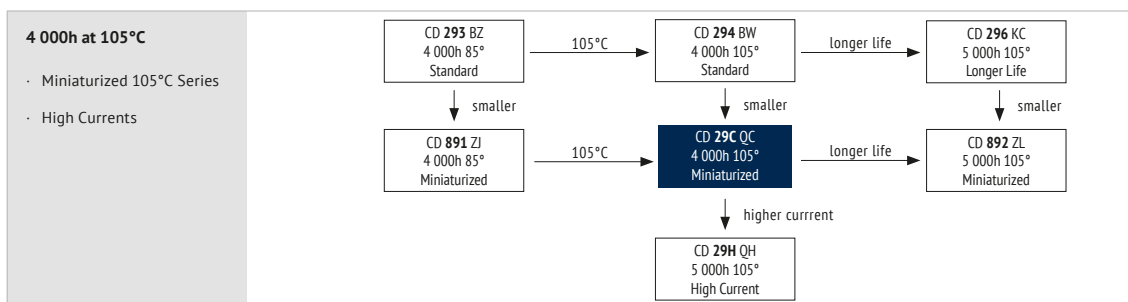


ALUMINUM ELECTROLYTIC CAPACITORS · SNAP-IN TYPE



CD 29C QC SERIES

CD 29C QC SERIES

ALUMINUM ELECTROLYTIC CAPACITORS · SNAP-IN TYPE



ITEM CHARACTERISTICS

Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105	<div>The usage at lower temperatures than indicated may be possible. Please contact the Jianghai Europe sales office for approval.</div>			
Voltage Range (V)	200 ~ 250	400 ~ 450				
Capacitance Range (µF)	100 ~ 2 700					
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	250	400	450
	Impedance Ratio	$Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	4		8	
		$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	12		-	
Fast Charge-Discharge	<div>Please contact Jianghai for an appropriate choice of the capacitor or possible technical adaptations, esp. for applications like: Welding, Photoflash, Servo motors, X-Ray</div>					

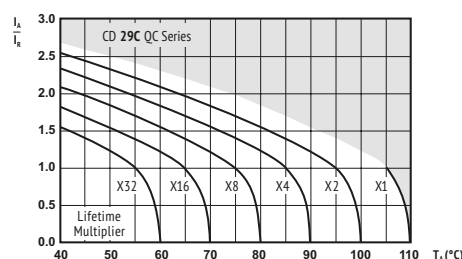
ITEM	USEFUL LIFE		LOAD LIFE	ENDURANCE TEST	SHELF LIFE	
Lifetime	4 000h	> 180 000h	2 000h	3 000h	1 000h	
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value	
Capacitance Change	Within ± 30% of initial value		Within ± 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

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.

JIANGHAI EUROPE

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ENGINEERED SOLUTIONS

Customer specific adaptations needed? Please contact Jianghai Europe GmbH:

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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 105°C 120Hz	Size øD x L	ORDER CODE ◇◇ = pin style & length △△ = pin number Details: Page 4
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
200 (250) 2D	330	603	422	0,15	0,7	1,01	22 x 25	ECS2DQC331M◇◇△△2225
	390	511	357	0,15	0,8	1,10	22 x 30	ECS2DQC391M◇◇△△2230
	470	424	296	0,15	0,9	1,20	22 x 30	ECS2DQC471M◇◇△△2230
		424	296	0,15	0,9	1,20	25 x 25	ECS2DQC471M◇◇△△2525
	560	356	248	0,15	1,1	1,48	22 x 35	ECS2DQC561M◇◇△△2235
		355	248	0,15	1,1	1,48	25 x 30	ECS2DQC561M◇◇△△2530
	680	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
		293	204	0,15	1,4	1,60	30 x 25	ECS2DQC681M◇◇△△3025
	820	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
		243	169	0,15	1,5	1,75	30 x 30	ECS2DQC821M◇◇△△3030
	1000	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
		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
	1200	166	116	0,15	1,5	2,30	25 x 45	ECS2DQC122M◇◇△△2545
		166	116	0,15	1,5	2,30	30 x 35	ECS2DQC122M◇◇△△3035
	1500	133	92	0,15	1,5	2,57	30 x 40	ECS2DQC152M◇◇△△3040
		133	92	0,15	1,5	2,57	35 x 30	ECS2DQC152M◇◇△△3530
	1800	111	77	0,15	1,5	2,68	30 x 50	ECS2DQC182M◇◇△△3050
		111	77	0,15	1,5	2,68	35 x 35	ECS2DQC182M◇◇△△3535
	2200	91	63	0,15	1,5	2,92	35 x 45	ECS2DQC222M◇◇△△3545
	2700	74	51	0,15	1,5	3,30	35 x 50	ECS2DQC272M◇◇△△3550

