20	4,5	3,5	51 x 75	ECG2WBP102M◇C075△△△△
	1 200	222	72	0,20	5,0	4,2	51 x 96	ECG2WBP122M◇C096△△△△
500 (550) 2H	1 500	177	58	0,20	5,0	5,1	51 x 115	ECG2WBP152M◇C115△△△△
	1 800	148	46	0,20	5,0	5,9	51 x 130	ECG2WBP182M◇C130△△△△
	2 200	121	33	0,20	5,0	6,3	64 x 96	ECG2WBP222M◇D096△△△△
	2 700	99	32	0,20	5,0	7,5	64 x 115	ECG2WBP272M◇D115△△△△
	3 300	81	30	0,20	5,0	8,7	64 x 130	ECG2WBP332M◇D130△△△△
	3 900	69	29	0,20	5,0	9,5	77 x 115	ECG2WBP392M◇E115△△△△
	4 700	57	24	0,20	5,0	10,9	77 x 130	ECG2WBP472M◇E130△△△△
	5 600	48	16	0,20	5,0	12,8	77 x 155	ECG2WBP562M◇E155△△△△
	6 800	40	14	0,20	5,0	15,0	90 x 157	ECG2WBP682M◇F157△△△△
	8 200	33	12	0,20	5,0	16,5	90 x 157	ECG2WBP822M◇F157△△△△
500 (550) 2H	10 000	27	10	0,20	5,0	20,0	90 x 196	ECG2WBP103M◇F196△△△△
	12 000	23	8,0	0,20	5,0	23,6	90 x 236	ECG2WBP12

**4 000h at 105°C**

- Standard at 105°C
- Professional Power Supplies & Inverters

**ITEM CHARACTERISTICS**

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	25 ~ 100	160 ~ 450
Capacitance Range (μF)	220 ~ 330 000	
Capacitance Tolerance (20°C, 120Hz)	± 20%	



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Fast Charge-Discharge Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	4 000h	> 200 000h	2 000h	2 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,2 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement

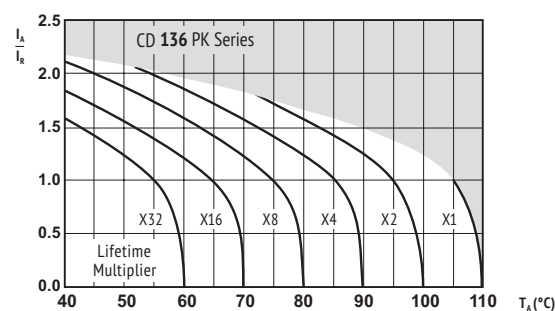
Terminal and Construction The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.

SCREW

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency Rated Voltage (V)	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
25 ~ 100	0,95	1,00	1,04	1,10	1,15
160 ~ 250	0,95	1,00	1,08	1,15	1,20
350 ~ 450	0,80	1,00	1,18	1,35	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)

I_a = actual ripple current at 120Hz,

I_R = rated ripple current at 120Hz, 105°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

**SAFETY FACTOR**

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.





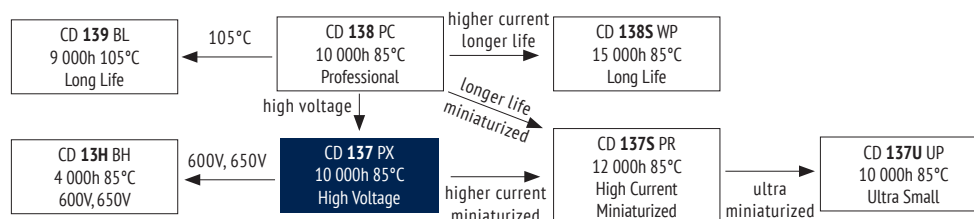
U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	Details: Page 150
25 (32) 1E	10 000	47	25	0,35	2,5	2,9	36 x 53	ECG1EPK103M◇A053△△△△
	15 000	31	20	0,35	3,8	4,2	36 x 83	ECG1EPK153M◇A083△△△△
	22 000	25	13	0,40	5,0	5,1	36 x 83	ECG1EPK223M◇A083△△△△
	33 000	17	10	0,40	5,0	6,3	36 x 100	ECG1EPK333M◇A100△△△△
	47 000	12	4,0	0,40	5,0	8,0	51 x 75	ECG1EPK473M◇C075△△△△
	68 000	9,8	6,0	0,50	5,0	10,0	51 x 115	ECG1EPK683M◇C115△△△△
	100 000	8,0	5,0	0,60	5,0	11,3	64 x 96	ECG1EPK104M◇D096△△△△
	150 000	7,1	4,0	0,80	5,0	12,9	64 x 115	ECG1EPK154M◇D115△△△△
	220 000	6,1	3,0	1,00	5,0	14,8	77 x 115	ECG1EPK224M◇E115△△△△
35 (44) 1V	6 800	59	25	0,30	2,4	2,6	36 x 53	ECG1VPK682M◇A053△△△△
	10 000	40	20	0,30	3,5	3,7	36 x 83	ECG1VPK103M◇A083△△△△
	15 000	27	13	0,30	5,0	4,5	36 x 83	ECG1VPK153M◇A083△△△△
	22 000	22	10	0,35	5,0	5,5	36 x 100	ECG1VPK223M◇A100△△△△
	33 000	17	7,0	0,40	5,0	6,7	51 x 75	ECG1VPK333M◇C075△△△△
	47 000	13	6,0	0,45	5,0	8,1	51 x 96	ECG1VPK473M◇C096△△△△
	68 000	9,8	5,0	0,50	5,0	10,0	51 x 115	ECG1VPK683M◇C115△△△△
	100 000	8,0	4,0	0,60	5,0	12,1	64 x 115	ECG1VPK104M◇D115△△△△
	150 000	6,2	3,0	0,70	5,0	13,8	77 x 115	ECG1VPK154M◇E115△△△△
50 (63) 1H	3 300	81	50	0,20	1,7	2,2	36 x 53	ECG1HPK332M◇A053△△△△
	4 700	71	36	0,25	2,4	3,3	36 x 53	ECG1HPK472M◇A053△△△△
	6 800	49	32	0,25	3,4	3,4	36 x 83	ECG1HPK682M◇A083△△△△
	10 000	34	22	0,25	5,0	4,1	36 x 83	ECG1HPK103M◇A083△△△△
	15 000	27	14	0,30	5,0	4,9	36 x 100	ECG1HPK153M◇A100△△△△
	22 000	22	10	0,35	5,0	5,9	51 x 75	ECG1HPK223M◇C075△△△△
	33 000	17	7,0	0,40	5,0	7,8	51 x 115	ECG1HPK333M◇C115△△△△
	47 000	12	6,0	0,40	5,0	9,5	64 x 96	ECG1HPK473M◇D096△△△△
	68 000	8,8	5,0	0,45	5,0	11,6	64 x 115	ECG1HPK683M◇D115△△△△
63 (79) 1J	2 200	91	70	0,15	1,4	2,1	36 x 53	ECG1JPK222M◇A053△△△△
	3 300	81	50	0,20	2,1	2,2	36 x 53	ECG1JPK332M◇A053△△△△
	4 700	57	36	0,20	3,0	3,1	36 x 83	ECG1JPK472M◇A083△△△△
	6 800	40	25	0,20	4,3	3,7	36 x 83	ECG1JPK682M◇A083△△△△
	10 000	34	20	0,25	5,0	4,4	36 x 100	ECG1JPK103M◇A100△△△△
	15 000	23	14	0,25	5,0	5,7	51 x 75	ECG1JPK153M◇C075△△△△
	22 000	19	10	0,30	5,0	6,8	51 x 96	ECG1JPK223M◇C096△△△△
	33 000	13	7,0	0,30	5,0	9,2	64 x 96	ECG1JPK333M◇D096△△△△
	47 000	9,9	6,0	0,35	5,0	10,9	64 x 115	ECG1JPK473M◇D115△△△△
80 (100) 1K	2 200	91	57	0,15	1,8	2,1	36 x 53	ECG1KPK222M◇A053△△△△
	3 300	61	38	0,15	2,6	3,0	36 x 83	ECG1KPK332M◇A083△△△△
	4 700	43	27	0,15	3,8	3,6	36 x 83	ECG1KPK472M◇A083△△△△
	6 800	40	19	0,20	5,0	4,0	36 x 100	ECG1KPK682M◇A100△△△△
	10 000	27	17	0,20	5,0	5,2	51 x 75	ECG1KPK103M◇C075△△△△
	15 000	23	11	0,25	5,0	6,2	51 x 96	ECG1KPK153M◇C096△△△△
	22 000	16	8,0	0,25	5,0	8,2	64 x 96	ECG1KPK223M◇D096△△△△
	33 000	13	7,0	0,30	5,0	9,7	77 x 96	ECG1KPK333M◇E096△△△△
	47 000	8,5	6,0	0,30	5,0	12,5	77 x 115	ECG1KPK473M◇E115△△△△
100 (125) 2A	68 000	5,9	5,0	0,30	5,0	16,4	90 x 131	ECG1KPK683M◇F131△△△△
	1 000	199	70	0,15	1,0	1,4	36 x 53	ECG2APK102M◇A053△△△△
	1 500	133	55	0,15	1,5	1,7	36 x 53	ECG2APK152M◇A053△△△△
	2 200	91	38	0,15	2,2	2,5	36 x 83	ECG2APK222M◇A083△△△△
	3 300	61	25	0,15	3,3	3,0	36 x 83	ECG2APK332M◇A083△△△△
	4 700	43	21	0,15	4,7	3,9	36 x 100	ECG2APK472M◇A100△△△△
	6 800	30	19	0,15	5,0	5,0	51 x 75	ECG2APK682M◇C075△△△△
	10 000	20	13	0,15	5,0	6,5	51 x 96	ECG2APK103M◇C096△△△△
	15 000	18	9,0	0,20	5,0	7,6	64 x 96	ECG2APK153M◇D096△△△△
160 (200) 2C	22 000	13	7,0	0,20	5,0	9,7	77 x 96	ECG2APK223M◇E096△△△△
	33 000	11	6,0	0,25	5,0	11,8	77 x 130	ECG2APK333M◇E130△△△△
	47 000	7,1	5,0	0,25	5,0	15,0	90 x 131	ECG2APK473M◇F131△△△△
	1 000	199	70	0,15	1,0	1,4	36 x 53	ECG2WPK102M◇A053△△△△
	1 500	133	55	0,15	1,5	1,7	36 x 53	ECG2WPK152M◇A100△△△△
	2 200	91	38	0,15	2,2	2,5	36 x 83	ECG2WPK222M◇A083△△△△
	3 300	61	25	0,15	3,3	3,0	36 x 83	ECG2WPK332M◇A083△△△△
	4 700	43	21	0,15	4,7	3,9	36 x 100	ECG2WPK472M◇A100△△△△
	6 800	30	19	0,15	5,0	5,0	51 x 75	ECG2WPK682M◇C075△△△△
200 (250) 2D	10 000	20	13	0,15	5,0	6,5	51 x 96	ECG2WPK103M◇C096△△△△
	15 000	18	9,0	0,20	5,0	7,6	64 x 96	ECG2WPK153M◇D096△△△△
	22 000	13	7,0	0,20	5,0	9,7	77 x 96	ECG2WPK223M◇E096△△△△
	33 000	11	6,0	0,25	5,0	11,8	77 x 130	ECG2WPK333M◇E130△△△△
	47 000	7,1	5,0	0,25	5,0	15,0	90 x 131	ECG2WPK473M◇F131△△△△
	1 000	199	70	0,15	1,0	1,4	36 x 53	ECG2GPK102M◇C075△△△△
	1 500	133	55	0,15	1,5	1,7	36 x 53	ECG2GPK152M◇C096△△△△
	2 200	91	38	0,15	2,2	2,5	36 x 83	ECG2GPK222M◇C115△△△△
	3 300	61	25	0,15	3,3	3,0	36 x 83	ECG2GPK332M◇C130△△△△
250 (300) 2E	4 700	43	21	0,15	4,7	3,9	36 x 100	ECG2GPK472M◇C130△△△△
	6 800	30	19	0,15	5,0	5,0	51 x 75	ECG2GPK682M◇C096△△△△
	10 000	20	13	0,15	5,0	6,5	51 x 96	ECG2GPK103M◇C115△△△△
	15 000	18	9,0	0,20	5,0	7,6	64 x 96	ECG2GPK153M◇C130△△△△
	22 000	13	7,0	0,20	5,0	9,7	77 x 96	ECG2GPK223M◇D096△△△△
	33 000	11	6,0	0,25	5,0	11,8	77 x 130	ECG2GPK333M◇D115△△△△
	47 000	7,1	5,0	0,25	5,0	15,0	90 x 131	ECG2GPK473M◇D130△△△△
	1 000	199	70	0,15	1,0	1,4	36 x 53	ECG2GPK102M◇D155△△△△
	1 500	133	55	0,15	1,5	1,7	36 x 53	ECG2GPK152M◇D195△△△△
400 (450) 2G	2 200	91	38	0,15	2,2	2,5	36 x 83	ECG2GPK222M◇D195△△△△
	3 300	61	25	0,15	3,3	3,0	36 x 83	ECG2GPK332M◇D195△△△△
	4 700	43	21	0,15	4,7	3,9	36 x 100	ECG2GPK472M◇D195△△△△
	6 800	30	19	0,15	5,0	5,0	51 x 75	ECG2GPK682M◇E115△△△△
	10 000	20	13	0,15	5,0	6,5	51 x 96	ECG2GPK103M◇E130△△△△
	15 000	18	9,0	0,20	5,0	7,6	64 x 96	ECG2GPK153M◇E130△△△△
	22 000	13	7,0	0,20	5,0	9,7	77 x 96	ECG2GPK223M◇E155△△△△
	33 000	11	6,0	0,25	5,0	11,8	77 x 130	ECG2GPK333M◇E155△△△△
	47 000	7,1	5,0	0,25	5,0	15,0	90 x 131	ECG2GPK473M◇F157△△△△
450 (500) 2W	68 000	5,9	5,0	0,30	5,0	16,4	90 x 131	ECG2GPK682M◇F157△△△△
	1 000	199	70	0,15	1,0	1,4	36 x 53	ECG2WPK221M◇A053△△△△
	1 500	133	55	0,15	1,5	1,7	36 x 53	ECG2WPK331M◇A100△△△△
	2 200	91	38	0,15	2,2	2,5	36 x 83	ECG2WPK471M◇C083△△△△
	3 300	61	25	0,15	3,3	3,0	36 x 83	ECG2WPK681K◇C096△△△△
	4 700	43	21	0,15	4,7	3,9	36 x 100	ECG2WPK102M◇C100△△△△
	6 800	30	19	0,15	5,0	5,0	51 x 75	ECG2WPK152M◇C130△△△△
	10 000	20	13	0,15	5,0	6,5	51 x 96	ECG2WPK222M◇D115△△△△
	15 000	18	9,0	0,20	5,0	7,6	64 x 96	ECG2WPK332M◇E130△△△△
160 (200) 2C	22 000	13	7,0	0,20	5,0	9,7	77 x 96	ECG2WPK472M◇E155△△△△
	33 000	11	6,0	0,25	5,0	11,8	77 x 130	ECG2WPK682M◇F157△△△△
	47 000	7,1	5,0	0,25	5,0	15,0	90 x 131	ECG2WPK103M◇F157△△△△
	1 000	199	70	0,15	1,0	1,4	36 x 53	ECG2WPK221M◇A053△△△△
	1 500	133	55	0,15	1,5	1,7	36 x 53	ECG2WPK331M◇A100△△△△
	2 200	91	38	0,15	2,2	2,5	36 x 83	ECG2WPK471M◇C083△△△△
	3 300	61	25	0,15	3,3	3,0	36 x 83	ECG2WPK681K◇C096△△△△
	4 700	43	21	0,15	4,7	3,9	36 x 100	ECG2WPK102M◇C100△△△△
	6 800	30	19	0,15	5,0	5,0	51 x 75	ECG2WPK152M◇C130△△△△

