ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UG series

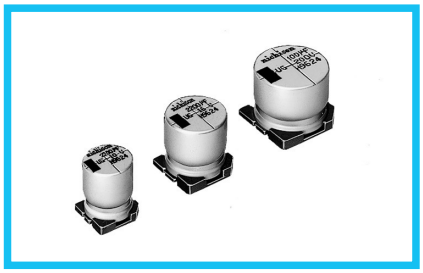
Chip Type, Higher Capacitance Range

For SMD

Anti-Solvent Feature (Through 100V only)

- Chip Type, higher capacitance in larger case sizes (φ12.5, φ16, φ18, φ20)
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape and tray.
- Compliant to the RoHS directive (2011/65/EU).

UJ
High Temperature
UG



■Specifications

Item	Performance Characteristics		
Category Temperature Range	−40 to +85°C		
Rated Voltage Range	6.3 to 450V		
Rated Capacitance Range	4.7 to 10000μF		
Capacitance Tolerance	±20% at 120Hz, 20°C		
Leakage Current	Rated voltage (V)	6.3 to 100	160 to 450
	—	After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (μA), whichever is greater.	I = 0.04CV+100 (μA) max. (1 minute's)

Tangent of loss angle (tan δ)

Measurement frequency : 120Hz at 20°C

Rated voltage (V)	6.3	10	16	25	35	50	63	100	160 to 250	400・450
tan δ (MAX.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.25

For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.

Stability at Low Temperature

Measurement frequency: 120Hz

Rated voltage (V)		6.3	10	16	25	35	50	63	100	160 to 250	400・450
Impedance ratio ZT / Z20 (MAX.)	Z−25°C / Z+20°C	5	4	3	2	2	2	2	2	3	6
	Z−40°C / Z+20°C	12	10	8	5	4	3	3	3	6	10

Endurance

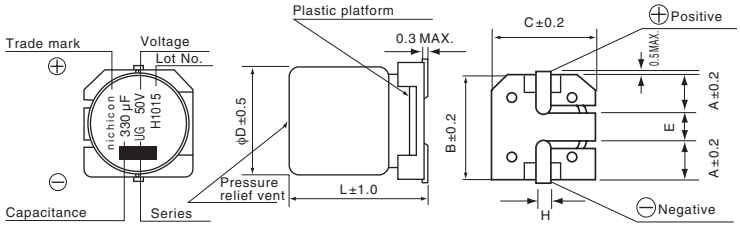
The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.

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

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.

■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	20×16.5	20×21.5
A	4.8	4.8	4.8	5.4	5.4	6.4	6.4	6.2	6.2
B	13.6	13.6	13.6	17.1	17.1	19.1	19.1	21.1	21.1
C	13.6	13.6	13.6	17.1	17.1	19.1	19.1	21.1	21.1
E	4.0	4.0	4.0	6.3	6.3	6.3	6.3	8.8	8.8
L	13.5	16.0	21.0	16.5	21.5	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	1.3 to 1.7	1.3 to 1.7

Type numbering system (Example : 50V 330μF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	U	G	1	H	3	3	1	M	N	Q	1	M	S

Package code

Taping	MS
Tray	ZD

Size code

Configuration

Capacitance Tolerance (±20%)	φD	Code
Rated capacitance (330μF)	12.5 to 18	NQ
Rated voltage (50V)	20	RQ
Series name		
Type		

※ The vibration structure-resistant product is also available upon request, please ask for details.

● Dimension table in next page.

UG series

■Dimensions

(μF) Cap. \ V		6.3		10		16		25		35		50	
	Code	0J		1A		1C		1E		1V		1H	
220	221											12.5 × 13.5	450
330	331											12.5 × 13.5	520
470	471							12.5 × 13.5	550	12.5 × 13.5	580	● 16 × 16.5	740
1000	102			12.5 × 13.5	620	12.5 × 13.5	710	12.5 × 16	820	● 16 × 16.5	1000	18 × 21.5	1150
2200	222	12.5 × 16	890	12.5 × 16	960	● 16 × 16.5	1150	△18 × 16.5	1350	18 × 21.5	1550		
3300	332	● 16 × 16.5	1200	16 × 16.5	1300	△18 × 16.5	1450	18 × 21.5	1700				
4700	472	16 × 16.5	1400	△18 × 16.5	1500	18 × 21.5	1750						
6800	682	△18 × 16.5	1650	18 × 21.5	1850								
10000	103	18 × 21.5	2000	□ 20 × 21.5	2200								

(μF) Cap. \ V		63		100		160		200		250		400		450	
	Code	1J		2A		2C		2D		2E		2G		2W	
4.7	4R7											12.5 × 13.5	115	12.5 × 13.5	115
10	100									12.5 × 13.5	150	● 16 × 16.5	140	● 16 × 16.5	140
22	220							12.5 × 13.5	235	12.5 × 16	240	△18 × 16.5	280	16 × 21.5	275
33	330							12.5 × 16	310	● 16 × 16.5	340	18 × 21.5	350	18 × 21.5	345
47	470					12.5 × 16	370	● 16 × 16.5	415	△ 18 × 16.5	415	□ 20 × 21.5	430		
68	680			12.5 × 13.5	350	● 16 × 16.5	500	△18 × 16.5	505	★ 18 × 21.5	490				
100	101	12.5 × 13.5	370	12.5 × 16	440	△18 × 16.5	590	18 × 21.5	590						
220	221	12.5 × 16	580	△18 × 16.5	665										
330	331	● 16 × 16.5	680	18 × 21.5	825									Case size φD × L (mm)	Rated ripple
470	471	△18 × 16.5	850												

Size φ12.5×21 is available for capacitors marked," ●".
Size φ16×21.5L is available for capacitors marked,"△".
Size φ18×21.5L is available for capacitors marks,"□".
Size φ20×16.5L is available for capacitors marks,"★".
※ In this case, 6 will be put at 12th digit of type numbering system.

Rated ripple current (mArms) at 85°C 120Hz

● Frequency coefficient of rated ripple current

V	Cap.(μF) \ Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
6.3 to 100	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
160 to 450	4.7 to 100	0.80	1.00	1.25	1.40	1.60

- 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.

Mouser Electronics

Authorized Distributor

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Nichicon:

UUG1E102MNR1MS UUG1H102MNR1MS UUG1H221MNR1MS UUG1H331MNR1MS UUG1H471MNR1MS
UUG1J101MNR1MS UUG1J221MNR1MS UUG1J331MNR1MS UUG1V102MNR1MS UUG2A101MNR1MS
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