

ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

CZ Chip Type, High Reliability.
Low temperature ESR specification.
series



For SMD



Long Life



Anti-Solvent
Feature

Upgrade

- Chip type, high temperature range, for +125°C use.
- Added ESR specification after the test at -40°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2002/95/EC).

CZ Low ESR Long Life CJ

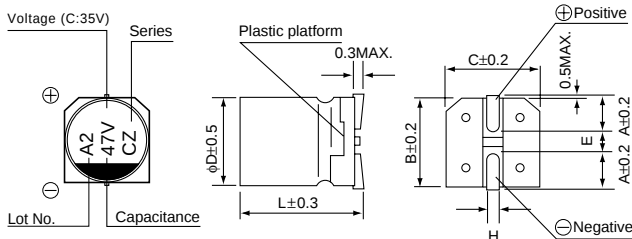


Specifications

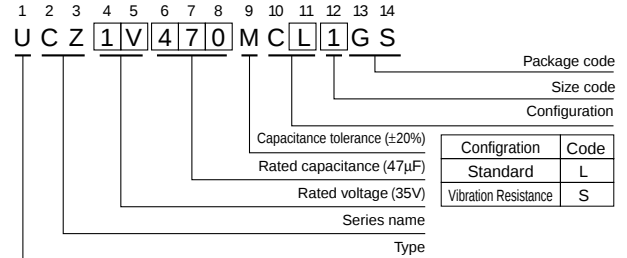
Item	Performance Characteristics									
Category Temperature Range	-40 to +125°C									
Rated Voltage Range	10 to 100V									
Rated Capacitance Range	10 to 470 μ F									
Capacitance Tolerance	$\pm 20\%$ at 120Hz, 20°C									
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3(μ A), whichever is greater.									
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C									
	Rated voltage (V)	10	16	25	35	50	63	80	100	
Stability at Low Temperature	Measurement frequency : 120Hz									
	Rated voltage (V)	10	16	25	35	50	63	80	100	
Endurance	Impedance ratio ZT / Z20 (MAX.)	Z-40°C / Z+20°C	12	8	6	4	4	3	3	3
	After 3000 hours (1000hours for $\phi 6.3 \times 5.8$ L, 2000hours for $\phi D=6.3 \times 7.7$ L) application of rated voltage at 125°C, capacitors meet the characteristics requirements listed below.									
Shelf Life	Capacitance Change	Within $\pm 30\%$ of the initial capacitance value								
	tan δ	300% or less than the initial specified value								
Resistance to soldering heat	Leakage current	Less than or equal to the initial specified value								
	After storing the capacitors under no load at 125°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.									
Marking	Capacitance Change	Within $\pm 10\%$ of the initial capacitance value								
	tan δ	Less than or equal to the initial specified value								
	Leakage current	Less than or equal to the initial specified value								
	The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.									
	Capacitance Change	Within $\pm 10\%$ of the initial capacitance value								
	tan δ	Less than or equal to the initial specified value								
	Leakage current	Less than or equal to the initial specified value								
	Black print on the case top.									

Chip Type

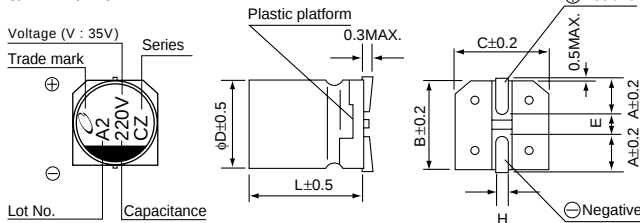
($\phi 6.3$) 【Standard】 ※ please contact us for vibration resistance.