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipa- tion Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 105°C 120Hz	Size øD x L	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	Details: Page 150
160 (200) 2C	470	424	265	0,15	0,8	1,0	36 x 53	ECG2CPK471M◇A053△△△△
	680	293	186	0,15	1,1	1,1	36 x 53	ECG2CPK681M◇A053△△△△
	1 000	199	125	0,15	1,6	1,7	36 x 83	ECG2CPK102M◇A083△△△△
	1 500	133	85	0,15	2,4	2,0	36 x 83	ECG2CPK152M◇A083△△△△
	2 200	91	55	0,15	3,5	2,7	36 x 100	ECG2CPK222M◇A100△△△△
	3 300	61	38	0,15	5,0	3,5	51 x 83	ECG2CPK332M◇C083△△△△
	4 700	43	35	0,15	5,0	4,4	51 x 96	ECG2CPK472M◇C096△△△△
	6 800	30	25	0,15	5,0	5,9	64 x 96	ECG2CPK682M◇D096△△△△
	10 000	20	15	0,15	5,0	7,6	77 x 96	ECG2CPK103M◇E096△△△△
	15 000	14	11	0,15	5,0	10,3	77 x 130	ECG2CPK153M◇E130△△△△
22 000	9,1	6,0	0,15	5,0	13,2	90 x 131	ECG2CPK223M◇F131△△△△	
200 (250) 2D	330	603	375	0,15	0,7	0,8	36 x 53	ECG2DPK331M◇A053△△△△
	470	424	262	0,15	0,9	1,0	36 x 53	ECG2DPK471M◇A053△△△△
	680	293	180	0,15	1,4	1,1	36 x 53	ECG2DPK681M◇A053△△△△
	1 000	199	125	0,15	2,0	1,7	36 x 83	ECG2DPK102M◇A083△△△△
	1 500	133	75	0,15	3,0	2,2	36 x 100	ECG2DPK152M◇A100△△△△
	2 200	91	50	0,15	4,4	2,8	51 x 75	ECG2DPK222M◇C075△△△△
	3 300	61	36	0,15	5,0	3,7	51 x 96	ECG2DPK332M◇C096△△△△
	4 700	43	24	0,15	5,0	4,9	64 x 96	ECG2DPK472M◇D096△△△△
	6 800	30	16	0,15	5,0	6,3	64 x 115	ECG2DPK682M◇D115△△△△
	10 000	20	12	0,15	5,0	8,1	77 x 115	ECG2DPK103M◇E115△△△△
15 000	14	6,0	0,15	5,0	10,9	90 x 131	ECG2DPK153M◇F131△△△△	
250 (300) 2E	330	603	160	0,15	0,8	0,8	36 x 53	ECG2EPK331M◇A053△△△△
	470	424	120	0,15	1,2	1,0	36 x 53	ECG2EPK471M◇A053△△△△
	680	293	85	0,15	1,7	1,4	36 x 83	ECG2EPK681M◇A083△△△△
	1 000	199	55	0,15	2,5	1,9	36 x 100	ECG2EPK102M◇A100△△△△
	1 500	133	40	0,15	3,8	2,3	51 x 75	ECG2EPK152M◇C075△△△△
	2 200	91	28	0,15	5,0	3,1	51 x 96	ECG2EPK222M◇C096△△△△
	3 300	61	20	0,15	5,0	4,2	64 x 96	ECG2EPK332M◇D096△△△△
	4 700	43	15	0,15	5,0	5,4	64 x 115	ECG2EPK472M◇D115△△△△
	6 800	30	10	0,15	5,0	6,9	77 x 115	ECG2EPK682M◇E115△△△△
	10 000	20	8,0	0,15	5,0	9,3	77 x 155	ECG2EPK103M◇E155△△△△
15 000	14	6,0	0,15	5,0	12,2	90 x 157	ECG2EPK153M◇F157△△△△	
400 (450) 2G	1 000	199	82	0,15	4,0	3,9	51 x 75	ECG2GPK102M◇C075△△△△
	1 200	166	70	0,15	4,8	4,7	51 x 96	ECG2GPK122M◇C096△△△△
	1 500	133	49	0,15	5,0	5,6	51 x 115	ECG2GPK152M◇C115△△△△
	1 800	111	39	0,15	5,0	6,4	51 x 130	ECG2GPK182M◇C130△△△△
	2 200	91	30	0,15	5,0	7,0	64 x 96	ECG2GPK222M◇D096△△△△
	2 700	74	22	0,15	5,0	8,3	64 x 115	ECG2GPK272M◇D115△△△△
	3 300	61	20	0,15	5,0	9,7	64 x 130	ECG2GPK332M◇D130△△△△
	3 900	52	18	0,15	5,0	11,2	64 x 155	ECG2GPK392M◇D155△△△△
		52	18	0,15	5,0	10,6	77 x 115	ECG2GPK392M◇E115△△△△
	4 700	43	13	0,15	5,0	13,5	64 x 195	ECG2GPK472M◇D195△△△△
		43	13	0,15	5,0	12,1	77 x 130	ECG2GPK472M◇E130△△△△
	5 600	36	12	0,15	5,0	15,0	64 x 195	ECG2GPK562M◇D195△△△△
		36	12	0,15	5,0	14,3	77 x 155	ECG2GPK562M◇E155△△△△
	6 800	30	11	0,15	5,0	16,7	90 x 157	ECG2GPK682M◇F157△△△△
8 200	25	10	0,15	5,0	18,4	90 x 157	ECG2GPK822M◇F157△△△△	
10 000	20	9,0	0,15	5,0	22,0	90 x 196	ECG2GPK103M◇F196△△△△	
450 (500) 2W	220	905	415	0,15	1,0	1,1	36 x 53	ECG2WPK221M◇A053△△△△
	330	603	277	0,15	1,5	1,5	36 x 100	ECG2WPK331M◇A080△△△△
	470	424	195	0,15	2,1	2,1	51 x 83	ECG2WPK471M◇C103△△△△
	680	293	135	0,15	3,1	2,7	51 x 96	ECG2WPK681K◇C096△△△△
	1 000	199	90	0,15	4,5	4,2	51 x 100	ECG2WPK102M◇C100△△△△
	1 500	133	54	0,15	5,0	5,7	51 x 130	ECG2WPK152M◇C130△△△△
	2 200	91	33	0,15	5,0	7,3	64 x 115	ECG2WPK222M◇D115△△△△
	3 300	61	22	0,15	5,0	10,1	77 x 130	ECG2WPK332M◇E130△△△△
	4 700	43	15	0,15	5,0	12,6	77 x 155	ECG2WPK472M◇E155△△△△
5 600	36	11	0,15	5,0	15,8	90 x 157	ECG2WPK562M◇F157△△△△	



10 000h at 85°C

- High Reliability at High Voltage
- Long Life at Compact Size



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85
Voltage Range (V)	400 ~ 550
Capacitance Range (μF)	1 000 ~ 22 200
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Fast Charge-Discharge Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	10 000h	> 100 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

Terminal and Construction The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.

