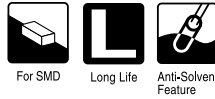
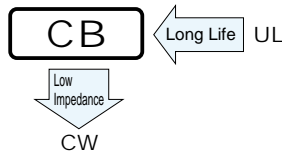


ALUMINUM ELECTROLYTIC CAPACITORS

CB series Chip Type, Long Life Assurance



- Chip type with load life of 7000 hours at +105°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2002/95/EC).

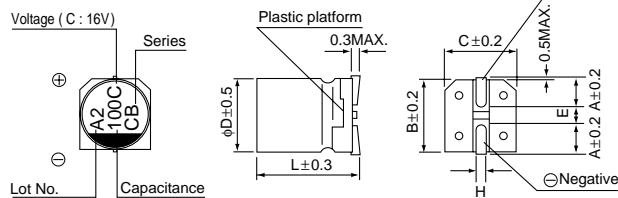


Specifications

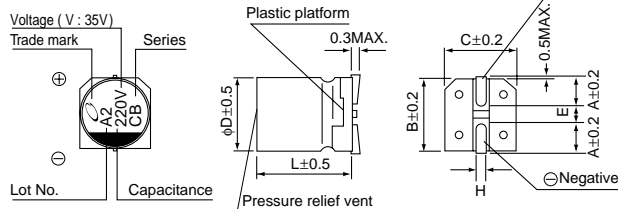
Item	Performance Characteristics													
Category Temperature Range	-25 to +105°C													
Rated Voltage Range	6.3 to 50V													
Rated Capacitance Range	0.1 to 1000μF													
Capacitance Tolerance	±20% at 120Hz, 20°C													
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.03 CV or 4 (μA), whichever is greater.													
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz, Temperature : 20°C													
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.32</td> <td>0.28</td> <td>0.26</td> <td>0.16</td> <td>0.14</td> <td>0.14</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	tan δ (MAX.)	0.32	0.28	0.26	0.16	0.14
Rated voltage (V)	6.3	10	16	25	35	50								
tan δ (MAX.)	0.32	0.28	0.26	0.16	0.14	0.14								
Stability at Low Temperature	Measurement frequency : 120Hz													
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Impedance ratio ZT / Z20 (MAX.)</td> <td>Z-25°C / Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	4	3	2	2
Rated voltage (V)	6.3	10	16	25	35	50								
Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	4	3	2	2	2								
Endurance	<p>The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 7000 hours at 105°C.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	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							
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 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.													
Resistance to soldering heat	<p>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.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	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							
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

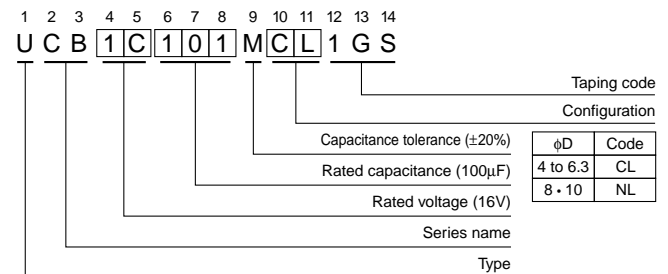
(φ4 to φ6.3)



(φ8 to φ10)



Type numbering system (Example : 16V 100μF)



φD × L	4 × 7	5 × 7	6.3 × 7	6.3 × 8.7	8 × 10	10 × 10
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	7.0	7.0	7.0	8.7	10	10
H	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

Voltage

V	6.3	10	16	25	35	50
Code	j	A	C	E	V	H

● Dimension table in next page.



■ Dimensions

Cap.(μ F)	V Code	6.3		10		16		25		35		50	
		0J		1A		1C		1E		1V		1H	
0.1	0R1									4×7	1.0		
0.22	R22									4×7	2.6		
0.33	R33									4×7	3.2		
0.47	R47									4×7	3.8		
1	010									4×7	6.2		
2.2	2R2									4×7	11		
3.3	3R3									4×7	14		
4.7	4R7									4×7	15		
10	100					4×7	18			5×7	25		
22	220	4×7	22			5×7	30			6.3×7	42		
33	330			5×7	35			6.3×7	48	6.3×8.7	57	8×10	77
47	470	5×7	36			6.3×7	50	6.3×8.7	63			8×10	92
100	101	6.3×7	60			6.3×8.7	81	8×10	116			10×10	151
220	221	6.3×8.7	101	8×10	141					10×10	216		
330	331	8×10	160										
470	471					10×10	254					Case size ϕ D×L (mm)	Rated ripple
1000	102	10×10	313										

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 refer to page 3 for the minimum order quantity.