

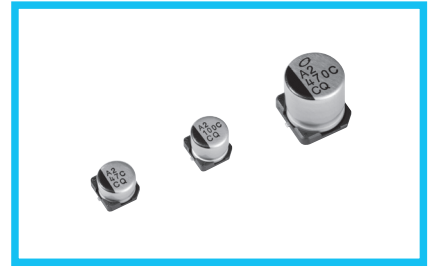
ALUMINUM ELECTROLYTIC CAPACITORS



Chip Type, For Audio Equipment
Wide Temperature Range



- Chip type acoustic series within the wide temperature range.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.



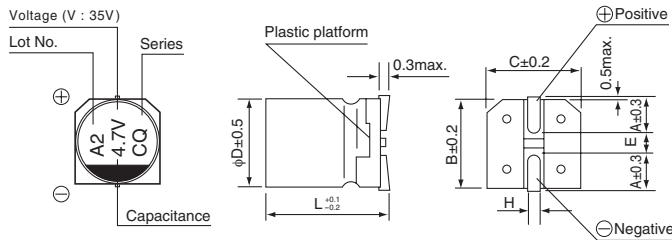
Specifications

Item	Performance Characteristics																
Category Temperature Range	-55 to +105°C																
Rated Voltage Range	10 to 35V																
Rated Capacitance Range	4.7 to 680μF																
Capacitance Tolerance	±20% (120Hz, 20°C)																
Leakage Current ※	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3 (μA), whichever is greater.																
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C																
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.26</td> <td>0.22</td> <td>0.16</td> <td>0.13</td> </tr> </table>	Rated voltage (V)	10	16	25	35	tan δ (max.)	0.26	0.22	0.16	0.13						
Rated voltage (V)	10	16	25	35													
tan δ (max.)	0.26	0.22	0.16	0.13													
Stability at Low Temperature	Measurement frequency : 120Hz																
	<table border="1"> <tr> <td colspan="2">Rated voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td rowspan="2">Impedance ratio (max.)</td> <td>Z(-25°C) / Z(+20°C)</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C) / Z(+20°C)</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table>	Rated voltage (V)		10	16	25	35	Impedance ratio (max.)	Z(-25°C) / Z(+20°C)	3	2	2	2	Z(-40°C) / Z(+20°C)	5	4	3
Rated voltage (V)		10	16	25	35												
Impedance ratio (max.)	Z(-25°C) / Z(+20°C)	3	2	2	2												
	Z(-40°C) / Z(+20°C)	5	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 2000 hours (1000 hours for 4.5L) at 105°C.																
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.																
	<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																
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.																
	<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.																

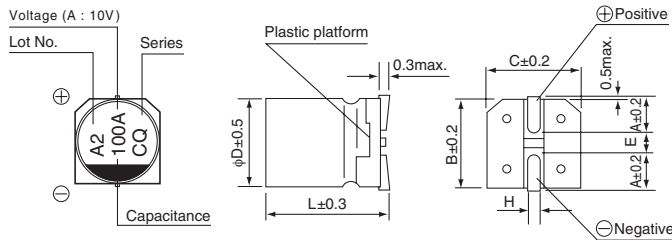
※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

Chip Type

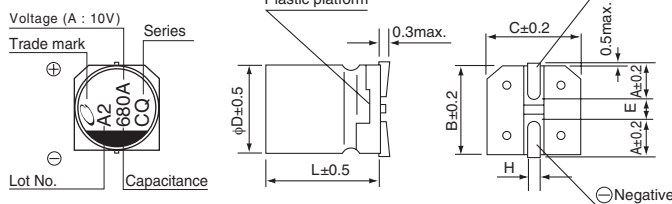
(φ4 × 4.5L, φ5 × 4.5L, φ6.3 × 4.5L)