250 (300) 2E	220	905	633	0,15	0,6	0,95	22 x 25	ECS2EQC221M◇◇△△2225
	270	737	516	0,15	0,7	1,12	22 x 25	ECS2EQC271M◇◇△△2225
	330	603	422	0,15	0,8	1,21	22 x 30	ECS2EQC331M◇◇△△2230
		603	422	0,15	0,8	1,21	25 x 25	ECS2EQC331M◇◇△△2525
	390	511	357	0,15	1,0	1,38	22 x 35	ECS2EQC391M◇◇△△2235
		511	357	0,15	1,0	1,38	25 x 25	ECS2EQC391M◇◇△△2525
	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
	560	356	248	0,15	1,4	1,74	22 x 45	ECS2EQC561M◇◇△△2245
		356	248	0,15	1,4	1,74	25 x 35	ECS2EQC561M◇◇△△2535
	680	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
	820	243	169	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
	1000	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
	1200	166	139	0,15	1,5	2,55	30 x 40	ECS2EQC122M◇◇△△3040
	1500	133	92	0,15	1,5	2,73	30 x 50	ECS2EQC152M◇◇△△3050
		133	92	0,15	1,5	2,73	35 x 40	ECS2EQC152M◇◇△△3540
	1800	111	77	0,15	1,5	2,82	35 x 45	ECS2EQC182M◇◇△△3545
	2200	91	63	0,15	1,5	2,95	35 x 50	ECS2EQC222M◇◇△△3550

400 (450) 2G	120	1658	1161	0,15	0,5	0,65	22 x 25	ECS2GQC121M◇◇△△2225
	150	1327	930	0,15	0,6	0,73	22 x 30	ECS2GQC151M◇◇△△2230
	180	1106	774	0,15	0,7	0,73	25 x 25	ECS2GQC181M◇◇△△2525
	220	905	633	0,15	0,9	0,82	22 x 35	ECS2GQC221M◇◇△△2235
		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
	270	737	516	0,15	1,1	1,05	25 x 35	ECS2GQC271M◇◇△△2535
		737	516	0,15	1,1	1,02	30 x 25	ECS2GQC271M◇◇△△3025
	330	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
		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
	390	511	357	0,15	1,5	1,45	25 x 45	ECS2GQC391M◇◇△△2545
		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
	470	424	296	0,15	1,5	1,54	25 x 50	ECS2GQC471M◇◇△△2550
		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

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 4
(V)	(μF)	(mΩ)	(mΩ)		(mA)	(Arms)	(mm)	
400 (450) 2G	560	356	248	0,15	1,5	1,70	30 x 45	ECS2GQC561M◇◇△△3045
		356	248	0,15	1,5	1,67	35 x 35	ECS2GQC561M◇◇△△3535
	680	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
	820	243	169	0,15	1,5	2,08	35 x 45	ECS2GQC821M◇◇△△3545
		243	169	0,15	1,5	2,14	35 x 50	ECS2GQC821M◇◇△△3550

450 (500) 2W	100	2653	1393	0,20	0,5	0,67	22 x 25	ECS2WQC101M◇◇△△2225
	120	2211	1161	0,20	0,5	0,71	22 x 30	ECS2WQC121M◇◇△△2230
		2211	1161	0,20	0,5	0,72	25 x 25	ECS2WQC121M◇◇△△2525
		1769	928	0,20	0,7	0,75	22 x 30	ECS2WQC151M◇◇△△2230
	150	1769	928	0,20	0,7	0,77	22 x 45	ECS2WQC151M◇◇△△2245
	180	1474	774	0,20	0,8	0,79	22 x 40	ECS2WQC181M◇◇△△2240
		1474	774	0,20	0,8	0,79	25 x 30	ECS2WQC181M◇◇△△2530
	220	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
	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
	470	565	296	0,20	1,5	1,52	30 x 45	ECS2WQC471M◇◇△△3045
		565	296	0,20	1,5	1,61	35 x 40	ECS2WQC471M◇◇△△3540
	560	474	248	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