Optional Self-extinguishing Electrolyte on request

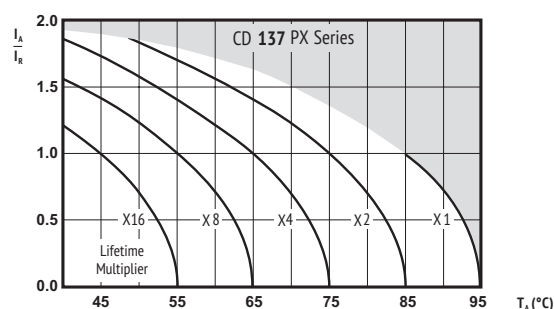
SCREW

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,10	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

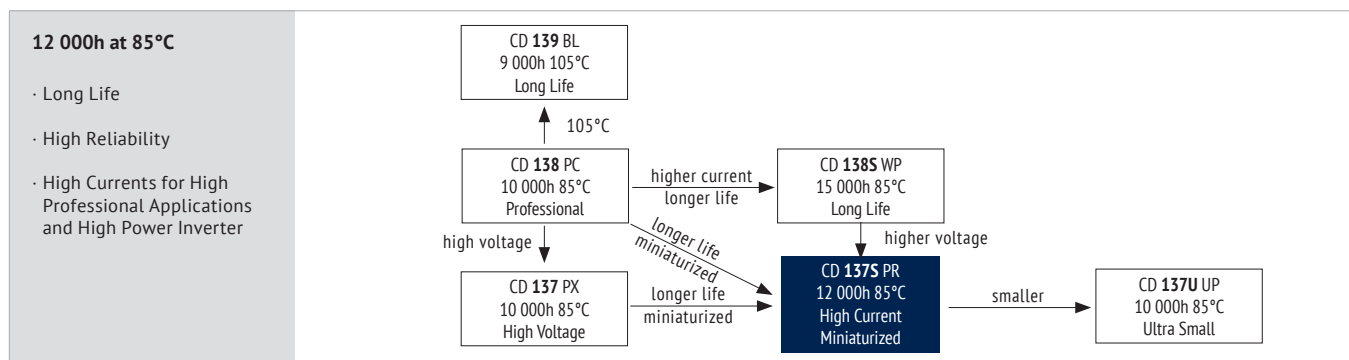


SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
400 (450) 2G	2 200	98	28	0,15	5,0	8,8	51 x 115	ECG2GPX222M◇C115△△△△
	2 700	80	24	0,15	5,0	10,2	51 x 130	ECG2GPX272M◇C130△△△△
	3 300	65	21	0,15	5,0	11,0	64 x 96	ECG2GPX332M◇D096△△△△
	3 900	55	19	0,15	5,0	12,8	64 x 115	ECG2GPX392M◇D115△△△△
	4 700	46	15	0,15	5,0	14,8	64 x 130	ECG2GPX472M◇D130△△△△
	5 600	38	14	0,15	5,0	16,2	77 x 115	ECG2GPX562M◇E115△△△△
	6 800	32	13	0,15	5,0	18,7	77 x 130	ECG2GPX682M◇E130△△△△
	8 200	26	12	0,15	5,0	22,0	77 x 155	ECG2GPX822M◇E155△△△△
	10 000	22	10	0,15	5,0	26,7	77 x 195	ECG2GPX103M◇E195△△△△
		22	10	0,15	5,0	24,2	90 x 131	ECG2GPX103M◇F131△△△△
	12 000	18	8	0,15	5,0	28,5	90 x 157	ECG2GPX123M◇F157△△△△
	15 000	14	6	0,15	5,0	34,8	90 x 196	ECG2GPX153M◇F196△△△△
	18 000	12	5	0,15	5,0	41,2	90 x 236	ECG2GPX183M◇F236△△△△
	22 000	10	5	0,15	5,0	47,0	101 x 237	ECG2GPX223M◇G237△△△△
450 (500) 2W	1 800	119	45	0,15	5,0	7,6	51 x 115	ECG2WPX182M◇C115△△△△
	2 200	98	35	0,15	5,0	8,8	51 x 130	ECG2WPX222M◇C130△△△△
	2 700	80	30	0,15	5,0	9,5	64 x 96	ECG2WPX272M◇D096△△△△
	3 300	65	24	0,15	5,0	11,2	64 x 115	ECG2WPX332M◇D115△△△△
	3 900	55	20	0,15	5,0	12,8	64 x 130	ECG2WPX392M◇D130△△△△
	4 700	46	16	0,15	5,0	14,1	77 x 115	ECG2WPX472M◇E115△△△△
	5 600	38	13	0,15	5,0	16,2	77 x 130	ECG2WPX562M◇E130△△△△
	6 800	32	11	0,15	5,0	19,1	77 x 155	ECG2WPX682M◇E155△△△△
	8 200	26	10	0,15	5,0	23,0	77 x 195	ECG2WPX822M◇E195△△△△
		26	10	0,15	5,0	21,0	90 x 131	ECG2WPX822M◇F131△△△△
	10 000	22	9	0,15	5,0	25,7	90 x 171	ECG2WPX103M◇F171△△△△
	12 000	18	8	0,15	5,0	29,7	90 x 196	ECG2WPX123M◇F196△△△△
		18	8	0,15	5,0	29,3	101 x 175	ECG2WPX123M◇G175△△△△
	15 000	14	7	0,15	5,0	35,9	90 x 236	ECG2WPX153M◇F236△△△△
		14	7	0,15	5,0	34,2	101 x 195	ECG2WPX153M◇G195△△△△
	18 000	12	6	0,15	5,0	40,5	101 x 237	ECG2WPX183M◇G237△△△△
500 (550) 2H	1 200	215	94	0,20	5,0	6,2	51 x 115	ECG2HPX122M◇C115△△△△
		215	94	0,20	5,0	6,3	64 x 96	ECG2HPX122M◇D096△△△△
		172	72	0,20	5,0	7,3	51 x 130	ECG2HPX152M◇C130△△△△
	1500	172	72	0,20	5,0	7,1	64 x 96	ECG2HPX152M◇D096△△△△
		143	51	0,20	5,0	8,3	64 x 115	ECG2HPX182M◇D115△△△△
	2 200	117	40	0,20	5,0	9,6	64 x 130	ECG2HPX222M◇D130△△△△
	2 700	96	35	0,20	5,0	10,7	77 x 115	ECG2HPX272M◇E115△△△△
	3 300	78	30	0,20	5,0	12,4	77 x 130	ECG2HPX332M◇E130△△△△
	3 900	66	25	0,20	5,0	14,4	77 x 155	ECG2HPX392M◇E155△△△△
	4 700	55	24	0,20	5,0	16,5	77 x 171	ECG2HPX472M◇E171△△△△
		55	24	0,20	5,0	15,8	90 x 131	ECG2HPX472M◇F131△△△△
	5 600	46	22	0,20	5,0	19,0	77 x 195	ECG2HPX562M◇E195△△△△
		46	22	0,20	5,0	18,6	90 x 157	ECG2HPX562M◇F157△△△△
	6 800	38	19	0,20	5,0	21,2	90 x 171	ECG2HPX682M◇F171△△△△
	8 200	31	14	0,20	5,0	24,5	90 x 196	ECG2HPX822M◇F196△△△△
		31	14	0,20	5,0	24,2	101 x 175	ECG2HPX822M◇G175△△△△
	10 000	26	12	0,20	5,0	29,3	90 x 236	ECG2HPX103M◇F236△△△△
		26	12	0,20	5,0	27,9	101 x 195	ECG2HPX103M◇G195△△△△
	12 000	22	11	0,20	5,0	33,1	101 x 237	ECG2HPX123M◇G237△△△△
550 (600) 2Y	1 000	258	110	0,20	5,0	5,9	51 x 130	ECG2YPX102M◇C130△△△△
	1 200	215	95	0,20	5,0	6,8	64 x 115	ECG2YPX122M◇D115△△△△
	1 500	172	74	0,20	5,0	8,0	64 x 130	ECG2YPX152M◇D130△△△△
	1 800	143	72	0,20	5,0	8,7	77 x 115	ECG2YPX182M◇E115△△△△
	2 200	117	50	0,20	5,0	10,1	77 x 130	ECG2YPX222M◇E130△△△△
	2 700	96	40	0,20	5,0	12,0	77 x 155	ECG2YPX272M◇E155△△△△
	3 300	78	36	0,20	5,0	13,3	77 x 155	ECG2YPX332M◇E155△△△△
	3 900	66	30	0,20	5,0	15,5	90 x 157	ECG2YPX392M◇F157△△△△
	4 700	55	24	0,20	5,0	17,6	90 x 171	ECG2YPX472M◇F171△△△△
	5 600	46	20	0,20	5,0	20,3	90 x 196	ECG2YPX562M◇F196△△△△
	6 800	38	16	0,20	5,0	24,1	90 x 236	ECG2YPX682M◇F236△△△△
	8 200	31	14	0,20	5,0	27,3	101 x 237	ECG2YPX822M◇G237△△△△



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85
Voltage Range (V)	350 ~ 500
Capacitance Range (μF)	1 000 ~ 22 000
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current: After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Stability at Low Temperature (Capacitance Ratio at 120Hz): $C_{-25^{\circ}\text{C}} / C_{+20^{\circ}\text{C}} \geq 0,7$

Fast Charge-Discharge: **!** Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

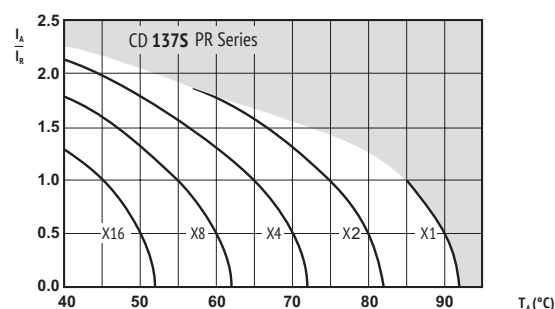
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	12 000h	> 150 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 20% of initial value		Within ± 15% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 200% of specified value		Not more than 175% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement
Terminal and Construction	only Terminal C, D, E available, see page 151					

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,18	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

