

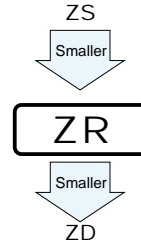
# ALUMINUM ELECTROLYTIC CAPACITORS



**ZR** series 3.95mmL MAX. Chip Type



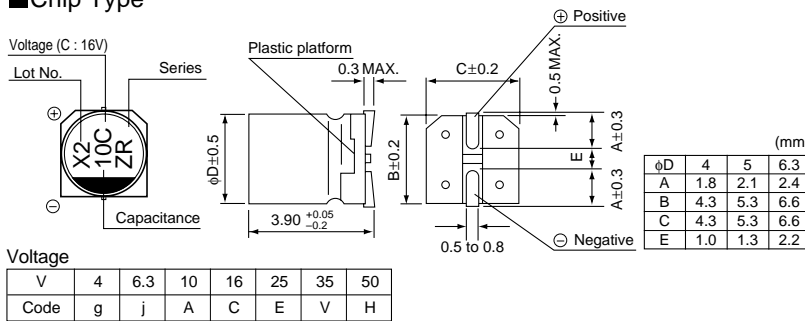
- Chip type with 3.95mmLMAX height.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2002/95/EC).



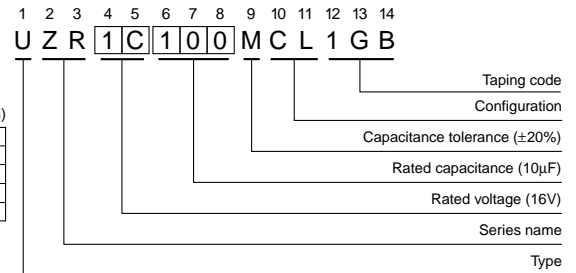
## Specifications

Item	Performance Characteristics										
Category Temperature Range	-40 to +85°C										
Rated Voltage Range	4 to 50V										
Rated Capacitance Range	0.1 to 220μF										
Capacitance Tolerance	±20% at 120Hz, 20°C										
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01 CV or 3 (μA), whichever is greater.										
Tangent of loss angle (tan δ)	Rated voltage (V)	4	6.3	10	16	25	35	50	120Hz 20°C		
	tan δ (MAX.)	0.50	0.30	0.24	0.19	0.16	0.14	0.14			
Stability at Low Temperature	Rated voltage (V)	4	6.3	10	16	25	35	50	120Hz		
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	7	4	3	2	2	2			2
		Z-40°C / Z+20°C	15	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 1000 hours at 85°C.								Capacitance change	Within ±30% 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



## Type numbering system (Example : 16V 10μF)



## Dimensions

Cap. (μF)	Code	V		4		6.3		10		16		25		35		50	
		Code	0G	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	13
3.3	3R3															4	17
4.7	4R7															4	20
10	100									4	23	5	27	5	29	6.3	33
22	220					4	28	5	33	5	37	6.3	42	6.3	46		
33	330	4	28	5	37	5	41	6.3	49	6.3	52						
47	470	4	33	5	45	6.3	52	6.3	58								
100	101	5	56	6.3	70												
220	221	6.3	96														

Rated ripple current (mA Arms) 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 refer to page 3 for the minimum order quantity.

CAT.8100Y