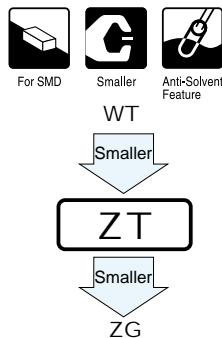


ZT series

4.5mmL Chip Type, Wide Temperature Range

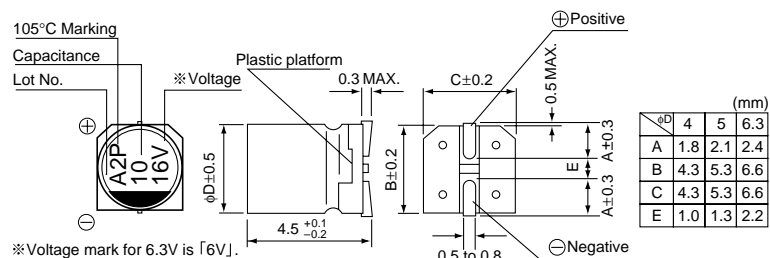
- Chip type with 4.5mm height, operating over wide temperature range of -40 to $+105^{\circ}\text{C}$.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU).



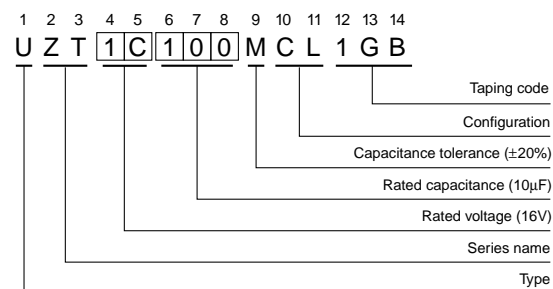
Specifications

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°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 at 20°C	
	Rated voltage (V)	6.3 10 16 25 35 50
Stability at Low Temperature	Measurement frequency : 120Hz	
	Rated voltage (V)	6.3 10 16 25 35 50
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 105°C .	
	Capacitance change	Within $\pm 25\%$ of the initial capacitance value (16V or less) Within $\pm 20\%$ of the initial capacitance value (25V or more)
Shelf Life	After storing the capacitors under no load at 105°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.	
	tan δ	300% or less than initial specified 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 .	
	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 μF)



Dimensions

V		6.3	10	16	25	35	50
Cap. (μF)	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 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					Case size ϕ D (mm) Rated ripple

Rated ripple current (mA rms) at 105°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.158), UJ(p.164) series if high C/V products are required.
- Please refer to page 3 for the minimum order quantity.