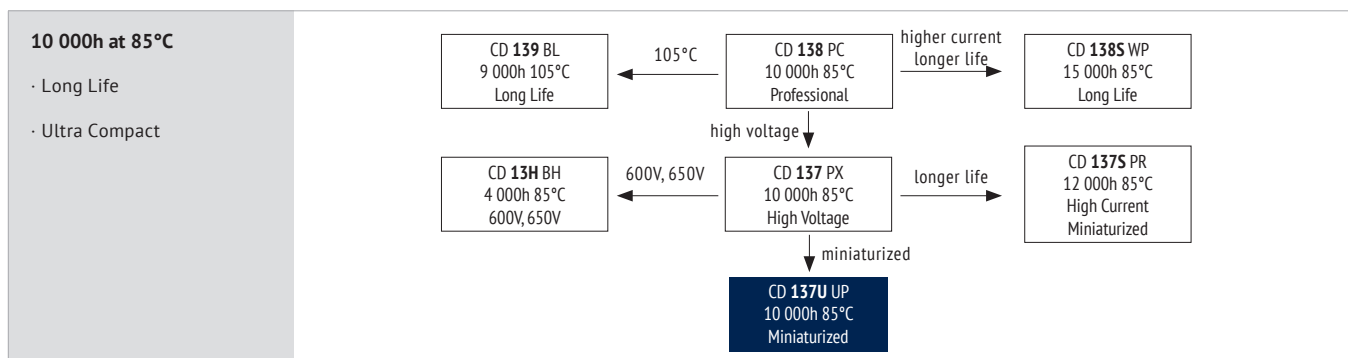


U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
350 (400) 2V	2 200	56	28	0,15	5,0	8,4	51 x 80	ECG2VPR222M◇C080△△△△
	2 700	46	23	0,15	5,0	9,9	51 x 96	ECG2VPR272M◇C096△△△△
	3 300	40	20	0,15	5,0	11,0	51 x 105	ECG2VPR332M◇C105△△△△
		40	20	0,15	5,0	11,4	64 x 80	ECG2VPR332M◇D080△△△△
	3 900	34	17	0,15	5,0	12,7	51 x 117	ECG2VPR392M◇C117△△△△
		34	17	0,15	5,0	13,2	64 x 96	ECG2VPR392M◇D096△△△△
	4 700	28	14	0,15	5,0	14,4	64 x 96	ECG2VPR472M◇D096△△△△
	5 600	24	12	0,15	5,0	16,8	64 x 115	ECG2VPR562M◇D115△△△△
		24	12	0,15	5,0	17,2	77 x 96	ECG2VPR562M◇E096△△△△
	6 800	20	10	0,15	5,0	18,8	64 x 130	ECG2VPR682M◇D130△△△△
		20	10	0,15	5,0	19,5	77 x 105	ECG2VPR682M◇E105△△△△
	8 200	18	9	0,15	5,0	22,3	77 x 115	ECG2VPR822M◇E115△△△△
	10 000	14	7	0,15	5,0	28,3	90 x 115	ECG2VPR103M◇F115△△△△
	12 000	12	6	0,15	5,0	29,8	77 x 155	ECG2VPR123M◇E155△△△△
		12	6	0,15	5,0	32,0	90 x 130	ECG2VPR123M◇F130△△△△
	15 000	10	5	0,15	5,0	36,0	90 x 145	ECG2VPR153M◇F145△△△△
	18 000	9	4,5	0,15	5,0	40,4	90 x 171	ECG2VPR183M◇F171△△△△
	22 000	7	3,5	0,15	5,0	46,9	90 x 196	ECG2VPR223M◇F196△△△△

400 (450) 2G	1 800	68	34	0,15	5,0	7,6	51 x 80	ECG2GPR182M◇C080△△△△
	2 200	45	28	0,15	5,0	9,0	51 x 96	ECG2GPR222M◇C096△△△△
	2 700	46	23	0,15	5,0	10,4	51 x 105	ECG2GPR272M◇C105△△△△
		46	23	0,15	5,0	10,5	64 x 80	ECG2GPR272M◇D080△△△△
	3 300	38	19	0,15	5,0	12,5	51 x 130	ECG2GPR332M◇C130△△△△
		38	19	0,15	5,0	12,4	64 x 96	ECG2GPR332M◇D096△△△△
	3 900	32	16	0,15	5,0	13,3	64 x 96	ECG2GPR392M◇D096△△△△
	4 700	28	14	0,15	5,0	15,2	64 x 115	ECG2GPR472M◇D115△△△△
		28	14	0,15	5,0	16,3	77 x 96	ECG2GPR472M◇E096△△△△
	5 600	24	12	0,15	5,0	17,1	64 x 130	ECG2GPR562M◇D130△△△△
		24	12	0,15	5,0	18,2	77 x 105	ECG2GPR562M◇E105△△△△
	6 800	20	10	0,15	5,0	20,6	77 x 115	ECG2GPR682M◇E115△△△△
	8 200	18	9	0,15	5,0	23,3	77 x 130	ECG2GPR822M◇E130△△△△
	10 000	14	7	0,15	5,0	27,0	77 x 155	ECG2GPR103M◇E155△△△△
		14	7	0,15	5,0	29,1	90 x 130	ECG2GPR103M◇F130△△△△
	12 000	12	6	0,15	5,0	31,5	77 x 190	ECG2GPR123M◇E190△△△△
		12	6	0,15	5,0	32,5	90 x 145	ECG2GPR123M◇F145△△△△
	15 000	10	5	0,15	5,0	37,2	77 x 220	ECG2GPR153M◇E220△△△△
		10	5	0,15	5,0	38,3	90 x 170	ECG2GPR153M◇F170△△△△
	18 000	9	4,5	0,15	5,0	42,4	90 x 196	ECG2GPR183M◇F196△△△△

450 (500) 2W	1 500	112	56	0,15	5,0	7,1	51 x 80	ECG2WPR152M◇C080△△△△
	1 800	94	57	0,15	5,0	8,0	51 x 96	ECG2WPR182M◇C096△△△△
	2 200	78	39	0,15	5,0	9,2	51 x 105	ECG2WPR222M◇C105△△△△
		78	39	0,15	5,0	9,7	64 x 80	ECG2WPR222M◇D080△△△△
	2 700	66	33	0,15	5,0	10,5	51 x 117	ECG2WPR272M◇C117△△△△
		66	33	0,15	5,0	10,9	64 x 96	ECG2WPR272M◇D096△△△△
	3 300	56	28	0,15	5,0	12,1	64 x 100	ECG2WPR332M◇D100△△△△
	3 900	48	24	0,15	5,0	13,9	64 x 115	ECG2WPR392M◇D115△△△△
		48	24	0,15	5,0	15,2	77 x 96	ECG2WPR392M◇E096△△△△
	4 700	40	20	0,15	5,0	15,5	64 x 130	ECG2WPR472M◇D130△△△△
		40	20	0,15	5,0	16,9	77 x 105	ECG2WPR472M◇E105△△△△
	5 600	34	17	0,15	5,0	18,2	64 x 155	ECG2WPR562M◇D155△△△△
		34	17	0,15	5,0	19,4	77 x 115	ECG2WPR562M◇E115△△△△
	6 800	28	14	0,15	5,0	21,5	77 x 130	ECG2WPR682M◇E130△△△△
		28	14	0,15	5,0	24,3	90 x 115	ECG2WPR682M◇F115△△△△
	8 200	24	12	0,15	5,0	24,5	77 x 155	ECG2WPR822M◇E155△△△△
		24	12	0,15	5,0	27,5	90 x 130	ECG2WPR822M◇F130△△△△
	10 000	20	10	0,15	5,0	29,2	77 x 190	ECG2WPR103M◇E190△△△△
		20	10	0,15	5,0	30,3	90 x 145	ECG2WPR103M◇F145△△△△
	12 000	17	8,5	0,15	5,0	33,4	77 x 220	ECG2WPR123M◇E220△△△△
		17	8,5	0,15	5,0	34,6	90 x 170	ECG2WPR123M◇F170△△△△
	15 000	14	6,8	0,15	5,0	39,8	90 x 196	ECG2WPR153M◇F196△△△△

U _{RDC} (Surge Voltage) Code	C _R Rated Capacitance	ESR _{max} Equivalent Series Resistance 20°C 120Hz	ESR _{typ} Equivalent Series Resistance 20°C 120Hz	tanδ Dissipation Factor 20°C 120Hz	I _{leak} Leakage Current	I _{RAC} Rated Ripple Current 85°C 120Hz	Size øD x L	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
500 (550) 2H	1 000	176	88	0,15	5,0	6,1	51 x 80	ECG2HPR102M◇C080△△△△
	1 200	146	73	0,15	5,0	7,0	51 x 92	ECG2HPR122M◇C092△△△△
	1 500	120	60	0,15	5,0	8,0	51 x 105	ECG2HPR152M◇C105△△△△
		120	60	0,15	5,0	8,1	64 x 80	ECG2HPR152M◇D080△△△△
	1 800	102	51	0,15	5,0	9,2	51 x 117	ECG2HPR182M◇C117△△△△
	2 200	86	43	0,15	5,0	10,6	64 x 100	ECG2HPR222M◇D100△△△△
		86	43	0,15	5,0	11,0	77 x 85	ECG2HPR222M◇E085△△△△
	2 700	72	36	0,15	5,0	12,2	64 x 115	ECG2HPR272M◇D115△△△△
	3 300	60	30	0,15	5,0	14,1	77 x 105	ECG2HPR332M◇E105△△△△
	3 900	52	26	0,15	5,0	16,5	77 x 130	ECG2HPR392M◇E130△△△△
	4 700	42	21	0,15	5,0	18,8	77 x 143	ECG2HPR472M◇E143△△△△
		42	21	0,15	5,0	19,2	90 x 115	ECG2HPR472M◇F115△△△△
	5 600	38	19	0,15	5,0	21,4	90 x 130	ECG2HPR562M◇F130△△△△
	6 800	32	16	0,15	5,0	24,6	90 x 145	ECG2HPR682M◇F145△△△△
	8 200	26	13	0,15	5,0	28,5	90 x 170	ECG2HPR822M◇F170△△△△
	10 000	22	11	0,15	5,0	32,9	90 x 196	ECG2HPR103M◇F196△△△△
	12 000	20	10	0,15	5,0	34,7	90 x 220	ECG2HPR123M◇F220△△△△



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85
Voltage Range (V)	400 ~ 450
Capacitance Range (μF)	1 800 ~ 22 000
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
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Fast Charge-Discharge	! Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray
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ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	10 000h	> 100 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 200% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

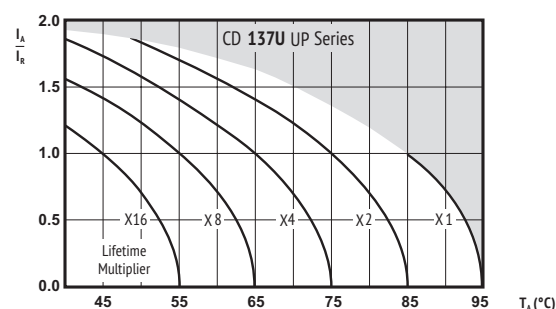
Terminal and Construction	The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.
Optional	Self-extinguishing Electrolyte on request

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,18	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

