



Chip Type, Bi-Polarized,
Higher Capacitance Range



For SMD



Bi-polarized



Anti-Solvent
Feature

- Chip Type, higher capacitance in larger case sizes ($\phi 12.5$, $\phi 16$, $\phi 18$)
- Designed for surface mounting on high density PC board.
- Bi-polarized series for operations over wide temperature range of -55 to $+105^{\circ}\text{C}$.
- Applicable to automatic mounting machine fed with carrier tape and tray.
- Compliant to the RoHS directive (2011/65/EU).

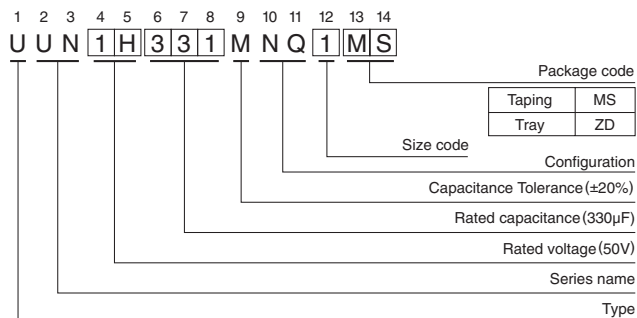
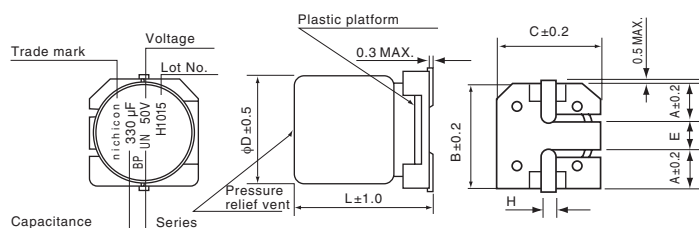


Specifications

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 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																			
	Rated voltage (V)	6.3	10	16	25	35	50	63	100											
	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	Measurement frequency: 120Hz																			
	Rated voltage (V)		6.3	10	16	25	35	50	63	100										
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	5	4	3	2	2	2	2	2										
		Z-40°C / Z+20°C	10	8	6	4	3	3	3	3										
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 105°C with the polarity inverted every 250 hours.																			
											Capacitance change		Within ±20% of the initial capacitance value							
											tan δ		200% or less than the initial specified value							
Shelf Life	After storing the capacitors under no load at 105°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.																			
											Leakage current		Less than or equal to the initial specified value							
Marking	Black print on the case top.																			

Chip Type

Type numbering system (Example : 50V 330 μF)



(mm)

ϕD	12.5×13.5	12.5×16	16×16.5	16×21.5	18×16.5	18×21.5
A	4.8	4.8	5.4	5.4	6.4	6.4
B	13.6	13.6	17.1	17.1	19.1	19.1
C	13.6	13.6	17.1	17.1	19.1	19.1
E	4.0	4.0	6.3	6.3	6.3	6.3
L	13.5	16.0	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

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

UUN

■ Dimensions

(μF) Cap.	V 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	
470	471	12.5 × 13.5 270	12.5 × 13.5 340	16 × 16.5 420	16 × 16.5 490	18 × 21.5 590	▲ 16 × 21.5 450	▲ 18 × 21.5 590	
1000	102	12.5 × 16 500	16 × 16.5 600	18 × 16.5 670	18 × 21.5 780		▲ 18 × 21.5 640		
2200	222	18 × 16.5 740	18 × 21.5 830						
		▲ 16 × 21.5 740							
3300	332	18 × 21.5 920							
									Case size φ D × L (mm)
									Rated ripple

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

Rated ripple current (mA rms) 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
22 to 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.