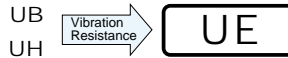


ALUMINUM ELECTROLYTIC CAPACITORS

UE series Chip Type, Vibration Resistance



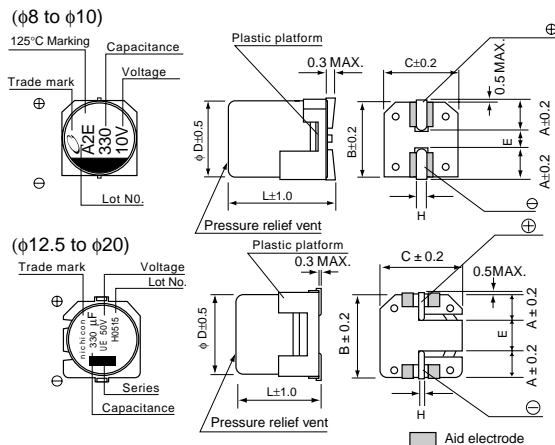
- Chip type with load life of 2000 to 5000 hours at 125°C.
- Suited for automobile electronics where heavy duty services are indispensable.
- Compliant to the RoHS directive (2002/95/EC).



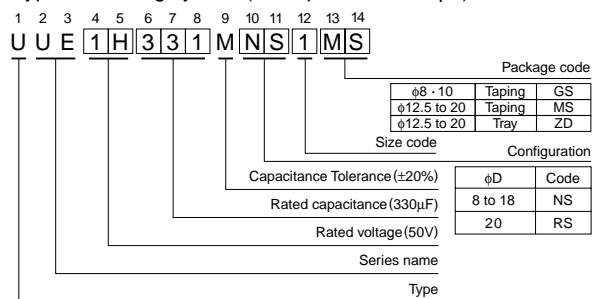
Specifications

Item	Performance Characteristics							
Category Temperature Range	-55 to +125°C (φ 12.5 to 20)		-40 to +125°C (φ 8, φ 10)					
Rated Voltage Range	10 to 50V							
Rated Capacitance Range	33 to 4700μF							
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)	For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.							
	Rated voltage (V)		10	16	25	35	50	120Hz
	tan δ (MAX)	φ 8 · φ 10	0.26	0.20	0.16	0.14	0.14	20°C
φ 12.5 to φ 20		0.22	0.18	0.16	0.14	0.12		
Stability at Low Temperature	Rated voltage (V)		10	16	25	35	50	120Hz
	Impedance ratio Z _{-40°C} / Z _{+20°C} (MAX)	φ 8 · φ 10	10	8	6	4	4	
		φ 12.5 to φ 20	8	6	4	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 5000 hours (2000 hours for φ D = 8 and 10) at 125°C.					Capacitance change	Within ±30% of the initial capacitance value	
						tan δ	300% 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 125°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 330μF)



φD	8	10	12.5	16	18	20
A	2.9	3.2	4.8	5.4	6.4	6.2
B	8.3	10.3	13.6	17.1	19.1	21.1
C	8.3	10.3	13.6	17.1	19.1	21.1
E	3.1	4.5	4.0	6.3	6.3	8.8
H	1.1 to 1.5	1.1 to 1.5	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4	1.3 to 1.7

Dimensions

Cap. (μF)	Code	10		16		25		35		50	
		1A		1C		1E		1V		1H	
33	330									8 × 10	90
47	470									10 × 10	130
100	101			8 × 10	140	8 × 10	140	8 × 10	100	10 × 10	150
220	221	8 × 10	140	10 × 10	190	10 × 10	190	12.5 × 13.5	550	12.5 × 13.5	500
330	331	10 × 10	190	12.5 × 13.5	750	12.5 × 13.5	750	16 × 16.5	1000	16 × 16.5	850
470	471	12.5 × 13.5	750	12.5 × 13.5	750	16 × 16.5	1000	16 × 16.5	1000	16 × 16.5	850
680	681	12.5 × 16	900	16 × 16.5	1000	16 × 16.5	1000	18 × 16.5	1200	18 × 16.5	950
1000	102	12.5 × 16	900	18 × 16.5	1200	18 × 21.5	1200	18 × 16.5	1200	18 × 16.5	1200
2200	222	18 × 16.5	1200	18 × 16.5	1200	18 × 21.5	1550	20 × 21.5	1400		
3300	332	16 × 21.5	1200								
4700	472	18 × 16.5	1200								
		18 × 21.5	1550							Case size φD × L (mm)	Rated ripple

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

Rated ripple current (mArms) at 125°C 100kHz

Frequency coefficient of rated ripple current

φ D	Cap. (μF)	Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
φ 8 · φ 10	33 to 330		0.47	0.67	0.78	0.91	1.00
	100 to 680		0.53	0.67	0.82	0.89	1.00
φ 12.5 to φ 20	1000 to 4700		0.74	0.87	0.96	0.98	1.00

- 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.