ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

ZP series

4.5mmL Chip Type, Bi-Polarized

For SMD | Smaller | Bi-polarized | Anti-Solvent Feature

- Chip type with 4.5mm height.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU).

WP
Smaller
ZP
Smaller
ZE

■Specifications

Item	Performance Characteristics
Category Temperature Range	−40 to +85°C
Rated Voltage Range	6.3 to 50V
Rated Capacitance Range	0.1 to 47µF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.05 CV or 10 (µA) , whichever is greater.
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C

Rated voltage (V)	6.3	10	16	25	35	50
tan δ (MAX.)	0.30	0.24	0.20	0.18	0.16	0.16

Stability at Low Temperature — Measurement frequency : 120Hz

Rated voltage (V)		6.3	10	16	25	35	50
Impedance ratio ZT / Z20 (MAX.)	Z−25°C / Z+20°C	4	3	2	2	2	2
	Z−40°C / Z+20°C	8	8	4	4	3	3

Endurance

The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C with the polarity inverted every 250 hours.

Capacitance change	Within ±20% of the initial capacitance value
tan δ	300% or less than the initial specified value
Leakage current	Less than or equal to the initial specified value

Shelf Life

After storing the capacitors under no load at 85°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.

Resistance to soldering heat

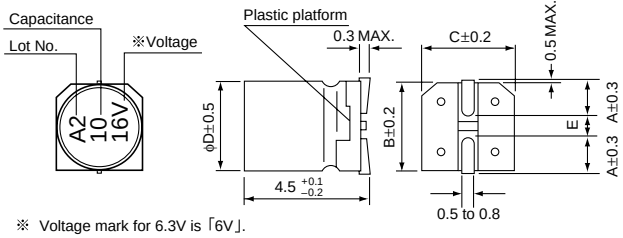
The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.

Capacitance change	Within ±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

Marking

Black print on the case top.

■Chip Type

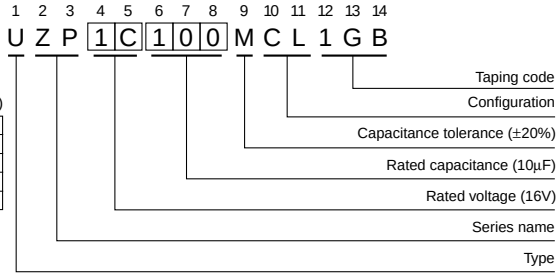


※ Voltage mark for 6.3V is「6V」.

(mm)

φD	4	5	6.3
A	1.8	2.1	2.4
B	4.3	5.3	6.6
C	4.3	5.3	6.6
E	1.0	1.3	2.2

Type numbering system (Example : 16V 10µF)



■Dimensions

Cap. (µF) \ V	Code	6.3		10		16		25		35		50	
		0J		1A		1C		1E		1V		1H	
0.1	0R1											4	1.0
0.22	R22											4	2.0
0.33	R33											4	2.8
0.47	R47											4	4.0
1	010											4	8.4
2.2	2R2									4	8.4	5	13
3.3	3R3							5	12	5	16	5	17
4.7	4R7					4	12	5	16	5	18	6.3	20
10	100			4	17	5	23	6.3	27	6.3	29		
22	220	5	28	6.3	33	6.3	37						
33	330	6.3	37	6.3	41	6.3	49						
47	470	6.3	45									Case size φD (mm)	Rated ripple

Rated ripple current (mArms) at 85°C 120Hz

●Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
Coefficient	0.70	1.00	1.17	1.36	1.50

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please select WP(p.120), UN(p.166) series if high C/V products are reqired.
- Please refer to page 3 for the minimum order quantity.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Nichicon:

UZP1E3R3MCL1GB UZG0J470MCL1GB UZG1A220MCL1GB UZG1A330MCL1GB UZG1A470MCL1GB UZG1C100MCL1GB UZG1C220MCL1GB UZG1C330MCL1GB UZG1C470MCL1GB UZG1E100MCL1GB UZG1E220MCL1GB UZG1E330MCL1GB UZG1E4R7MCL1GB UZG1H010MCL1GB UZG1H0R1MCL1GB UZG1H100MCL1GB UZG1H2R2MCL1GB UZG1H3R3MCL1GB UZG1H4R7MCL1GB UZG1HR22MCL1GB UZG1HR33MCL1GB UZG1HR47MCL1GB UZG1V100MCL1GB UZG1V220MCL1GB UZG1V4R7MCL1GB UZP1C100MCL1GB UZP1V100MCL1GB