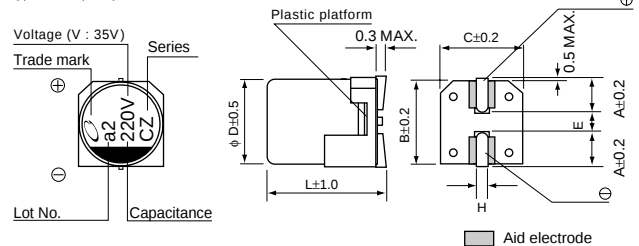
Type numbering system (Example : 35V 47 μ F)



($\phi 8$ to $\phi 10$) 【Standard】



($\phi 8$ to $\phi 10$) 【Vibration Resistance】



Standard	(mm)				Vibration Resistance (mm)	(mm)			
$\phi D \times L$	6.3 × 5.8	6.3 × 7.7	8 × 10	10 × 10	$\phi D \times L$	8 × 10	10 × 10		
A	2.4	2.4	2.9	3.2	A	2.9	3.2		
B	6.6	6.6	8.3	10.3	B	8.3	10.3		
C	6.6	6.6	8.3	10.3	C	8.3	10.3		
E	2.2	2.2	3.1	4.5	E	3.1	4.5		
L	5.8	7.7	10	10	L	10	10		
H	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1	H	1.1 to 1.5	1.1 to 1.5		

Rated Voltage									
V	10	16	25	35	50	63	80	100	
Code	A	C	E	V	H	J	K	2A	

■Dimensions

V Code		10	16	25	35	50
Cap. (μF)		1A	1C	1E	1V	1H
10	100				6.3×5.8 1.60 24 — 69	6.3×5.8 2.80 42 — 51
22	220				6.3×5.8 1.60 24 — 69	6.3×7.7 0.50 5 40 197
33	330			6.3×5.8 1.60 24 — 69	6.3×7.7 0.45 5 40 197	● 6.3×7.7 0.50 5 40 197 8×10 0.25 3.5 6 270
47	470		6.3×5.8 1.60 24 — 69	Recommend 35V ➡	● 6.3×7.7 0.45 5 40 197 8×10 0.20 3 4.5 270	● 6.3×7.7 0.50 5 40 197 8×10 0.25 3.5 6 270
68	680				8×10 0.20 3 4.5 270	
100	101	Recommend 16V ➡	● 6.3×7.7 0.45 5 40 197 8×10 0.20 3 4.5 270	● 6.3×7.7 0.45 5 40 197 8×10 0.20 3 4.5 270	8×10 0.20 3 4.5 270	10×10 0.20 2.5 4.5 500
220	221	8×10 0.20 3 4.5 270	10×10 0.15 2 3.5 500	● 8×10 0.20 3 4.5 270 10×10 0.15 2 3.5 500	10×10 0.15 2 3.5 500	
330	331	● 8×10 0.20 3 4.5 270 10×10 0.15 2 3.5 500	10×10 0.15 2 3.5 500	10×10 0.15 2 3.5 500		Case size φD × L (mm) Initial 20°C Initial -40°C after endurance test 2000 hours -40°C Rated ripple ESR
470	471	10×10 0.15 2 3.5 500	10×10 0.15 2 3.5 500			

Cap. (μF)	V	Code	63	80	100
			1J	1K	2A
10	100		6.3×7.7 2.00 100 — 60	8×10 0.75 50 — 70	8×10 0.75 50 — 70
22	220		8×10 0.70 35 — 100	● 8×10 0.75 50 — 70 10×10 0.55 35 — 115	● 8×10 0.75 50 — 70 10×10 0.55 35 — 115
33	330		● 8×10 0.70 35 — 100 10×10 0.50 25 — 170	● 8×10 0.75 50 — 70 10×10 0.55 35 — 115	10×10 0.55 35 — 115
47	470		● 8×10 0.70 35 — 160 10×10 0.50 25 — 170	10×10 0.55 35 — 115	Case size φD × L (mm) Initial 20°C Initial -40°C after endurance test 2000 hours -40°C Rated ripple ESR

Max. ESR (Ω) at 20°C / -40°C 100kHz, Rated ripple Current (mA rms) at 125°C 100kHz
 ● : In this case, ⑥ will be put at 12th digit of type numbering system.

●Frequency coefficient of rated ripple current

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
Coefficient	0.35	0.50	0.64	0.83	1.00

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.