

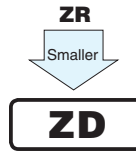
# ALUMINUM ELECTROLYTIC CAPACITORS

**ZD** 3.0mmL Chip Type  
series



- Chip type with 3.0mmL 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).

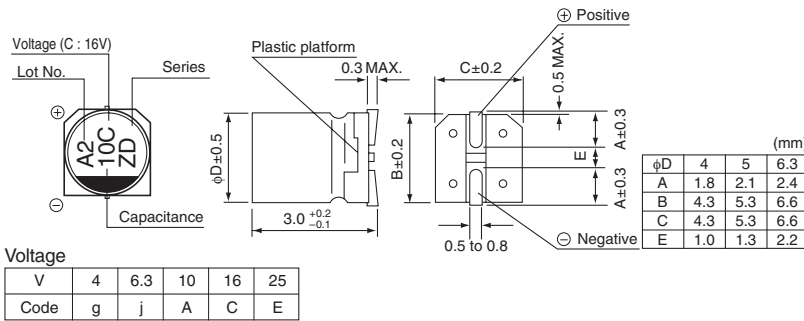
Products which are scheduled to be discontinued.  
Not recommended for new designs



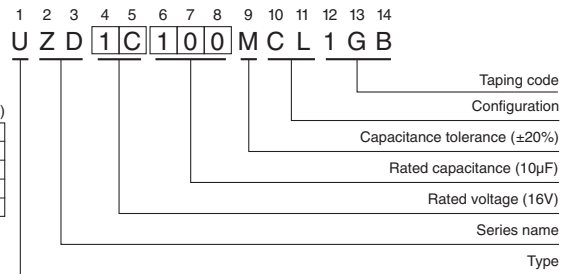
## Specifications

Item	Performance Characteristics							
Category Temperature Range	-40 to +85°C							
Rated Voltage Range	4 to 25V							
Rated Capacitance Range	2.2 to 100μF							
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	120Hz 20°C	
	tan δ (MAX.)	0.50	0.40	0.30	0.24	0.19		
Stability at Low Temperature	Rated voltage (V)	4	6.3	10	16	25	120Hz	
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	7	4	3	2		2
		Z-40°C / Z+20°C	15	8	8	4		4
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)	V		4		6.3		10		16		25	
	Code		0G		0J		1A		1C		1E	
2.2	2R2										4	7
3.3	3R3										4	11
4.7	4R7										4	16
5.6	5R6										5	18
6.8	6R8										5	20
10	100								5	23	6.3	27
22	220	4	20	5	28	5	33	6.3	37			
33	330	5	28	5	37	6.3	41					
47	470	5	33	6.3	45							
100	101	6.3	56	6.3	70						Case size φ D (mm)	Rated ripple

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 refer to page 3 for the minimum order quantity.