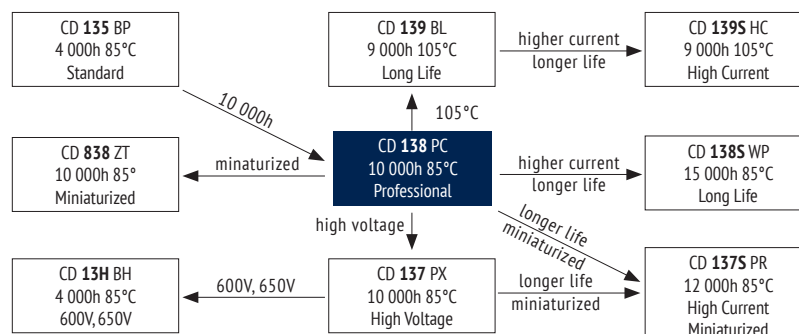


U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
400 (450) 2G	2 200	76	38	0,15	5	7,69	51 x 80	ECG2GUP222M◇C080△△△△
	2 700	64	32	0,15	5	8,90	51 x 96	ECG2GUP272M◇C096△△△△
	3 300	52	26	0,15	5	10,3	51 x 105	ECG2GUP332M◇C105△△△△
		52	26	0,15	5	10,6	64 x 80	ECG2GUP332M◇D080△△△△
	3 900	42	21	0,15	5	11,7	51 x 130	ECG2GUP392M◇C130△△△△
	4 700	36	18	0,15	5	12,9	64 x 100	ECG2GUP472M◇D100△△△△
	5 600	32	16	0,15	5	14,7	64 x 115	ECG2GUP562M◇D115△△△△
	6 800	28	14	0,15	5	16,6	64 x 130	ECG2GUP682M◇D130△△△△
		28	14	0,15	5	17,5	77 x 105	ECG2GUP682M◇E105△△△△
	8 200	24	12	0,15	5	19,5	77 x 115	ECG2GUP822M◇E115△△△△
	10 000	20	10	0,15	5	22,4	77 x 130	ECG2GUP103M◇E130△△△△
	12 000	16	8	0,15	5	26,3	77 x 155	ECG2GUP123M◇E155△△△△
		16	8	0,15	5	27,0	90 x 130	ECG2GUP123M◇F130△△△△
	15 000	14	7	0,15	5	31,6	77 x 190	ECG2GUP153M◇E190△△△△
	18 000	12	6	0,15	5	35,4	77 x 220	ECG2GUP183M◇E220△△△△
		12	6	0,15	5	36,3	90 x 170	ECG2GUP183M◇F170△△△△
	22 000	9	4,5	0,15	5	39,1	90 x 196	ECG2GUP223M◇F196△△△△
450 (500) 2W	1 800	118	59	0,15	5	7,12	51 x 80	ECG2WUP182M◇C080△△△△
	2 200	96	48	0,15	5	8,30	51 x 96	ECG2WUP222M◇C096△△△△
	2 700	80	40	0,15	5	9,45	51 x 105	ECG2WUP272M◇C105△△△△
		80	40	0,15	5	9,81	64 x 80	ECG2WUP272M◇D080△△△△
	3 300	66	33	0,15	5	11,0	51 x 130	ECG2WUP332M◇C130△△△△
	3 900	58	29	0,15	5	12,0	64 x 100	ECG2WUP392M◇D100△△△△
	4 700	50	25	0,15	5	13,5	64 x 115	ECG2WUP472M◇D115△△△△
	5 600	44	22	0,15	5	15,5	64 x 130	ECG2WUP562M◇D130△△△△
	6 800	36	18	0,15	5	19,2	77 x 115	ECG2WUP682M◇E115△△△△
	8 200	30	15	0,15	5	21,8	77 x 130	ECG2WUP822M◇E130△△△△
	10 000	24	12	0,15	5	24,9	77 x 155	ECG2WUP103M◇E155△△△△
	12 000	20	10	0,15	5	28,4	77 x 190	ECG2WUP123M◇E190△△△△
	15 000	16	8	0,15	5	33,8	77 x 220	ECG2WUP153M◇E220△△△△
	18 000	14	7	0,15	5	37,0	90 x 196	ECG2WUP183M◇F196△△△△



10 000h at 85°C

- Long Life
- High Reliability
- High Currents for High Professional Applications and High Power Inverter



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85
Voltage Range (V)	350 ~ 450
Capacitance Range (μF)	1 000 ~ 18 000
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
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Stability at Low Temperature (Capacitance Ratio at 120Hz)	$C_{-25^{\circ}\text{C}} / C_{+20^{\circ}\text{C}} \geq 0,7$
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Fast Charge-Discharge	⚠ Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray
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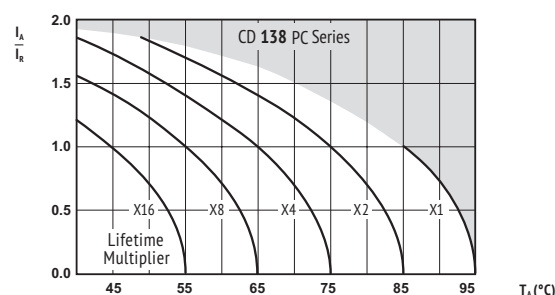
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	10 000h	> 100 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement
Terminal and Construction	The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.					
Optional	Self-extinguishing Electrolyte on request					

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,10	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

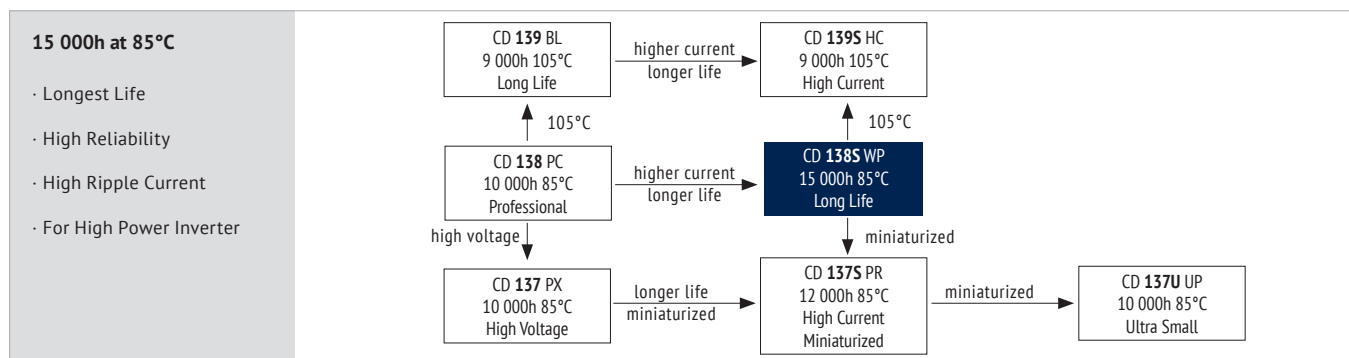


SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{Leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇ = mounting style (stud) AAAA = terminal style
(V)	(μF)	(m Ω)	(m Ω)		(mA)	(Arms)	(mm)	Details: Page 150
350 (400) 2V	1 200	215	67	0,15	4,2	5,5	51 x 83	ECG2VPC122M◇C083AAAA
	1 500	172	55	0,15	5,0	6,1	51 x 83	ECG2VPC152M◇C083AAAA
	1 800	143	43	0,15	5,0	7,4	51 x 96	ECG2VPC182M◇C096AAAA
	2 200	117	30	0,15	5,0	8,2	51 x 96	ECG2VPC222M◇C096AAAA
	2 700	96	27	0,15	5,0	10,2	51 x 130	ECG2VPC272M◇C130AAAA
	3 300	78	23	0,15	5,0	11,3	51 x 130	ECG2VPC332M◇C130AAAA
	3 900	66	19	0,15	5,0	12,8	64 x 115	ECG2VPC392M◇D115AAAA
	4 700	55	16	0,15	5,0	14,8	64 x 130	ECG2VPC472M◇D130AAAA
	5 600	46	14	0,15	5,0	16,3	77 x 115	ECG2VPC562M◇E115AAAA
	6 800	38	13	0,15	5,0	18,8	77 x 130	ECG2VPC682M◇E130AAAA
	8 200	31	11	0,15	5,0	22,1	77 x 155	ECG2VPC822M◇E155AAAA
	10 000	26	10	0,15	5,0	25,9	90 x 157	ECG2VPC103M◇F157AAAA
	12 000	22	8	0,15	5,0	28,4	90 x 157	ECG2VPC123M◇F157AAAA
	15 000	17	6	0,15	5,0	34,6	90 x 196	ECG2VPC153M◇F196AAAA
	18 000	14	4	0,15	5,0	41,4	90 x 236	ECG2VPC183M◇F236AAAA
400 (450) 2G	1 000	215	82	0,15	4,0	5,0	51 x 83	ECG2GPC102M◇C083AAAA
	1 200	179	70	0,15	4,8	5,5	51 x 83	ECG2GPC122M◇C083AAAA
	1 500	143	50	0,15	5,0	6,7	51 x 96	ECG2GPC152M◇C096AAAA
	1 800	119	40	0,15	5,0	7,4	51 x 96	ECG2GPC182M◇C096AAAA
	2 200	98	28	0,15	5,0	9,2	51 x 130	ECG2GPC222M◇C130AAAA
	2 700	80	23	0,15	5,0	9,9	64 x 96	ECG2GPC272M◇D096AAAA
	3 300	65	21	0,15	5,0	11,8	64 x 115	ECG2GPC332M◇D115AAAA
	3 900	55	19	0,15	5,0	13,5	64 x 130	ECG2GPC392M◇D130AAAA
	4 700	46	15	0,15	5,0	14,9	77 x 115	ECG2GPC472M◇E115AAAA
	5 600	39	14	0,15	5,0	17,0	77 x 130	ECG2GPC562M◇E130AAAA
	6 800	32	13	0,15	5,0	20,2	77 x 155	ECG2GPC682M◇E155AAAA
	8 200	26	12	0,15	5,0	23,5	90 x 157	ECG2GPC822M◇F157AAAA
	10 000	22	10	0,15	5,0	25,9	90 x 157	ECG2GPC103M◇F157AAAA
	12 000	18	8	0,15	5,0	31,0	90 x 196	ECG2GPC123M◇F196AAAA
	15 000	14	6	0,15	5,0	37,5	90 x 236	ECG2GPC153M◇F236AAAA
450 (500) 2W	1 000	215	93	0,15	4,5	5,0	51 x 83	ECG2WPC102M◇C083AAAA
	1 200	179	69	0,15	5,0	6,0	51 x 96	ECG2WPC122M◇C096AAAA
	1 500	143	56	0,15	5,0	7,2	51 x 115	ECG2WPC152M◇C115AAAA
	1 800	119	45	0,15	5,0	8,3	51 x 130	ECG2WPC182M◇C130AAAA
	2 200	98	35	0,15	5,0	9,0	64 x 93	ECG2WPC222M◇D093AAAA
	2 700	80	30	0,15	5,0	10,7	64 x 115	ECG2WPC272M◇D115AAAA
	3 300	65	24	0,15	5,0	12,4	64 x 130	ECG2WPC332M◇D130AAAA
	3 900	55	20	0,15	5,0	13,6	77 x 115	ECG2WPC392M◇E115AAAA
	4 700	46	16	0,15	5,0	15,6	77 x 130	ECG2WPC472M◇E130AAAA
	5 600	38	13	0,15	5,0	18,3	77 x 155	ECG2WPC562M◇E155AAAA
	6 800	32	11	0,15	5,0	21,4	90 x 157	ECG2WPC682M◇F157AAAA
	8 200	26	10	0,15	5,0	23,5	90 x 157	ECG2WPC822M◇F157AAAA
	10 000	22	9	0,15	5,0	28,3	90 x 196	ECG2WPC103M◇F196AAAA
	12 000	18	8	0,15	5,0	33,6	90 x 236	ECG2WPC123M◇F236AAAA



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85
Voltage Range (V)	350 ~ 500
Capacitance Range (μF)	1 500 ~ 12 000
Capacitance Tolerance (20°C, 120Hz)	± 20%

! The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
-----------------	--

Stability at Low Temperature (Capacitance Ratio at 120Hz)	$C_{-25^{\circ}\text{C}} / C_{+20^{\circ}\text{C}} \geq 0,7$
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Fast Charge-Discharge	! Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray
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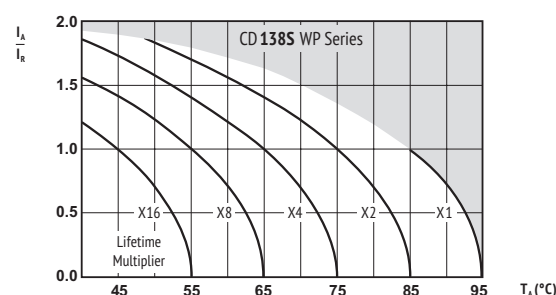
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	15 000h	> 150 000h	10 000h	12 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement
Terminal and Construction	The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.					
Optional	Self-extinguishing Electrolyte on request					

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,10	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_a = actual ripple current at 120Hz,
 I_r = rated ripple current at 120Hz, 85°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

