

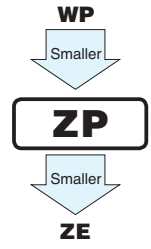
ALUMINUM ELECTROLYTIC CAPACITORS

ZP series 4.5mmL Chip Type, Bi-Polarized



- 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).

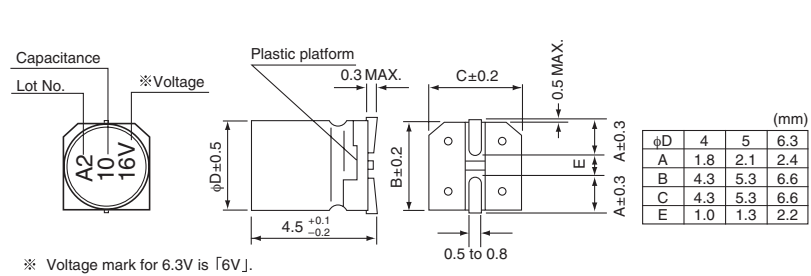
Products which are scheduled to be discontinued. Not recommended for new designs



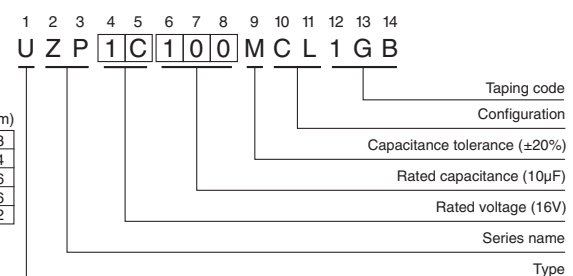
Specifications

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
Stability at Low Temperature	Measurement frequency : 120Hz						
	Impedance ratio	Z-25°C / Z+20°C	4	3	2	2	2
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					
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.						
	Capacitance change	Within ±10% of the initial capacitance value					
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.						
	tan δ	Less than or equal to the initial specified value					
Marking	Black print on the case top.						
	Leakage current	Less than or equal to the initial specified value					

Chip Type



Type numbering system (Example : 16V 10μF)



Dimensions

V		6.3		10		16		25		35		50	
Cap. (μF)	Code	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										

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.116), UN(p.162) series if high C/V products are required.
- Please refer to page 3 for the minimum order quantity.

CAT.8100D