



**THE DATASHEET OF  
UCJ1V101MCL1GS**



# ALUMINUM ELECTROLYTIC CAPACITORS

## UCJ

Chip Type, High Reliability.  
Low temperature ESR specification.



- Chip type, high temperature range, for +125°C use.
  - Added ESR specification after the test at -40°C (φ6.3 sizes provide only for the first stage.)
  - Applicable to automatic mounting machine fed with carrier tape.
  - Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
  - AEC-Q200 Qualified.
- Please contact us for details.

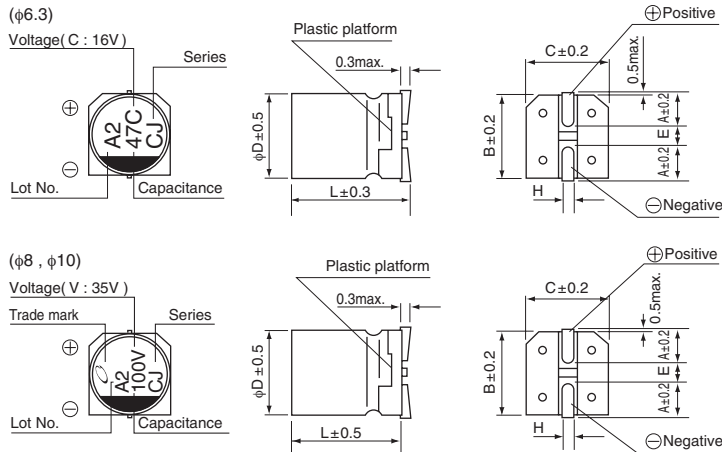


### Specifications

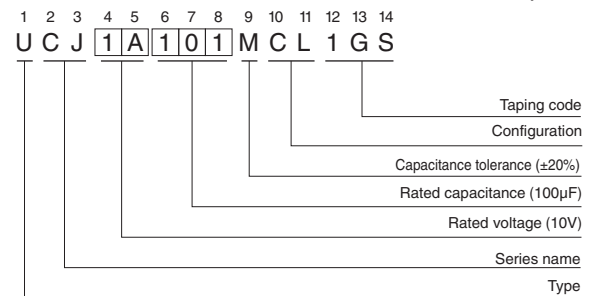
Item	Performance Characteristics													
Category Temperature Range	-40 to +125°C													
Rated Voltage Range	10 to 50V													
Rated Capacitance Range	10 to 470μF													
Capacitance Tolerance	±20% at 120Hz, 20°C													
Leakage Current ※	After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4(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> <td>50</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.32</td> <td>0.24</td> <td>0.21</td> <td>0.18</td> <td>0.18</td> </tr> </table>	Rated voltage (V)	10	16	25	35	50	tan δ (max.)	0.32	0.24	0.21	0.18	0.18	
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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> <td>50</td> </tr> <tr> <td>Impedance ratio ZT / Z20 (max.)</td> <td>Z(-40°C) / Z(+20°C)</td> <td>12</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> </tr> </table>	Rated voltage (V)		10	16	25	35	50	Impedance ratio ZT / Z20 (max.)	Z(-40°C) / Z(+20°C)	12	8	6	4
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Impedance ratio ZT / Z20 (max.)	Z(-40°C) / Z(+20°C)	12	8	6	4	4								
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 2000 hours at 125°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							
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Shelf Life	<p>After storing the capacitors under no load at 125°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.</p>													
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							
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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



### Type numbering system (Example : 10V 100μF)



φD x L	6.3 x 8.7	8 x 10	10 x 10
A	2.4	2.9	3.2
B	6.6	8.3	10.3
C	6.6	8.3	10.3
E	2.2	3.1	4.5
L	8.7	10	10
H	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

Voltage	10	16	25	35	50
Code	A	C	E	V	H

### Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
Coefficient	0.35	0.50	0.64	0.83	1.00

● Dimension table in next page.

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## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance ( $\mu$ F)	Case Size $\phi$ D $\times$ L (mm)	tan $\delta$	Leakage Current ( $\mu$ A) (at 20°C after 1 minute)	ESR ( $\Omega$ ) max. (-40°C/100kHz)		Rated Ripple (mA <sub>rms</sub> ) (125°C/100kHz)	Part Number
					Initial	after endurance test		
10 (1A)	100	6.3 $\times$ 8.7	0.32	30	14	—	95	UCJ1A101MCL1GS
	220	8 $\times$ 10	0.32	66	2.0	6.0	250	UCJ1A221MCL1GS
	330	10 $\times$ 10	0.32	99	1.5	4.5	400	UCJ1A331MCL1GS
	470	10 $\times$ 10	0.32	141	1.5	4.5	400	UCJ1A471MCL1GS
16 (1C)	47	6.3 $\times$ 8.7	0.24	22.56	14	—	95	UCJ1C470MCL1GS
	100	8 $\times$ 10	0.24	48	2.0	6.0	250	UCJ1C101MCL1GS
	220	10 $\times$ 10	0.24	105.6	1.5	4.5	400	UCJ1C221MCL1GS
	330	10 $\times$ 10	0.24	158.4	1.5	4.5	400	UCJ1C331MCL1GS
25 (1E)	22	6.3 $\times$ 8.7	0.21	16.5	14	—	95	UCJ1E220MCL1GS
	33	6.3 $\times$ 8.7	0.21	24.75	14	—	95	UCJ1E330MCL1GS
	47	6.3 $\times$ 8.7	0.21	35.25	14	—	95	UCJ1E470MCL1GS
	100	8 $\times$ 10	0.21	75	2.0	6.0	250	UCJ1E101MCL1GS
	220	10 $\times$ 10	0.21	165	1.5	4.5	400	UCJ1E221MCL1GS
	330	10 $\times$ 10	0.21	247.5	1.5	4.5	400	UCJ1E331MCL1GS
35 (1V)	10	6.3 $\times$ 8.7	0.18	10.5	14	—	95	UCJ1V100MCL1GS
	22	6.3 $\times$ 8.7	0.18	23.1	14	—	95	UCJ1V220MCL1GS
	33	6.3 $\times$ 8.7	0.18	34.65	14	—	95	UCJ1V330MCL1GS
	47	6.3 $\times$ 8.7	0.18	49.35	14	—	95	UCJ1V470MCL1GS
	100	10 $\times$ 10	0.18	105	1.5	4.5	400	UCJ1V101MCL1GS
	220	10 $\times$ 10	0.18	231	1.5	4.5	400	UCJ1V221MCL1GS
50 (1H)	10	6.3 $\times$ 8.7	0.18	15	14	—	95	UCJ1H100MCL1GS
	22	6.3 $\times$ 8.7	0.18	33	14	—	95	UCJ1H220MCL1GS
	33	8 $\times$ 10	0.18	49.5	2.0	6.0	200	UCJ1H330MCL1GS
	47	10 $\times$ 10	0.18	70.5	1.5	4.5	330	UCJ1H470MCL1GS
	100	10 $\times$ 10	0.18	150	1.5	4.5	330	UCJ1H101MCL1GS

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

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