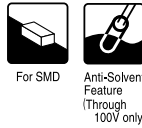
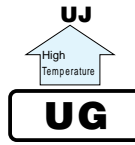


ALUMINUM ELECTROLYTIC CAPACITORS

UG series Chip Type, Higher Capacitance Range



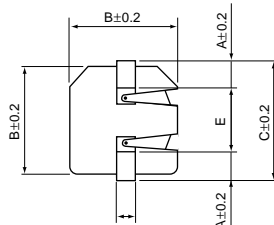
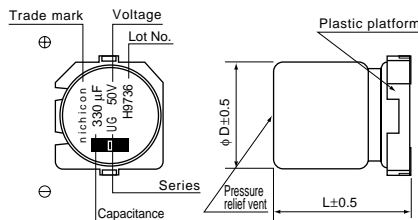
- Chip Type, higher capacitance in larger case sizes (φ12.5, φ16, φ18, φ20)
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine using carrier tape and tray.



Specifications

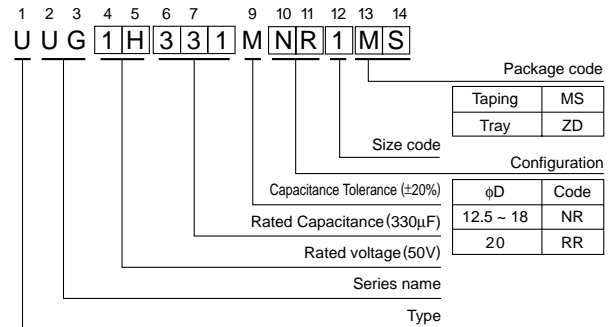
Item	Performance Characteristics														
Category Temperature Range	-40 ~ +85°C														
Rated Voltage Range	6.3 ~ 450V														
Rated Capacitance Range	4.7 ~ 10000μF														
Capacitance Tolerance	±20% at 120Hz, 20°C														
Leakage Current	Rated voltage (V)			6.3 ~ 100						160 ~ 450					
	—			After 1 minutes' 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)					
tan δ	Rated voltage (V)			6.3	10	16	25	35	50	63	100	160 ~ 250	400 ~ 450	120Hz 20°C	
	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	Rated voltage (V)			6.3	10	16	25	35	50	63	100	160 ~ 250	400 ~ 450	120Hz	
	Impedance ratio Z-25°C / Z+20°C			5	4	3	2	2	2	2	2	3	6		
ZT / Z20 (MAX.)			Z-40°C / Z+20°C			12	10	8	5	4	3	3	3	6	10
Endurance	After 2000 hours' application of rated voltage at 85°C, capacitors meet the characteristic requirements listed at right.														
	Leakage current		Initial specified value or less												
	Capacitance change		Within ±20% of initial value												
Shelf Life	After leaving capacitors under no load at 85°C for 1000 hours, they meet the specified value for endurance characteristics listed above.														
	tan δ		200% or less of initial specified value												
	After leaving capacitors under no load at 85°C for 1000 hours, they meet the specified value for endurance characteristics listed above.														
Marking	Black print on the case top.														

Chip Type



	(mm)			
φD	12.5	16	18	20
A	4.0	4.5	5.0	5.0
B	13.6	17.1	19.1	21.1
C	16.0	19.5	21.5	23.5
E	8.0	10.5	11.5	13.5
H	2.5	3.75	3.75	3.75

Type numbering system (Example : 50V 330μF)



Dimensions

V		6.3		10		16		25		35		50	
(μF) Cap.	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								

V		63		100		160		200		250		400		450	
(μF) Cap.	Code	1J		2A		2C		2D		2E		2G		2W	
4.7	4R7									12.5 × 13.5	150	● 16 × 16.5	140	● 16 × 16.5	140
10	100									12.5 × 16	240	△ 18 × 16.5	280	16 × 21.5	275
22	220							12.5 × 13.5	235	12.5 × 16	310	● 16 × 16.5	340	18 × 21.5	345
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	12.6 × 16	580	△ 18 × 16.5	665										
330	331	● 16 × 16.5	680	18 × 21.5	825										
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 φ20×16.5L is available for capacitors marks, "★".

※ In this case, [6] will be put at 12th digit of type numbering system.

Rated Ripple (mA rms) at 85°C 120Hz

Frequency coefficient of rated ripple current

V	Cap.(μF)	Frequency	50Hz	120Hz	300Hz	1kHz	10kHz~
6.3 ~ 100	~ 68	~ 68	0.75	1.00	1.35	1.57	2.00
		100 ~ 470	0.80	1.00	1.23	1.34	1.50
		1000 ~ 10000	0.85	1.00	1.10	1.13	1.15
160 ~ 450	4.7 ~ 100		0.80	1.00	1.25	1.40	1.60

- Taping specifications are given in page 22.
- Recommended land size are given in page 23
- Please refer to page 3 for the minimum order quantity.