ALUMINUM ELECTROLYTIC CAPACITORS









- 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).

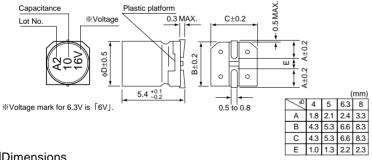




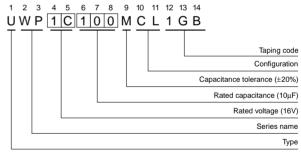
■Specifications

clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which Capacitance change Within ±10% of the initial capacitance	Performance Characteristics									
Rated Capacitance Range 2.0% at 120Hz, 20°C	-40 to +85°C									
Capacitance Tolerance ±20% at 120Hz, 20°C Leakage Current After 2 minutes' application of rated voltage, leakage current is not more than 0.05CV or 10 (μA), whichever is greater. Measurement frequency: 120Hz at 20°C Rated voltage (V) 6.3 10 16 25 35 50 tan δ (MAX.) 0.24 0.20 0.17 0.17 0.15 0.15 Measurement frequency: 120Hz Rated voltage (V) 6.3 10 16 25 35 50 Impedance ratio Z-25°C / Z+20°C 4 3 2 2 2 2 ZT / Z20 (MAX.) Z-40°C / Z+20°C 8 6 4 4 3 3 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 with the polarity inverted every 250 hours. Capacitance change Within ±20% of the initial capacitance value tan δ Leakage current Less than or equal to the initial specified value than δ Leakage current Less than or equal to the initial specified value characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which	6.3 to 50V									
After 2 minutes' application of rated voltage, leakage current is not more than 0.05CV or 10 (μA) ,whichever is greater. Measurement frequency : 120Hz at 20°C	0.1 to 100μF									
Tangent of loss angle (tan δ) Rated voltage (V) 6.3 10 16 25 35 50 tan δ (MAX.) 0.24 0.20 0.17 0.17 0.15 0.15 Measurement frequency : 120Hz at 20°C Rated voltage (V) 6.3 10 16 25 35 50 Impedance ratio Z-25°C / Z+20°C 4 3 2 2 2 2 2 ZT / Z20 (MAX.) Z-40°C / Z+20°C 8 6 4 4 4 3 3 3 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 with the polarity inverted every 250 hours. Shelf Life Measurement frequency : 120Hz Measurement frequency : 120Hz Stability at Low Temperature Capacitance change Within ±20% of the initial capacitance value with the polarity inverted every 250 hours. Capacitance change Within ±20% of the initial specified value Leakage current Less than or equal to the initial specified value to Leakage current Less than or equal to the initial specified value for 30 seconds, which Capacitance change Within ±10% of the initial specified value for the endurance characteristics listed above.	±20% at 120Hz, 20°C									
Tangent of loss angle (tan δ) Rated voltage (V) 6.3 10 16 25 35 50 tan δ (MAX.) 0.24 0.20 0.17 0.17 0.15 0.15 Measurement frequency : 120Hz Rated voltage (V) 6.3 10 16 25 35 50 Impedance ratio Z-25°C / Z+20°C 4 3 2 2 2 2 2 ZT / Z20 (MAX.) Z-40°C / Z+20°C 8 6 4 4 4 3 3 3 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 with the polarity inverted every 250 hours. 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 with the polarity inverted every 250 hours. Capacitance change Within ±20% of the initial capacitance value tan δ 200% or less than the initial specified value Leakage current Less than or equal to the initial specified value that δ 200% or less than the initial specified value to the initial specified value. After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which	After 2 minutes' application of rated voltage, leakage current is not more than 0.05CV or 10 (µA) ,whichever is greater.									
$\frac{\text{Measurement frequency: 120Hz}}{\text{Rated voltage (V)}} = \frac{0.17}{0.17} = \frac{0.15}{0.15}$ Stability at Low Temperature $\frac{\text{Rated voltage (V)}}{\text{Impedance ratio}} = \frac{0.29 \text{ C}}{\text{Z} + 20^{\circ}\text{C}} = \frac{0.17}{4} = \frac{0.17}{3} = \frac{0.15}{35} = \frac{0.15}{35}$ $\frac{\text{Impedance ratio}}{\text{Impedance ratio}} = \frac{0.29 \text{ C}}{\text{Z} + 20^{\circ}\text{C}} = \frac{0.3}{4} = \frac{0.3}{3} = \frac{0.15}{35} = \frac{0.15}{35}$ $\frac{\text{Impedance ratio}}{\text{Impedance ratio}} = \frac{0.29 \text{ C}}{\text{Z} + 20^{\circ}\text{C}} = \frac{0.3}{4} = \frac{0.33 \text{ C}}{35} = \frac{0.35}{35} = \frac{0.35}{35}$ $\frac{\text{Impedance ratio}}{\text{Z} - 25^{\circ}\text{C} / 2 + 20^{\circ}\text{C}} = \frac{0.33 \text{ C}}{4} = \frac{0.33 \text{ C}}{3} = \frac{0.33 \text{ C}}{35} = \frac{0.35}{35} = \frac$										