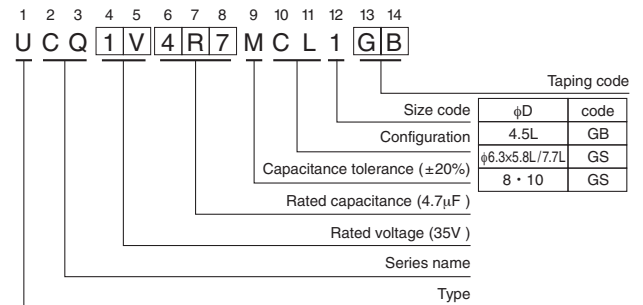
(φ6.3 × 5.8L, φ6.3 × 7.7L)



(φ8 × 10L, φ10 × 10L)



Type numbering system (Example : 35V 4.7μF)



	(mm)						
φD × L	4 × 4.5	5 × 4.5	6.3 × 4.5	6.3 × 5.8	6.3 × 7.7	8 × 10	10 × 10
A	1.8	2.1	2.4	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	2.2	3.1	4.5
L	4.5	4.5	4.5	5.8	7.7	10	10
H	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

Rated voltage

V	10	16	25	35
Code	A	C	E	V

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

● Dimension table in next page.

UCQ

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 2 minutes)	Rated Ripple (mArms) (105°C/120Hz)	Part Number
10 (1A)	22	5×4.5	0.26	3	30	UCQ1A220MCL1GB
	33	5×4.5	0.26	3.3	30	UCQ1A330MCL1GB
	47	6.3×4.5	0.26	4.7	40	UCQ1A470MCL1GB
	100	6.3×5.8	0.26	10	100	UCQ1A101MCL1GS
	220	6.3×7.7	0.26	22	120	UCQ1A221MCL1GS
	330	8×10	0.26	33	250	UCQ1A331MCL1GS
	470	8×10	0.26	47	250	UCQ1A471MCL1GS
	680	10×10	0.26	68	400	UCQ1A681MCL1GS
16 (1C)	10	4×4.5	0.22	3	15	UCQ1C100MCL1GB
	22	5×4.5	0.22	3.52	30	UCQ1C220MCL1GB
	33	6.3×4.5	0.22	5.28	40	UCQ1C330MCL1GB
	47	6.3×4.5	0.22	7.52	40	UCQ1C470MCL1GB
	100	6.3×5.8	0.22	16	100	UCQ1C101MCL1GS
	220	8×10	0.22	35.2	250	UCQ1C221MCL1GS
	330	8×10	0.22	52.8	250	UCQ1C331MCL1GS
	470	10×10	0.22	75.2	400	UCQ1C471MCL1GS
25 (1E)	4.7	4×4.5	0.16	3	15	UCQ1E4R7MCL1GB
	10	5×4.5	0.16	3	30	UCQ1E100MCL1GB
	22	6.3×4.5	0.16	5.5	40	UCQ1E220MCL1GB
	33	6.3×4.5	0.16	8.25	40	UCQ1E330MCL1GB
	47	6.3×5.8	0.16	11.75	100	UCQ1E470MCL1GS
	100	6.3×7.7	0.16	25	120	UCQ1E101MCL1GS
	220	8×10	0.16	55	250	UCQ1E221MCL1GS
	330	10×10	0.16	82.5	400	UCQ1E331MCL1GS
	470	10×10	0.16	117.5	400	UCQ1E471MCL1GS
35 (1V)	4.7	4×4.5	0.13	3	15	UCQ1V4R7MCL1GB
	10	5×4.5	0.13	3.5	30	UCQ1V100MCL1GB
	22	6.3×4.5	0.13	7.7	40	UCQ1V220MCL1GB
	33	6.3×5.8	0.13	11.55	100	UCQ1V330MCL1GS
	47	6.3×7.7	0.13	16.45	120	UCQ1V470MCL1GS
	100	8×10	0.13	35	250	UCQ1V101MCL1GS
	220	10×10	0.13	77	400	UCQ1V221MCL1GS
	330	10×10	0.13	115.5	400	UCQ1V331MCL1GS

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.