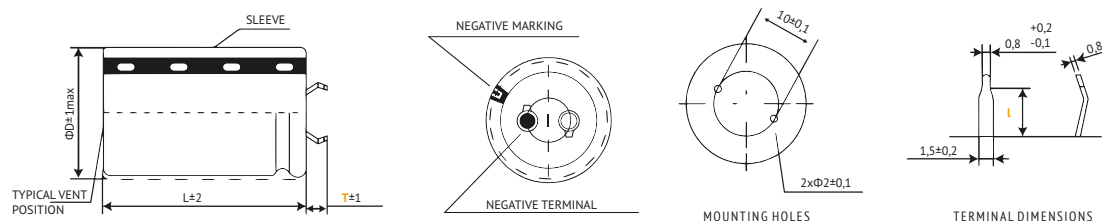
ORDER CODE SNAP-IN TYPE

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 = Electrolytric 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 295S	BS	2,2	2R2	+20/-0%	R	on request: alternative pin types		5 Pin	P5	45x100	45100				
			25V	1E	CD 296	KC	100	101	±15%	L			6 Pin	P6	50x105	50105				
			35V	1V	CD 296L	FL	1 000	102	+20/-10%	V	■ = preferred									
			40V	1G	CD 297	BB	10 000	103												
			50V	1H	CD 299	PG														
			63V	1J	CD 29C	QC														
			80V	1K	CD 29D	HR														
			100V	2A	CD 29G	BA														
			125V	2B	CD 29H	QH														
			160V	2C	CD 29HD	QF														
			180V	2K	CD 29L	QL														
			200V	2D	CD 29U	CU														
			250V	2E	CD 29UH	UT														
			385V	2J	CD 840	ZQ														
			400V	2G	CD 891	ZI														
			415V	2P	CD 892	ZL														
			420V	2X	CD 895	ZK														
			450V	2W																
			500V	2H																
			550V	2Y																
			575V	2Z																
			600V	2S																
			630V	J2																

CD 29C QC SERIES

ALUMINUM ELECTROLYTIC CAPACITORS · SNAP-IN TYPE

2 PIN TYPE: T6P2 / T4P2 STANDARD

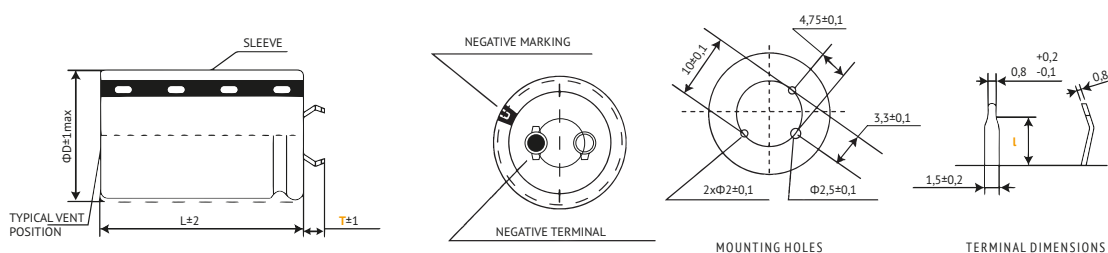


Standard Version: Self-Lock Terminal. Other terminal types and styles on request.
For diameter $\phi D \geq 45\text{mm}$ the safety vent is typically placed at the side of the housing.

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

in mm

3 PIN TYPE: T4P3

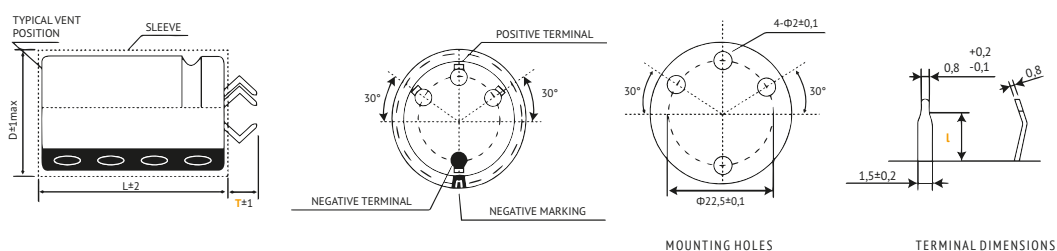


For diameter $\phi D \geq 45\text{mm}$ the safety vent is typically placed at the side of the housing.

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

in mm

4 PIN TYPE: T6P4/T4P4 STANDARD



Standard Version: Non-Lock-Terminal. Other terminal types and styles on request.
For $\phi D \geq 30\text{mm}$ only.
For diameter $\phi D \geq 45\text{mm}$ 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

in mm

JIANGHAI EUROPE

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ENGINEERED SOLUTIONS

Customer specific adaptations needed? Please contact Jianghai Europe GmbH:
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