

ALUMINUM ELECTROLYTIC CAPACITORS

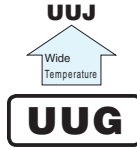
UUG

Chip Type, Higher Capacitance Range



For SMD

- Chip Type, higher capacitance in larger case sizes (φ12.5, φ16, φ18)
- 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,(EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

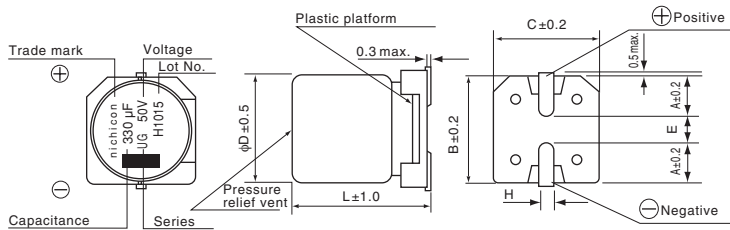


Specifications

Item	Performance Characteristics																								
Category Temperature Range	-40 to +85°C																								
Rated Voltage Range	10 to 100V																								
Rated Capacitance Range	68 to 10000μF																								
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(μA).																								
Tangent of loss angle (tan δ)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </table> <p>Measurement frequency : 120Hz at 20°C For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. (φ12.5 to φ18)</p>	Rated voltage (V)	10	16	25	35	50	63	100	tan δ (max.)	0.24	0.20	0.16	0.14	0.12	0.10	0.08								
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Stability at Low Temperature	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Impedance ratio (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> <td>2</td> </tr> <tr> <td></td> <td>Z(-40°C) / Z(+20°C)</td> <td>10</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table> <p>Measurement frequency: 120Hz</p>	Rated voltage (V)	10	16	25	35	50	63	100	Impedance ratio (max.)	Z(-25°C) / Z(+20°C)	4	3	2	2	2	2		Z(-40°C) / Z(+20°C)	10	8	5	4	3	3
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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 85°C.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% 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 ±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																		
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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.																								
Marking	Black print on the case top.																								

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

Chip Type

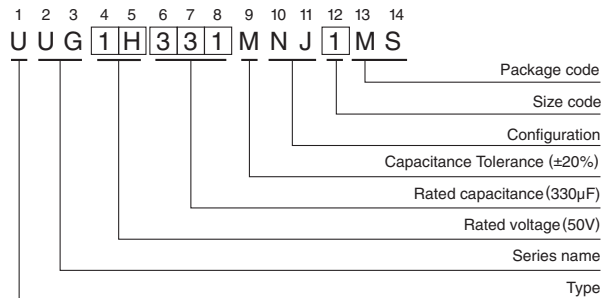


(mm)

φD	12.5×13.5	12.5×16	12.5×21	16×16.5	16×21.5	18×16.5	18×21.5
A	5.15	5.15	5.15	5.65	5.65	6.65	6.65
B	13.6	13.6	13.6	17.1	17.1	19.1	19.1
C	13.6	13.6	13.6	17.1	17.1	19.1	19.1
E	(3.3)	(3.3)	(3.3)	(5.8)	(5.8)	(5.8)	(5.8)
L	13.5	16.0	21.0	16.5	21.5	16.5	21.5
H	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4

Please contact us for the dimensions for NQ.

Type numbering system (Example : 50V 330μF)



※ There are also some products that can be manufactured as vibration resistant products.

Frequency coefficient of rated ripple current

Cap.(μF)	Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
68		0.75	1.00	1.35	1.57	2.00
100 to 470		0.80	1.00	1.23	1.34	1.50
1000 to 10000		0.85	1.00	1.10	1.13	1.15

● Dimension table in next page.

UUG

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 1 minute)	Rated Ripple (mArms) (85°C/120Hz)	Part Number
10 (1A)	1000	12.5×13.5	0.24	300	620	UUG1A102MNI1MS
	2200	12.5×16	0.26	660	960	UUG1A222MNI1MS
	3300	16×16.5	0.28	990	1300	UUG1A332MNI1MS
	4700	18×16.5	0.30	1410	1500	UUG1A472MNI1MS
	4700	16×21.5	0.30	1410	1500	UUG1A472MNI6MS
	6800	18×21.5	0.34	2040	1850	UUG1A682MNI1MS
	10000	18×21.5	0.42	3000	2200	UUG1A103MNI6MS
16 (1C)	1000	12.5×13.5	0.20	480	710	UUG1C102MNI1MS
	2200	16×16.5	0.22	1056	1150	UUG1C222MNI1MS
	2200	12.5×21	0.22	1056	1150	UUG1C222MNI6MS
	3300	18×16.5	0.24	1584	1450	UUG1C332MNI1MS
	3300	16×21.5	0.24	1584	1450	UUG1C332MNI6MS
	4700	18×21.5	0.26	2256	1750	UUG1C472MNI1MS
25 (1E)	470	12.5×13.5	0.16	352.5	550	UUG1E471MNI1MS
	1000	12.5×16	0.16	750	820	UUG1E102MNI1MS
	2200	18×16.5	0.18	1650	1350	UUG1E222MNI1MS
	2200	16×21.5	0.18	1650	1350	UUG1E222MNI6MS
	3300	18×21.5	0.20	2475	1700	UUG1E332MNI1MS
35 (1V)	470	12.5×13.5	0.14	493.5	580	UUG1V471MNI1MS
	1000	16×16.5	0.14	1050	1000	UUG1V102MNI1MS
	1000	12.5×21	0.14	1050	1000	UUG1V102MNI6MS
	2200	18×21.5	0.16	2310	1550	UUG1V222MNI1MS
50 (1H)	220	12.5×13.5	0.12	330	450	UUG1H221MNI1MS
	330	12.5×13.5	0.12	495	520	UUG1H331MNI1MS
	470	16×16.5	0.12	705	740	UUG1H471MNI1MS
	470	12.5×21	0.12	705	740	UUG1H471MNI6MS
	1000	18×21.5	0.12	1500	1150	UUG1H102MNI1MS
63 (1J)	100	12.5×13.5	0.10	189	370	UUG1J101MNI1MS
	220	12.5×16	0.10	415.8	580	UUG1J221MNI1MS
	330	16×16.5	0.10	623.7	680	UUG1J331MNI1MS
	330	12.5×21	0.10	623.7	680	UUG1J331MNI6MS
	470	18×16.5	0.10	888.3	850	UUG1J471MNI1MS
	470	16×21.5	0.10	888.3	850	UUG1J471MNI6MS
100 (2A)	68	12.5×13.5	0.08	204	350	UUG2A680MNI1MS
	100	12.5×16	0.08	300	440	UUG2A101MNI1MS
	220	18×16.5	0.08	660	665	UUG2A221MNI1MS
	220	16×21.5	0.08	660	665	UUG2A221MNI6MS
	330	18×21.5	0.08	990	825	UUG2A331MNI1MS

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