

ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

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



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).

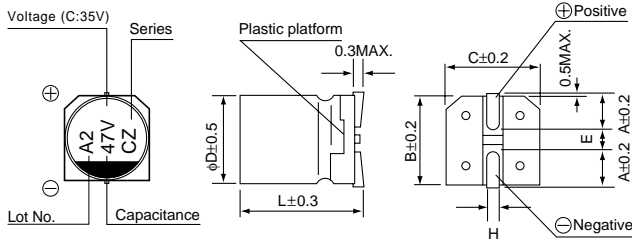


Specifications

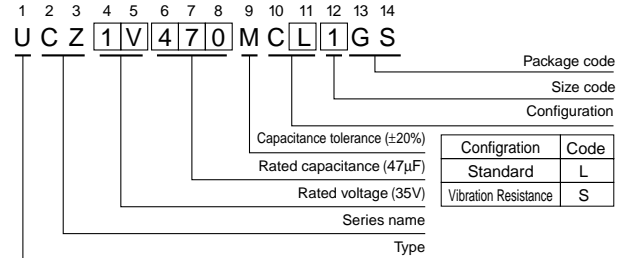
Item	Performance Characteristics									
Category Temperature Range	-40 to +125°C									
Rated Voltage Range	10 to 100V									
Rated Capacitance Range	10 to 470 μF									
Capacitance Tolerance	±20% at 120Hz, 20°C									
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3(μA), 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
	Capacitance Change	Within ±30% of the initial capacitance value								
Shelf Life	tan δ	300% or less than the initial specified value								
	Leakage current	Less than or equal to the initial specified value								
Resistance to soldering heat	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.									
	Capacitance Change	Within ±10% of the initial capacitance value								
Marking	tan δ	Less than or equal to the initial specified value								
	Leakage current	Less than or equal to the initial specified value								
Marking	Black print on the case top.									

Chip Type

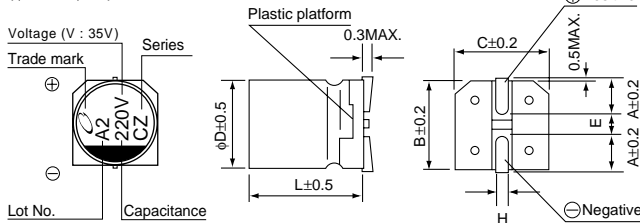
(φ 6.3) 【Standard】 ※ please contact us for vibration resistance.



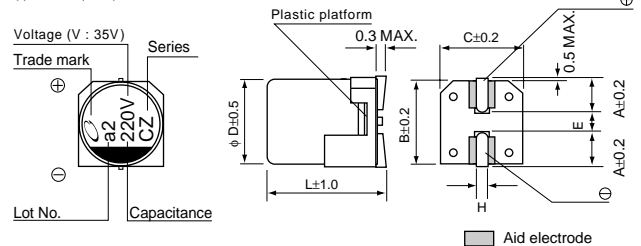
Type numbering system (Example : 35V 47μF)



(φ 8 to φ10) 【Standard】



(φ 8 to φ10) 【Vibration Resistance】



Standard	(mm)				Vibration Resistance (mm)			
	φD×L	6.3×5.8	6.3×7.7	8×10	10×10	φD×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	Code								
	V	10	16	25	35	50	63	80	100
Code	A	C	E	V	H	J	K	2A	

■Dimensions

V		10	16	25	35	50
Cap. (μF)	Code	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			

V		63	80	100
Cap. (μF)	Code	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 Arms) at 125°C 100kHz
 ● : In this case, ● 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.