Stability at Low Temperature Rated voltage (V) Rated voltage (V) Stability at Low Temperature Rated voltage (V) Stability at Low Individual Stability a										
Stability at Low Temperature										
Impedance ratio Z-25°C / Z+20°C 4 3 2 2 2 2 2 2 2 2 2	Measurement frequency: 120Hz									
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 with the polarity inverted every 250 hours. 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 with the polarity inverted every 250 hours. Capacitance change Within ±20% of the initial capacitance value tan δ 200% or less than the initial specified value Leakage current Less than or equal to the initial specified value. After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which										
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 with the polarity inverted every 250 hours. Shelf Life After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which Capacitance change Within ±20% of the initial capacitance value tan δ 200% or less than the initial specified value ten δ Leakage current Less than or equal to the initial specified value to the initial specified										
Endurance when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 85°C with the polarity inverted every 250 hours. Capacitance value tan δ 200% or less than the initial specified value tan δ Leakage current Less than or equal to the initial specified value Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial specified value tan δ Leakage current Less than or equal to the initial										
Endurance when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 85°C with the polarity inverted every 250 hours. tan δ 200% or less than 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 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which Capacitance change Within ±10% of the initial specified value	<u> </u>									
Shelf Life After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which Capacitage current Less than or equal to the initial specified value Leakage current Less than or equal to the initial specified value Capacitage charge Within ±10% of the initial capacitage										
Shelf Life After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which Capacitance change Within ±10% of the initial capacitance.										
clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. The capacitors are kept on a hot plate for 30 seconds, which Capacitance change Within ±10% of the initial capacitance										
The capacitors are kept on a hot plate for 30 seconds, which	After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4									
	Within ±10% of the initial capacitance value									
Resistance to soldering heat is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are $\frac{\delta d}{\delta d} = \frac{\delta d}{\delta d} =$	Less than or equal to the initial specified value									
removed from the plate and restored to 20°C. Leakage current Less than or equal to the initial specific	ecified value									
Marking Black print on the case top.	Black print on the case top.									

■Chip Type



Type numbering system (Example: 16V 10µF)



■Dimensions

	V	6	.3	1	0	1	6	2	:5	3	35	5	0
Cap. (µF)	Code	0)J	1	A	1	С	1	E	1	V	1	Н
0.1	0R1											4	1.0
0.22	R22		İ		i I				i I			4	2.0
0.33	R33		! !		l I							4	2.8
0.47	R47		İ									4	4.0
1	010		! !		 		ļ		!		!	4	8.4
2.2	2R2									4	8.4	5	13
3.3	3R3				i I			5	12	5	16	5	17
4.7	4R7					4	12	5	16	5	18	6.3	20
10	100		i	4	17	5	23	6.3	27	6.3	29	8	36
22	220	5	28	6.3	33	6.3	37	8	50	8	54		
33	330	6.3	37	6.3	41	6.3	49	8	61				
47	470	6.3	45	8	61	8	75		!				Rated
100	101	8	82									Case size	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 select UN(p.166) series if high C/V products are reqired.
- Please refer to page 3 for the minimum order quantity.