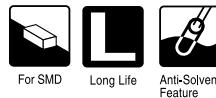
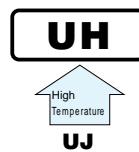


Chip Type, High Reliability, Higher Capacitance Range
series

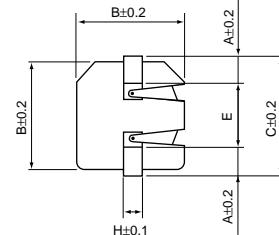
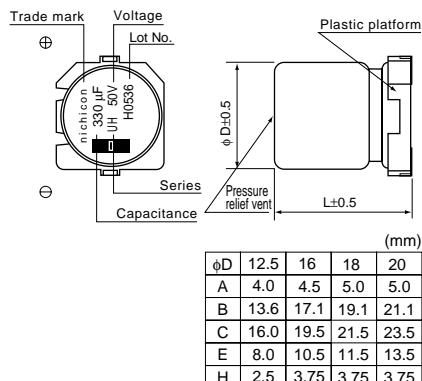
- Chip Type, higher capacitance in larger case sizes ($\phi 12.5$, $\phi 16$, $\phi 18$, $\phi 20$)
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine using carrier tape and tray.
- Adapted to the RoHS directive (2002/95/EC).



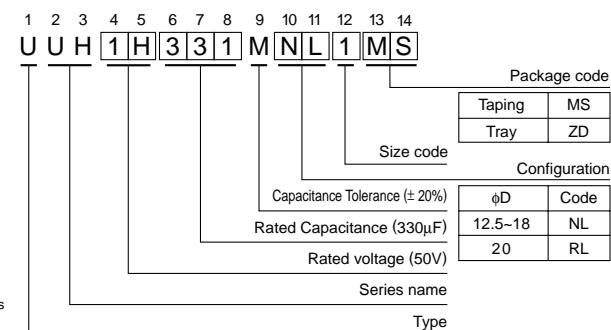
■ Specifications

Item	Performance Characteristics						
Category Temperature Range	-55 ~ +125°C						
Rated Voltage Range	10 ~ 50V						
Rated Capacitance Range	100 ~ 3300μF						
Capacitance Tolerance	±20% at 120Hz, 20°C						
Leakage Current	After 1 minutes' application of rated voltage, leakage current is not more than 0.03CV or 4 (μA), whichever is greater.						
tan δ	Rated voltage (V)	10	16	25	35	50	120Hz 20°C
	tan δ (MAX)	0.22	0.18	0.16	0.14	0.12	
For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.							
Stability at Low Temperature	Rated voltage (V)	10	16	25	35	50	120Hz
	Impedance ratio Z-25°C / Z+20°C	4	3	2	2	2	
Endurance	ZT / Z20 (MAX.) Z-40°C / Z+20°C	8	6	4	3	3	
	After 5000 hours' application of rated voltage at 125°C, capacitors meet the characteristic requirements listed at right.					Capacitance change tan δ Leakage current	Within ±30% of initial value 300% or less of initial specified value Initial specified value or less
Shelf Life	After leaving capacitors under no load at 125°C for 1000 hours, they meet the specified value for endurance characteristics listed above.						
Marking	Black print on the case top.						

■ Chip Type



Type numbering system (Example : 50V 330μF)



The lead terminal structure : The same bent lead type (refer to p.50) that is currently used on 10mm diameter and smaller parts, is also available upon request.
In this case of the bent lead type, **Q** will be put at the 11th digit of type numbering system.
Please ask for details.

■ Dimensions

Cap. (μF)	Code	V					10					16					25					35					50				
		1A					1C					1E					1V					1H									
100	101																										12.5 × 13.5	170			
220	221																										12.5 × 13.5	200	16 × 16.5	250	
330	331						12.5 × 13.5		210		12.5 × 13.5		230		16 × 16.5		280		16 × 21.5		340										
470	471	12.5 × 13.5		230		12.5 × 13.5		250		16 × 16.5		310		18 × 16.5		380		18 × 21.5		380		18 × 21.5		430							
1000	102	12.5 × 16		350		16 × 16.5		440		18 × 21.5		540		20 × 21.5		610		▲ 16 × 21.5		380		18 × 21.5		430							
2200	222	18 × 16.5		620		18 × 21.5		710																							
3300	332	18 × 21.5		770																											

* In this case, **6** will be put at 12th digit of type numbering system, "▲".

Rated Ripple (mA rms) at 125°C 120Hz

● Frequency coefficient of rated ripple current

Cap.(μF)	Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz
100 ~ 470		0.80	1.00	1.23	1.34	1.50
1000 ~ 3300		0.85	1.00	1.10	1.13	1.15

- Taping specifications are given in page 24.
- Recommended land size, soldering by reflow are given in page 25
- Please refer to page 3 for the minimum order quantity.