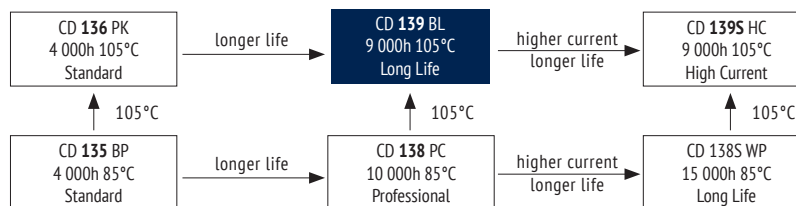
! SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\phi D \times L$	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
350 (400) 2V	3 900	50	25	0,15	5,0	14,6	64 x 96	ECG2VWP392M◇D096△△△△
	4 700	40	20	0,15	5,0	16,9	64 x 115	ECG2VWP472M◇D115△△△△
	5 600	34	17	0,15	5,0	19,8	64 x 130	ECG2VWP562M◇D130△△△△
		34	17	0,15	5,0	21,6	77 x 115	ECG2VWP562M◇E115△△△△
	6 800	28	14	0,15	5,0	25,0	77 x 143	ECG2VWP682M◇E143△△△△
		28	14	0,15	5,0	26,2	90 x 105	ECG2VWP682M◇F105△△△△
	8 200	24	12	0,15	5,0	29,3	77 x 143	ECG2VWP822M◇E143△△△△
		24	12	0,15	5,0	30,1	77 x 155	ECG2VWP822M◇E155△△△△
	10 000	18	9	0,15	5,0	35,7	90 x 157	ECG2VWP103M◇F157△△△△
	12 000	16	8	0,15	5,0	39,1	90 x 157	ECG2VWP123M◇F157△△△△
400 (450) 2G	2 700	76	38	0,15	5,0	11,5	64 x 96	ECG2GWP272M◇D096△△△△
	3 300	60	30	0,15	5,0	14,2	64 x 115	ECG2GWP332M◇D115△△△△
	3 900	52	26	0,15	5,0	16,5	64 x 115	ECG2GWP392M◇D115△△△△
		52	26	0,15	5,0	17,2	77 x 105	ECG2GWP392M◇E105△△△△
	4 700	42	21	0,15	5,0	18,1	64 x 130	ECG2GWP472M◇D130△△△△
		42	21	0,15	5,0	20,8	77 x 115	ECG2GWP472M◇E115△△△△
	5 600	36	18	0,15	5,0	22,7	77 x 130	ECG2GWP562M◇E130△△△△
		36	18	0,15	5,0	23,8	90 x 105	ECG2GWP562M◇F105△△△△
	6 800	30	15	0,15	5,0	26,6	77 x 155	ECG2GWP682M◇E155△△△△
		30	15	0,15	5,0	27,4	90 x 130	ECG2GWP682M◇F130△△△△
	8 200	24	12	0,15	5,0	32,2	90 x 157	ECG2GWP822M◇F157△△△△
	10 000	20	10	0,15	5,0	35,7	90 x 157	ECG2GWP103M◇F157△△△△
450 (500) 2W	2 200	92	46	0,15	5,0	10,4	64 x 96	ECG2WWP222M◇D096△△△△
		92	46	0,15	5,0	11,5	77 x 80	ECG2WWP222M◇E080△△△△
	2 700	76	38	0,15	5,0	12,8	64 x 115	ECG2WWP272M◇D115△△△△
		60	30	0,15	5,0	15,2	64 x 130	ECG2WWP332M◇D130△△△△
	3 300	60	30	0,15	5,0	15,8	77 x 105	ECG2WWP332M◇E105△△△△
		54	27	0,15	5,0	16,5	64 x 130	ECG2WWP392M◇D130△△△△
	3 900	54	27	0,15	5,0	18,0	77 x 115	ECG2WWP392M◇E115△△△△
		42	21	0,15	5,0	20,8	77 x 143	ECG2WWP472M◇E143△△△△
	4 700	42	21	0,15	5,0	21,8	90 x 105	ECG2WWP472M◇F105△△△△
		36	18	0,15	5,0	24,2	77 x 143	ECG2WWP562M◇E143△△△△
	5 600	36	18	0,15	5,0	24,9	90 x 130	ECG2WWP562M◇F130△△△△
		30	15	0,15	5,0	29,4	90 x 157	ECG2WWP682M◇F157△△△△
	6 800	30	15	0,15	5,0	29,4	90 x 157	ECG2WWP682M◇F157△△△△
	8 200	24	12	0,15	5,0	32,2	90 x 157	ECG2WWP822M◇F157△△△△
	10 000	20	10	0,15	5,0	36,9	90 x 171	ECG2WWP103M◇F171△△△△
500 (550) 2H	1 500	148	74	0,15	5,0	8,6	64 x 96	ECG2HWP152M◇D096△△△△
	1 800	132	62	0,15	5,0	10,0	64 x 115	ECG2HWP182M◇D115△△△△
	2 200	102	51	0,15	5,0	11,7	64 x 130	ECG2HWP222M◇D130△△△△
	2 700	82	41	0,15	5,0	15,0	77 x 115	ECG2HWP272M◇E115△△△△
	3 300	68	34	0,15	5,0	17,5	77 x 130	ECG2HWP332M◇E130△△△△
	3 900	58	29	0,15	5,0	20,2	77 x 143	ECG2HWP392M◇E143△△△△
	4 700	48	24	0,15	5,0	21,8	90 x 130	ECG2HWP472M◇F130△△△△
	5 600	40	20	0,15	5,0	25,3	90 x 157	ECG2HWP562M◇F157△△△△
	6 800	32	16	0,15	5,0	29,0	90 x 171	ECG2HWP682M◇F171△△△△

9 000h at 105°C

- Longer Life at 105°C
- Highest Professional Power Application



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	350 ~ 450
Capacitance Range (μF)	1 000 ~ 15 000
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
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Stability at Low Temperature (Capacitance Ratio at 120Hz)	$C_{-25^{\circ}\text{C}} / C_{+20^{\circ}\text{C}} \geq 0,7$
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Fast Charge-Discharge	! Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray
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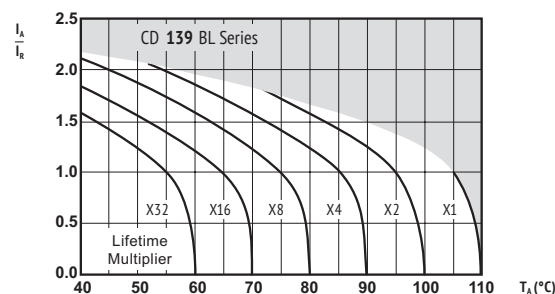
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	9 000h	> 200 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 50°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement
Terminal and Construction	The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.					

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,10	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,

I_R = rated ripple current at 120Hz, 105°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

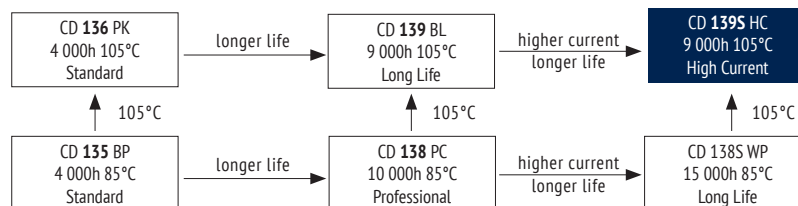
This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\phi D \times L$	ORDER CODE ◇ = mounting style (stud) AAAA = terminal style
(V)	(μF)	(m Ω)	(m Ω)		(mA)	(Arms)	(mm)	Details: Page 150
350 (400) 2V	1 000	259	69	0,15	3,5	3,9	51 x 75	ECG2VBL102M◇C075AAAA
	1 200	215	65	0,15	4,2	4,2	51 x 75	ECG2VBL122M◇C075AAAA
	1 500	172	55	0,15	5,0	5,2	51 x 96	ECG2VBL152M◇C096AAAA
	1 800	143	43	0,15	5,0	5,7	51 x 96	ECG2VBL182M◇C096AAAA
	2 200	117	30	0,15	5,0	7,1	51 x 130	ECG2VBL222M◇C130AAAA
	2 700	96	27	0,15	5,0	7,7	64 x 96	ECG2VBL272M◇D096AAAA
	3 300	78	23	0,15	5,0	9,1	64 x 115	ECG2VBL332M◇D115AAAA
	3 900	66	19	0,15	5,0	10,4	64 x 130	ECG2VBL392M◇D130AAAA
	4 700	55	15	0,15	5,0	12,2	64 x 155	ECG2VBL472M◇D155AAAA
		55	16	0,15	5,0	11,5	77 x 115	ECG2VBL472M◇E115AAAA
	5 600	46	13	0,15	5,0	14,6	64 x 195	ECG2VBL562M◇D195AAAA
		46	14	0,15	5,0	13,1	77 x 130	ECG2VBL562M◇E130AAAA
	6 800	38	13	0,15	5,0	15,5	77 x 155	ECG2VBL682M◇E155AAAA
	8 200	31	11	0,15	5,0	18,1	90 x 157	ECG2VBL822M◇F157AAAA
	10 000	26	10	0,15	5,0	19,9	90 x 157	ECG2VBL103M◇F157AAAA
	12 000	22	8	0,15	5,0	23,8	90 x 196	ECG2VBL123M◇F196AAAA
	15 000	17	6	0,15	5,0	28,8	90 x 236	ECG2VBL153M◇F236AAAA
400 (450) 2G	1 000	215	70	0,15	4,0	3,9	51 x 75	ECG2GBL102M◇C075AAAA
	1 200	179	64	0,15	4,8	4,6	51 x 96	ECG2GBL122M◇C096AAAA
	1 500	143	54	0,15	5,0	5,6	51 x 115	ECG2GBL152M◇C115AAAA
	1 800	119	43	0,15	5,0	6,4	51 x 130	ECG2GBL182M◇C130AAAA
	2 200	98	41	0,15	5,0	6,9	64 x 96	ECG2GBL222M◇D096AAAA
	2 700	80	38	0,15	5,0	8,2	64 x 115	ECG2GBL272M◇D115AAAA
	3 300	65	29	0,15	5,0	9,5	64 x 130	ECG2GBL332M◇D130AAAA
	3 900	55	26	0,15	5,0	11,1	64 x 155	ECG2GBL392M◇D155AAAA
		55	28	0,15	5,0	10,4	77 x 115	ECG2GBL392M◇E115AAAA
	4 700	46	22	0,15	5,0	13,4	64 x 195	ECG2GBL472M◇D195AAAA
		46	22	0,15	5,0	12,0	77 x 130	ECG2GBL472M◇E130AAAA
	5 600	39	19	0,15	5,0	14,6	64 x 195	ECG2GBL562M◇D195AAAA
		39	19	0,15	5,0	14,0	77 x 155	ECG2GBL562M◇E155AAAA
	6 800	32	17	0,15	5,0	16,5	90 x 157	ECG2GBL682M◇F157AAAA
	8 200	26	15	0,15	5,0	18,1	90 x 157	ECG2GBL822M◇F157AAAA
	10 000	22	12	0,15	5,0	21,7	90 x 196	ECG2GBL103M◇F196AAAA
	12 000	18	8	0,15	5,0	25,8	90 x 236	ECG2GBL123M◇F236AAAA
450 (500) 2W	1 000	215	70	0,15	4,5	4,2	51 x 96	ECG2WBL102M◇C096AAAA
	1 200	179	66	0,15	5,0	5,0	51 x 115	ECG2WBL122M◇C115AAAA
	1 500	143	54	0,15	5,0	5,9	51 x 130	ECG2WBL152M◇C130AAAA
	1 800	119	44	0,15	5,0	6,3	64 x 96	ECG2WBL182M◇D096AAAA
	2 200	98	42	0,15	5,0	7,4	64 x 115	ECG2WBL222M◇D115AAAA
	2 700	80	40	0,15	5,0	8,6	64 x 130	ECG2WBL272M◇D130AAAA
		80	42	0,15	5,0	8,7	77 x 115	ECG2WBL272M◇E115AAAA
	3 300	65	31	0,15	5,0	10,2	64 x 155	ECG2WBL332M◇D155AAAA
		65	35	0,15	5,0	10,1	77 x 130	ECG2WBL332M◇E130AAAA
	3 900	55	28	0,15	5,0	12,3	64 x 195	ECG2WBL392M◇D195AAAA
	4 700	46	25	0,15	5,0	12,9	77 x 155	ECG2WBL472M◇E155AAAA
	5 600	38	22	0,15	5,0	15,4	77 x 195	ECG2WBL562M◇E195AAAA
		38	24	0,15	5,0	14,9	90 x 157	ECG2WBL562M◇F157AAAA
	6 800	32	21	0,15	5,0	18,0	90 x 196	ECG2WBL682M◇F196AAAA
	8 200	27	18	0,15	5,0	19,8	90 x 196	ECG2WBL822M◇F196AAAA
	10 000	22	16	0,15	5,0	23,6	90 x 236	ECG2WBL103M◇F236AAAA

