

ALUMINUM ELECTROLYTIC CAPACITORS

UN series Chip Type, Bi-Polarized, Higher Capacitance Range



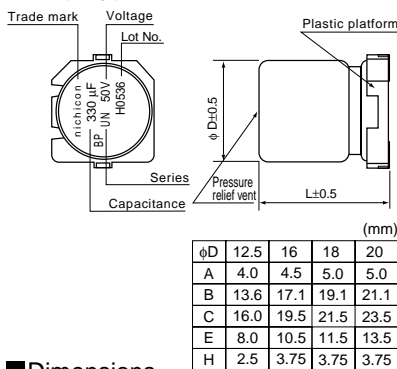
- Chip Type, higher capacitance in larger case sizes (φ12.5, φ16, φ18, φ20)
- Designed for surface mounting on high density PC board.
- Bi-polarized series for operations over wide temperature range of -55 to +105°C.
- Applicable to automatic mounting machine using carrier tape and tray.
- Adapted to the RoHS directive (2002/95/EC).



Specifications

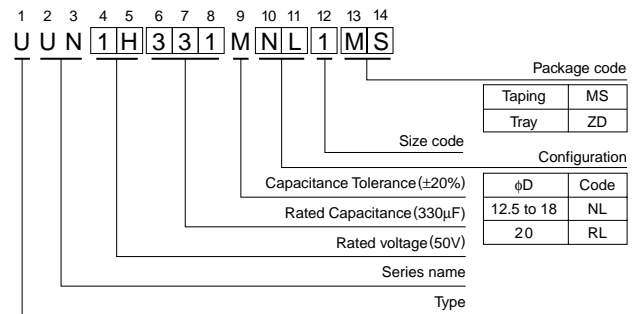
Item	Performance Characteristics									
Category Temperature Range	-55 to +105°C									
Rated Voltage Range	6.3 to 100V									
Rated Capacitance Range	22 to 3300μF									
Capacitance Tolerance	±20% at 120Hz, 20°C									
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (μA), whichever is greater.									
tan δ	Rated voltage (V)	6.3	10	16	25	35	50	63	100	120Hz 20°C
	tan δ (MAX)	0.26	0.22	0.18	0.16	0.14	0.12	0.10	0.09	
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	120Hz
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	5	4	3	2	2	2	2	
Z-40°C / Z+20°C										
Endurance	After 2000 hours' application of rated voltage at 105°C with the polarity inverted every 250 hours, capacitors meet the characteristic requirements listed at right.									
	Capacitance change	Within ±20% of initial value								
	tan δ	200% or less of initial specified value								
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.									
	Leakage current									
Marking	Black print on the case top.									

Chip Type



The lead terminal structure : The same bent lead type (refer to p.76) that is currently used on 10mm diameter and smaller parts, is also available upon request. In this case of the bent lead type, □ will be put at the 11th digit of type numbering system. Please ask for details.

Type numbering system (Example : 50V 330μF)



Dimensions

Cap. (μF)	Code	6.3		10		16		25		35		50		63		100	
		0J		1A		1C		1E		1V		1H		1J		2A	
22	220																12.5 × 13.5 100
33	330																12.5 × 16 150
47	470											12.5 × 13.5 130		12.5 × 13.5 140		16 × 16.5 180	
100	101									12.5 × 13.5 180		12.5 × 16 230		16 × 16.5 270		18 × 21.5 310	
220	221							12.5 × 13.5 270		16 × 16.5 330		18 × 16.5 400		18 × 21.5 440			
330	331					12.5 × 13.5 310		16 × 16.5 370		18 × 16.5 450		▲ 16 × 21.5 400		18 × 21.5 540		20 × 21.5 590	
470	471	12.5 × 13.5 270		12.5 × 13.5 340		16 × 16.5 420		16 × 16.5 490		▲ 16 × 21.5 450		18 × 21.5 590		20 × 21.5 640			
1000	102	12.5 × 16 500		16 × 16.5 600		18 × 16.5 670		18 × 21.5 780		▲ 16 × 21.5 670							
2200	222	18 × 16.5 740		18 × 21.5 830													
3300	332	▲ 16 × 21.5 740															
		18 × 21.5 920															

※ In this case, □ will be put at 12th digit of type numbering system, "▲"

Rated Ripple (mArms) at 105°C 120Hz

Frequency coefficient of rated ripple current

Cap. (μF)	Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
less than 47		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 3300		0.85	1.00	1.10	1.13	1.15

- 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.