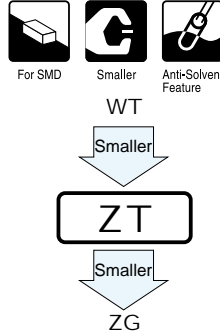


# ALUMINUM ELECTROLYTIC CAPACITORS

## ZT series 4.5mmL Chip Type, Wide Temperature Range

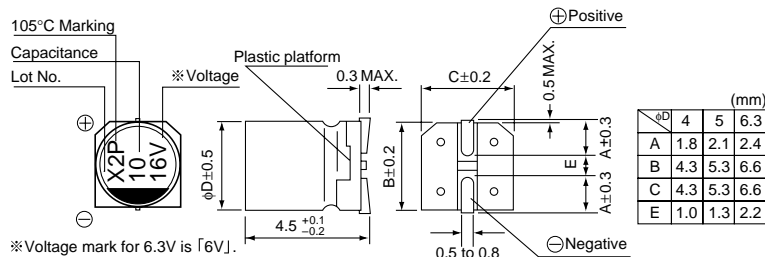


- Chip type with 4.5mm height, operating over wide temperature range of  $-40$  to  $+105^{\circ}\text{C}$ .
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2002/95/EC).

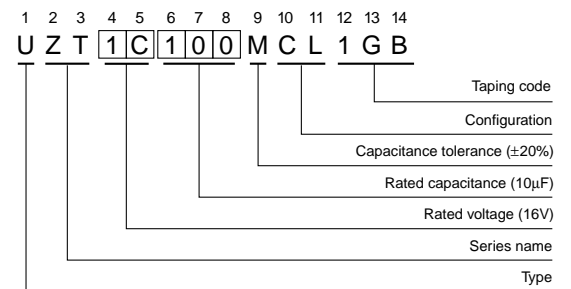
### Specifications

Item	Performance Characteristics							
Category Temperature Range	$-40$ to $+105^{\circ}\text{C}$							
Rated Voltage Range	6.3 to 50V							
Rated Capacitance Range	0.1 to $100\mu\text{F}$							
Capacitance Tolerance	$\pm 20\%$ at 120Hz, $20^{\circ}\text{C}$							
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 ( $\mu\text{A}$ ), whichever is greater.							
Tangent of loss angle (tan $\delta$ )	Measurement frequency : 120Hz, Temperature : $20^{\circ}\text{C}$							
	Rated voltage (V)	6.3	10	16	25	35	50	
Stability at Low Temperature	Measurement frequency : 120Hz							
	Impedance ratio	Z- $25^{\circ}\text{C}$ / Z+ $20^{\circ}\text{C}$	6	5	3	3	3	3
	ZT / Z20 (MAX.)	Z- $40^{\circ}\text{C}$ / Z+ $20^{\circ}\text{C}$	10	10	6	6	4	4
Endurance	The specifications listed at right shall be met when the capacitors are restored to $20^{\circ}\text{C}$ after the rated voltage is applied for 1000 hours at $105^{\circ}\text{C}$ .		Capacitance change	Within $\pm 25\%$ of the initial capacitance value (16V or less)				
			tan $\delta$	Within $\pm 20\%$ of the initial capacitance value (25V or more)				
			Leakage current	300% or less than initial specified value				
			Leakage current	Less than or equal to the initial specified value				
Shelf Life	After storing the capacitors under no load at $105^{\circ}\text{C}$ for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at $20^{\circ}\text{C}$ , 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 $250^{\circ}\text{C}$ . The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to $20^{\circ}\text{C}$ .		Capacitance change	Within $\pm 10\%$ of the initial capacitance value				
			tan $\delta$	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



### Type numbering system (Example : 16V 10 $\mu\text{F}$ )



### Dimensions

Cap. ( $\mu\text{F}$ )	Code	V		6.3		10		16		25		35		50	
		Code	0J		1A		1C		1E		1V		1H		
0.1	0R1													4	0.9
0.22	R22													4	2.2
0.33	R33													4	2.8
0.47	R47													4	3.3
1	010													4	5.4
2.2	2R2													4	9.6
3.3	3R3													4	12
4.7	4R7									4	11	4	13	5	16
10	100							4	16	5	20	5	22	6.3	26
22	220	4	19	5	24	5	26	6.3	33	6.3	42	6.3	36		
33	330	5	26	5	30	6.3	35	6.3	42						
47	470	5	32	6.3	40	6.3	44								
100	101	6.3	52												

Rated ripple current (mArms) at  $105^{\circ}\text{C}$  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 UX(p.98), UJ(p.102) series if high C/V products are required.
- Please refer to page 3 for the minimum order quantity.

CAT.8100Y