

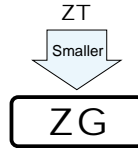
# ALUMINUM ELECTROLYTIC CAPACITORS



**ZG** 3.95mmL MAX. Chip Type,  
Wide Temperature Range  
series



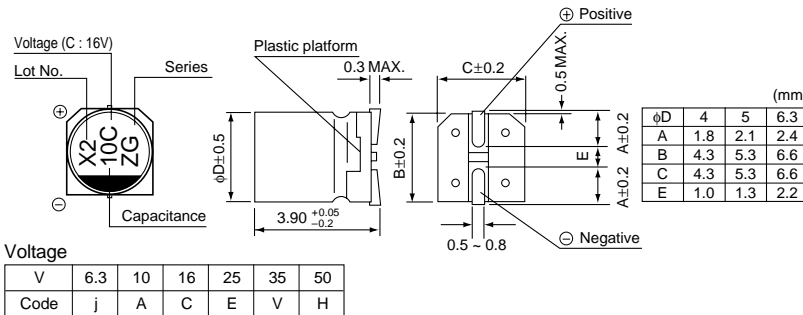
- Chip type with 3.95mmLMAX height. Operating over wide temperature range of  $-40 \sim +105^{\circ}\text{C}$ .
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine using carrier tape.
- Adapted to the RoHS directive (2002/95/EC).



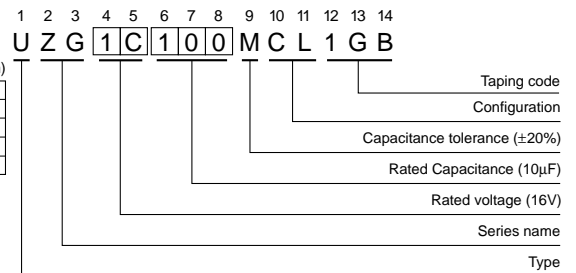
## Specifications

Item	Performance Characteristics								
Category Temperature Range	$-40 \sim +105^{\circ}\text{C}$								
Rated Voltage Range	6.3 ~ 50V								
Rated Capacitance Range	0.1 ~ 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 0.01 CV or 3 ( $\mu\text{A}$ ), whichever is greater.								
tan $\delta$	Rated voltage (V)	6.3	10	16	25	35	50	120Hz $20^{\circ}\text{C}$	
	tan $\delta$ (MAX.)	0.38	0.32	0.20	0.16	0.14	0.14		
Stability at Low Temperature	Rated voltage (V)	6.3	10	16	25	35	50	120Hz	
	Impedance ratio ZT / Z20 (MAX.)	Z- $25^{\circ}\text{C}$ / Z+ $20^{\circ}\text{C}$	6	5	3	3	3		3
		Z- $40^{\circ}\text{C}$ / Z+ $20^{\circ}\text{C}$	10	10	6	6	4		4
Endurance	After 1000 hours' application of rated voltage at $105^{\circ}\text{C}$ , capacitors meet the characteristic requirements listed at right.							Capacitance change	Within $\pm 30\%$ of initial value
								tan $\delta$	300% or less of initial specified value
								Leakage current	Initial specified value or less
Shelf Life	After storing the capacitors under no load at $105^{\circ}\text{C}$ for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at $20^{\circ}\text{C}$ , they will meet the specified value for endurance characteristics listed above.								
Resistance to soldering heat	The capacitors shall be kept on the hot plate maintained at $250^{\circ}\text{C}$ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed at right.							Capacitance change	Within $\pm 10\%$ of initial value
								tan $\delta$	Initial specified value or less
								Leakage current	Initial specified value or less
Marking	Black print on the case top.								

## Chip Type



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



## Dimensions

Cap. ( $\mu\text{F}$ )	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	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 (mArms) at  $105^{\circ}\text{C}$  120Hz

## Frequency coefficient of rated ripple current

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

- Taping specifications are given in page 24.
- Recommended land size are given in page 25.
- Please contact us for the soldering by reflow.
- Please refer to page 3 for the minimum order quantity.