9 000h at 105°C

- Longer Life at 105°C for Professional Industry Application
- Improved Current Capability



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105
Voltage Range (V)	350 ~ 450
Capacitance Range (μF)	2 200 ~ 15 000
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
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Stability at Low Temperature (Capacitance Ratio at 120Hz)	$C_{-25^{\circ}\text{C}} / C_{+20^{\circ}\text{C}} \geq 0,7$
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Fast Charge-Discharge	! Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray
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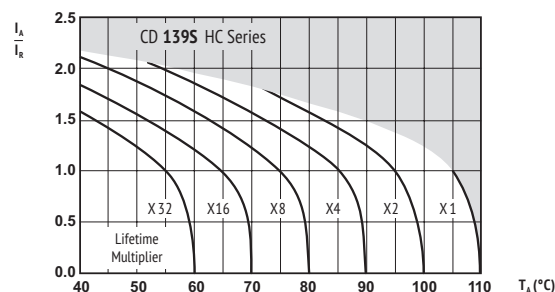
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	9 000h	> 200 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 105°C	U_R $1,4 \times I_R$ 50°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C IEC 60384	$U_R = 0$ $I_R = 0$ 105°C	After test: U_R to be applied for 30 min > 24h before measurement
Terminal and Construction	The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.					

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,10	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 105°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

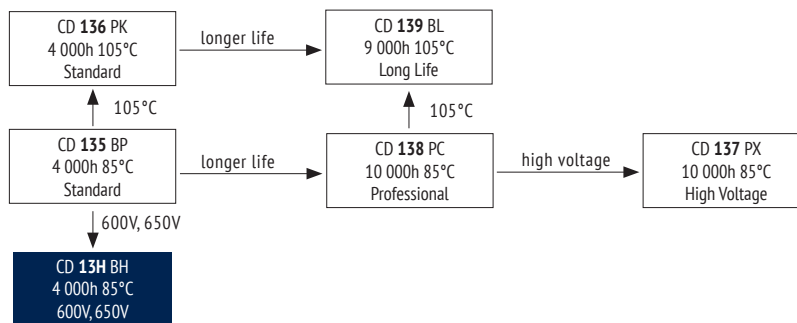
This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 105°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
350 (400) 2V	3 300	55	23	0,15	5,0	14,4	64 x 115	ECG2VHC332M◇D115△△△△
	3 900	46	19	0,15	5,0	16,6	64 x 130	ECG2VHC392M◇D130△△△△
	4 700	39	17	0,15	5,0	19,8	64 x 155	ECG2VHC472M◇D155△△△△
		39	17	0,15	5,0	19,1	77 x 115	ECG2VHC472M◇E115△△△△
	5 600	32	14	0,15	5,0	21,9	77 x 130	ECG2VHC562M◇E130△△△△
	6 800	27	12	0,15	5,0	26,2	77 x 155	ECG2VHC682M◇E155△△△△
	8 200	22	11	0,15	5,0	29,3	90 x 157	ECG2VHC822M◇F157△△△△
	10 000	18	10	0,15	5,0	32,3	90 x 157	ECG2VHC103M◇F157△△△△
	12 000	15	8	0,15	5,0	39,0	90 x 196	ECG2VHC123M◇F196△△△△
400 (450) 2G	2 700	56	28	0,15	5,0	13,1	64 x 115	ECG2GHC272M◇D115△△△△
	3 300	46	23	0,15	5,0	15,2	64 x 130	ECG2GHC332M◇D130△△△△
	3 900	39	21	0,15	5,0	17,9	64 x 155	ECG2GHC392M◇D155△△△△
		39	21	0,15	5,0	18,2	77 x 115	ECG2GHC392M◇E115△△△△
	4 700	32	17	0,15	5,0	20,1	77 x 130	ECG2GHC472M◇E130△△△△
	5 600	27	15	0,15	5,0	23,8	77 x 155	ECG2GHC562M◇E155△△△△
	6 800	22	13	0,15	5,0	26,7	90 x 157	ECG2GHC682M◇F157△△△△
	8 200	18	11	0,15	5,0	29,3	90 x 157	ECG2GHC822M◇F157△△△△
	10 000	15	9	0,15	5,0	35,6	90 x 196	ECG2GHC103M◇F196△△△△
450 (500) 2W	2 200	69	38	0,15	5,0	11,8	64 x 115	ECG2WHC222M◇D115△△△△
	2 700	56	31	0,15	5,0	13,7	64 x 130	ECG2WHC272M◇D130△△△△
		56	31	0,15	5,0	14,5	77 x 115	ECG2WHC272M◇E115△△△△
	3 300	46	23	0,15	5,0	16,5	64 x 155	ECG2WHC332M◇D155△△△△
		46	25	0,15	5,0	16,9	77 x 130	ECG2WHC332M◇E130△△△△
	4 700	32	18	0,15	5,0	21,7	77 x 155	ECG2WHC472M◇E155△△△△
	5 600	27	16	0,15	5,0	26,4	77 x 195	ECG2WHC562M◇E195△△△△
		27	16	0,15	5,0	24,2	90 x 157	ECG2WHC562M◇F157△△△△
	6 800	22	14	0,15	5,0	29,5	90 x 196	ECG2WHC682M◇F196△△△△
	8 200	19	12	0,15	5,0	32,4	90 x 196	ECG2WHC822M◇F196△△△△

**4 000h at 85°C**

- Extreme High Voltage
- High Ripple Current
- Power Supplies & Inverters

**ITEM CHARACTERISTICS**

Operating Temperature Range (°C)	-25 ~ +85
Voltage Range (V)	600, 650
Capacitance Range (μF)	1 000 ~ 5 600
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.

Fast Charge-Discharge Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray

ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	4 000h	> 65 000h	2 000h	2 000h	500h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,2 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement

Terminal and Construction The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.

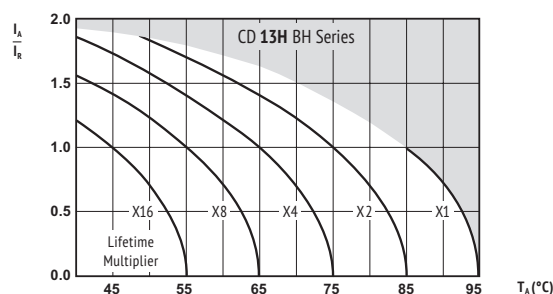
Optional Longer Lifetimes available on request (Series CD 13P HP)

SCREW

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,10	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)

I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C

Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

**SAFETY FACTOR**

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.

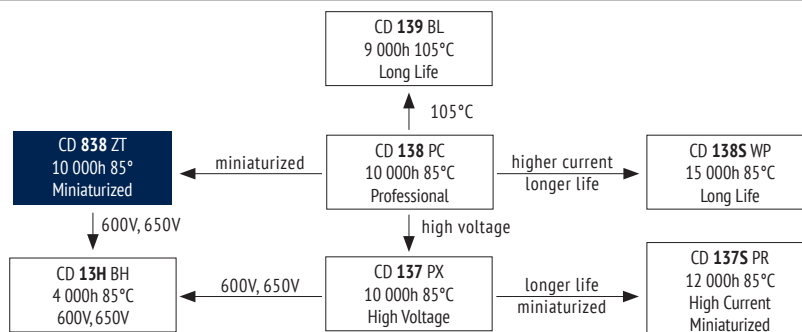




U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style Details: Page 150
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
600 (650) 2S	1 200	242	121	0,25	5,0	7,7	64 x 96	ECG2SBH122M◇D096△△△△
	1 500	224	112	0,25	5,0	9,3	64 x 115	ECG2SBH152M◇D115△△△△
	1 800	194	97	0,25	5,0	10,1	77 x 96	ECG2SBH182M◇E096△△△△
	2 200	162	81	0,25	5,0	12,0	77 x 115	ECG2SBH222M◇E115△△△△
	2 700	132	66	0,25	5,0	14,0	77 x 130	ECG2SBH272M◇E130△△△△
	3 300	88	44	0,25	5,0	16,4	77 x 155	ECG2SBH332M◇E155△△△△
		88	44	0,25	5,0	16,4	90 x 131	ECG2SBH332M◇F131△△△△
	3 900	74	37	0,25	5,0	17,8	90 x 131	ECG2SBH392M◇F131△△△△
	4 700	62	31	0,25	5,0	21,0	90 x 157	ECG2SBH472M◇F157△△△△
	5 600	56	28	0,25	5,0	24,5	90 x 196	ECG2SBH562M◇F196△△△△
650 (700) S6	1 000	300	150	0,25	5,0	6,0	64 x 130	ECGS6BH102M◇D130△△△△
	1 200	266	133	0,25	5,0	6,7	77 x 115	ECGS6BH122M◇E115△△△△
	1 500	212	106	0,25	5,0	8,1	77 x 130	ECGS6BH152M◇E130△△△△
	1 800	176	88	0,25	5,0	9,8	77 x 155	ECGS6BH182M◇E155△△△△
	2 200	144	72	0,25	5,0	10,7	90 x 131	ECGS6BH222M◇F131△△△△
	2 700	128	64	0,25	5,0	12,8	90 x 157	ECGS6BH272M◇F157△△△△
	3 300	106	53	0,25	5,0	14,7	90 x 171	ECGS6BH332M◇F171△△△△
	3 900	94	47	0,30	5,0	17,9	90 x 196	ECGS6BH392M◇F196△△△△
	4 700	78	39	0,30	5,0	21,6	90 x 196	ECGS6BH472M◇F196△△△△
	5 600	70	35	0,30	5,0	24,9	101 x 220	ECGS6BH562M◇G220△△△△

10 000h at 85°C

- Long Life
- High Reliability
- High Currents for High Professional Applications and High Power Inverter
- Miniaturized



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +85
Voltage Range (V)	350 ~ 450
Capacitance Range (μF)	470 ~ 15 000
Capacitance Tolerance (20°C, 120Hz)	± 20%



The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.

