

UN series

Chip Type, Bi-Polarized, Higher Capacitance Range



For SMD

Bi-polarized

Anti-Solvent Feature

- Chip Type, higher capacitance in larger case sizes ($\phi 12.5$, $\phi 16$, $\phi 18$, $\phi 20$)
- 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 (2002/95/EC).

UN $\leftarrow$ Bi-polarized UJ

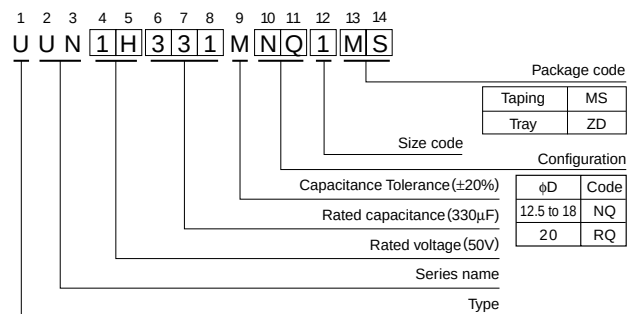
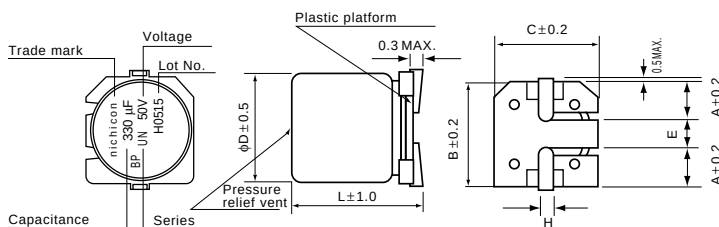


Specifications

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.									
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz, Temperature : 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		
						Leakage current		Less than or equal to 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.									
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	20×21.5
A	4.8	4.8	5.4	5.4	6.4	6.4	6.2
B	13.6	13.6	17.1	17.1	19.1	19.1	21.1
C	13.6	13.6	17.1	17.1	19.1	19.1	21.1
E	4.0	4.0	6.3	6.3	6.3	6.3	8.8
L	13.5	16.0	16.5	21.5	16.5	21.5	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	1.3 to 1.7

● Dimension table in next page.

■ Dimensions

V (μF) Cap. 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		
											▲ 16 × 21.5	400					
330	331					12.5 × 13.5	310	16 × 16.5	370	18 × 16.5	450	18 × 21.5	540	20 × 21.5	590		
										▲ 16 × 21.5	450						
470	471	12.5 × 13.5	270	12.5 × 13.5	340	16 × 16.5	420	16 × 16.5	490	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												
		▲ 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
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.