Leakage Current	After 5 minutes at 20°C application of rated voltage, leakage current is not more than specified in table.
-----------------	--

Stability at Low Temperature (Capacitance Ratio at 120Hz)	$C_{-25^{\circ}\text{C}} / C_{+20^{\circ}\text{C}} \geq 0,7$
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Fast Charge-Discharge	⚠ Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray
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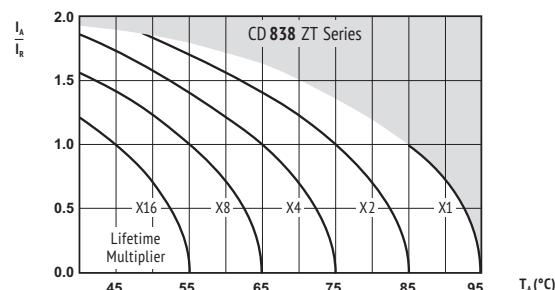
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	10 000h	> 100 000h	5 000h	5 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value	
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value	
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1,4 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C IEC 60384	$U_R = 0$ $I_R = 0$ 85°C	After test: U_R to be applied for 30 min > 24h before measurement
Terminal and Construction	The terminal version has an impact on the current capability and mechanical behavior (vibration). For high current applications the terminals C,D and E are preferred, see page 151.					
Optional	Self-extinguishing Electrolyte on request					

MULTIPLIER FOR RIPPLE CURRENT (FREQUENCY COEFFICIENT)

Frequency	50Hz	120Hz	300Hz	1kHz	≥ 10 kHz
Coefficient	0,80	1,00	1,10	1,30	1,40

Multipliers for typical operating conditions.

MULTIPLIER FOR LIFETIME (LIFETIME DIAGRAM)



I_A = actual ripple current at 120Hz,
 I_R = rated ripple current at 120Hz, 85°C
 Multiplier of Useful Life as a function of ambient temperature & ripple current load

ENVIRONMENTAL

The products are RoHS, WEEE and REACH compliant. The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com



SAFETY FACTOR

This diagram includes a safety margin. In many cases the allowed current capability/lifetime may be increased. For details and approvals please contact the Jianghai Europe sales office.



U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	Details: Page 150

350 (400) 2V	1 000	199	120	0,15	3,5	5,6	51 x 80	ECG2VZT102M◇C080△△△△
	1 500	133	55	0,15	5,0	8,5	64 x 105	ECG2VZT152M◇D105△△△△
	2 200	91	30	0,15	5,0	9,1	51 x 96	ECG2VZT222M◇C096△△△△
		91	30	0,15	5,0	9,4	64 x 105	ECG2VZT222M◇D105△△△△
	3 300	61	23	0,15	5,0	13,0	64 x 130	ECG2VZT332M◇D130△△△△
		61	23	0,15	5,0	11,0	77 x 105	ECG2VZT332M◇E105△△△△
	4 700	43	16	0,15	5,0	14,0	77 x 105	ECG2VZT472M◇E105△△△△
		43	16	0,15	5,0	18,0	77 x 143	ECG2VZT472M◇E143△△△△
	6 800	30	13	0,15	5,0	20,0	77 x 143	ECG2VZT682M◇E143△△△△
		20	10	0,15	5,0	21,4	77 x 143	ECG2VZT103M◇E143△△△△
	10 000	20	10	0,15	5,0	27,0	77 x 220	ECG2VZT103M◇E220△△△△
		20	9	0,15	5,0	20,5	90 x 105	ECG2VZT103M◇F105△△△△
	15 000	14	10	0,15	5,0	24,9	77 x 145	ECG2VZT153M◇E145△△△△
		14	6	0,15	5,0	35,0	90 x 220	ECG2VZT153M◇F220△△△△
	18 000	12	6	0,15	5,0	28,7	77 x 220	ECG2VZT183M◇E222△△△△

400 (450) 2G	1 000	199	82	0,15	4,0	5,0	51 x 80	ECG2GZT102M◇C080△△△△
	1 500	133	50	0,15	5,0	6,7	51 x 80	ECG2GZT152M◇C080△△△△
	2 200	91	28	0,15	5,0	8,0	51 x 105	ECG2GZT222M◇C105△△△△
		91	28	0,15	5,0	9,2	64 x 96	ECG2GZT222M◇D096△△△△
		91	28	0,15	5,0	9,5	64 x 105	ECG2GZT222M◇D105△△△△
		91	28	0,15	5,0	10,0	77 x 105	ECG2GZT222M◇E105△△△△
	3 300	61	21	0,15	5,0	12,2	64 x 105	ECG2GZT332M◇D105△△△△
		61	21	0,15	5,0	14,5	64 x 115	ECG2GZT332M◇D115△△△△
		61	21	0,15	5,0	11,8	77 x 100	ECG2GZT332M◇E100△△△△
		61	21	0,15	5,0	13,5	77 x 105	ECG2GZT332M◇E105△△△△
		61	21	0,15	5,0	15,0	77 x 143	ECG2GZT332M◇E143△△△△
		52	19	0,15	5,0	20,7	77 x 121	ECG2GZT392M◇E121△△△△
	4 700	43	15	0,15	5,0	14,5	77 x 105	ECG2GZT472M◇E105△△△△
		43	15	0,15	5,0	18,4	77 x 143	ECG2GZT472M◇E143△△△△
	5 600	36	14	0,15	5,0	21,0	77 x 116	ECG2GZT562M◇E116△△△△
		36	18	0,15	5,0	19,0	90 x 105	ECG2GZT562M◇F105△△△△
	6 800	30	13	0,15	5,0	19,4	77 x 143	ECG2GZT682M◇E143△△△△
		30	13	0,15	5,0	29,0	90 x 145	ECG2GZT682M◇F145△△△△
	8 200	25	12	0,15	5,0	20,0	77 x 143	ECG2GZT822M◇E143△△△△
		25	12	0,15	5,0	25,0	77 x 170	ECG2GZT822M◇E170△△△△
	10 000	20	10	0,15	5,0	17,8	77 x 143	ECG2GZT103M◇E143△△△△
		20	10	0,15	5,0	26,0	77 x 195	ECG2GZT103M◇E195△△△△
		20	10	0,15	5,0	26,7	77 x 220	ECG2GZT103M◇E220△△△△
		20	10	0,15	5,0	35,7	90 x 220	ECG2GZT103M◇F220△△△△
	12 000	17	8	0,15	5,0	31,0	77 x 220	ECG2GZT123M◇E220△△△△
	15 000	14	6	0,15	5,0	36,0	90 x 220	ECG2GZT153M◇F220△△△△
	18 000	9	5	0,15	5,0	38,5	90 x 196	ECG2GZT183M◇F196△△△△

420 (470) 2X	3 300	61	21	0,15	5,0	12,4	64 x 105	ECG2XZT332M◇D105△△△△
		61	21	0,15	5,0	14,5	64 x 115	ECG2XZT332M◇D115△△△△
		61	21	0,15	5,0	13,5	77 x 105	ECG2XZT332M◇E105△△△△
	3 900	52	19	0,15	5,0	20,7	77 x 121	ECG2XZT392M◇E121△△△△
	4 700	43	16	0,15	5,0	18,0	77 x 105	ECG2XZT472M◇E105△△△△
		43	16	0,15	5,0	18,0	77 x 143	ECG2XZT472M◇E143△△△△
	10 000	20	10	0,15	5,0	28,0	77 x 220	ECG2XZT103M◇E220△△△△

U_{RDC} (Surge Voltage) Code	C_R Rated Capacitance	ESR_{max} Equivalent Series Resistance 20°C 120Hz	ESR_{typ} Equivalent Series Resistance 20°C 120Hz	$\tan\delta$ Dissipation Factor 20°C 120Hz	I_{leak} Leakage Current	I_{RAC} Rated Ripple Current 85°C 120Hz	Size $\varnothing D \times L$	ORDER CODE ◇ = mounting style (stud) △△△△ = terminal style
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	Details: Page 150

450 (500) 2W	470	424	250	0,15	2,1	4,5	51 x 75	ECG2WZT471M◇C075△△△△
	680	293	185	0,15	3,1	4,9	51 x 80	ECG2WZT681M◇C080△△△△
	1 000	199	93	0,15	4,5	6,4	51 x 105	ECG2WZT102M◇C105△△△△
	1 500	133	56	0,15	5,0	7,1	51 x 105	ECG2WZT152M◇C105△△△△
		133	56	0,15	5,0	10,0	51 x 115	ECG2WZT152M◇C115△△△△
	1 800	111	45	0,15	5,0	8,5	64 x 105	ECG2WZT182M◇D105△△△△
	2 200	91	35	0,15	5,0	9,0	64 x 96	ECG2WZT222M◇D096△△△△
		91	35	0,15	5,0	12,0	64 x 130	ECG2WZT222M◇D130△△△△
	2 700	91	35	0,15	5,0	13,1	77 x 143	ECG2WZT222M◇E143△△△△
		74	30	0,15	5,0	12,7	64 x 130	ECG2WZT272M◇D130△△△△
	3 300	61	30	0,15	5,0	14,0	64 x 130	ECG2WZT332M◇D130△△△△
		61	30	0,15	5,0	13,2	77 x 105	ECG2WZT332M◇E105△△△△
		61	30	0,15	5,0	13,8	77 x 115	ECG2WZT332M◇E115△△△△
		61	30	0,15	5,0	16,1	77 x 143	ECG2WZT332M◇E143△△△△
	3 900	52	20	0,15	5,0	13,3	64 x 140	ECG2WZT392M◇D140△△△△
	4 700	43	16	0,15	5,0	14,0	64 x 143	ECG2WZT472M◇D143△△△△
		43	16	0,15	5,0	17,0	64 x 195	ECG2WZT472M◇D195△△△△
		43	16	0,15	5,0	15,0	77 x 115	ECG2WZT472M◇E115△△△△
		43	16	0,15	5,0	21,0	77 x 143	ECG2WZT472M◇E143△△△△
	5 600	36	13	0,15	5,0	16,0	77 x 130	ECG2WZT562M◇E130△△△△
		36	13	0,15	5,0	17,5	77 x 143	ECG2WZT562M◇E143△△△△
	6 800	30	11	0,15	5,0	18,0	77 x 143	ECG2WZT682M◇E143△△△△
		30	11	0,15	5,0	19,1	77 x 155	ECG2WZT682M◇E155△△△△
		30	11	0,15	5,0	21,0	77 x 220	ECG2WZT682M◇E220△△△△
		30	11	0,15	5,0	20,0	90 x 145	ECG2WZT682M◇F145△△△△
	8 200	25	12	0,15	5,0	28,2	77 x 170	ECG2WZT822M◇E170△△△△
		25	12	0,15	5,0	28,5	90 x 157	ECG2WZT822M◇F157△△△△
	10 000	20	9	0,15	5,0	26,0	77 x 220	ECG2WZT103M◇E220△△△△
		20	9	0,15	5,0	28,0	90 x 171	ECG2WZT103M◇F171△△△△
	12 000	17	8	0,15	5,0	33,0	90 x 170	ECG2WZT123M◇F170△△△△
		17	8	0,15	5,0	34,0	90 x 220	ECG2WZT123M◇F220△△△△
	15 000	14	7	0,15	5,0	34,0	90 x 220	ECG2WZT153M◇F220△△△△
		14	6	0,15	5,0	36,0	90 x 236	ECG2WZT153M◇F236△△△△
	18 000	14	9	0,15	5,0	36,5	90 x 180	ECG2WZT183M◇F180△△△△
	22 000	9,1	6	0,15	5,0	21,0	90 x 236	ECG2WZT223M◇F236△△△△

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