ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UL Chip Type, Long Life Assurance series

For SMD | Long Life | Anti-Solvent Feature

- Chip type with load life of 5,000 hours at +105°C.
- Designed for surface mounting on high density PC board.

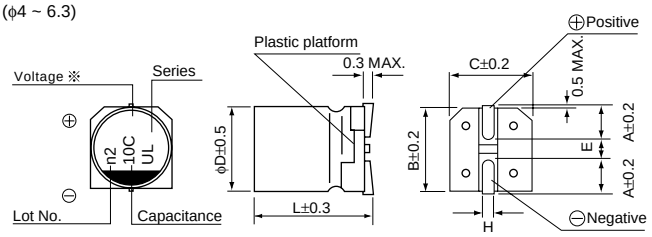
UL ← Long Life UA

■Specifications

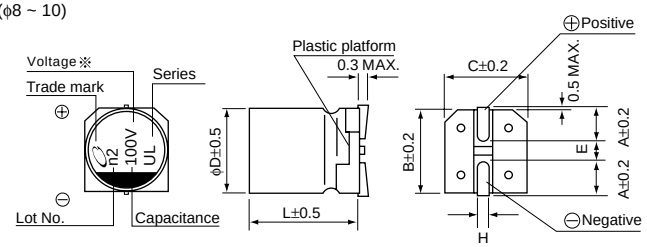
Item	Performance Characteristics
Category Temperature Range	–40 ~ +105°C
Rated Voltage Range	10 ~ 50V
Rated Capacitance Range	0.1 ~ 470µF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01 CV or 3 (µA), Max
tan δ	Measurement frequency : 120Hz, Temperature : 20°C Rated voltage (V): 10 / 16 / 25 / 35 / 50 tan δ (MAX.): 0.24 / 0.20 / 0.16 / 0.13 / 0.12
Stability at Low Temperature	Measurement frequency : 120Hz Rated voltage (V): 10 / 16 / 25 / 35 / 50 Impedance ratio ZT / Z20 (MAX.) Z–25°C / Z+20°C: 3 / 2 / 2 / 2 / 2 Z–40°C / Z+20°C: 7 / 5 / 3 / 3 / 3
Endurance	After 5000 hours' application of rated voltage at 105°C , capacitors meet the characteristic requirements listed at right. Capacitance change: Within ±30% of initial value tan δ: 300% or less of initial specified value Leakage current: Initial specified value or less
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for endurance characteristics listed above.
Resistance to soldering heat	The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed at right. Capacitance change: Within ±10% of initial value tan δ: Initial specified value or less Leakage current: Initial specified value or less
Marking	Black print on the case top.

■Chip Type

(φ4 ~ 6.3)



(φ8 ~ 10)



Voltage

V	10	16	25	35	50
Code	A	C	E	V	H

Type numbering system (Example : 16V 100µF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	U	L	1	C	1	0	1	M	C	L	1	G	S

- 14: Package code
- 11–12: Configuration

D × L	Code
4 ~ 6.3	CL
8 · 10	NL

- 10: Capacitance tolerance (±20%)
- 6–8: Rated Capacitance (100 µF)
- 4–5: Rated voltage (16V)
- 3: Series name
- 1–2: Type

(mm)

φD × L	4 × 5.8	5 × 5.8	6.3 × 5.8	6.3 × 7.7	8 × 10	10 × 10
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	5.8	5.8	5.8	7.7	10	10
H	0.5 ~ 0.8	0.5 ~ 0.8	0.5 ~ 0.8	0.5 ~ 0.8	0.8 ~ 1.1	0.8 ~ 1.1

● Dimension table in next page.

UL series

■Dimensions

Cap. (μF) \ V	Code	10		16		25		35		50	
		1A		1C		1E		1V		1H	
0.1	0R1									4×5.8	1
0.22	R22									4×5.8	2.6
0.33	R33									4×5.8	3.2
0.47	R47									4×5.8	3.8
1	010									4×5.8	6.2
2.2	2R2									4×5.8	11
3.3	3R3									4×5.8	14
4.7	4R7							4×5.8	15	5×5.8	19
10	100			4×5.8	18	5×5.8	25	5×5.8	25	6.3×5.8	30
22	220	5×5.8	30	5×5.8	30	6.3×5.8	42	6.3×5.8	42	6.3×7.7	49
33	330	5×5.8	35	6.3×5.8	48	6.3×5.8	48	6.3×7.7	57	8×10	77
47	470	6.3×5.8	50	6.3×5.8	50	6.3×7.7	63	8×10	92	8×10	92
100	101	6.3×7.7	81	6.3×7.7	81	8×10	116	10×10	151	10×10	151
220	221	8×10	141	10×10	216	10×10	216	10×10	216		
330	331	10×10	238	10×10	238	10×10	238				
470	471	10×10	254	10×10	254					Case size	Rated ripple

Rated Ripple (mA rms) at 105°C 120Hz

●Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz~
Coefficient	0.70	1.00	1.17	1.36	1.50

- Taping specifications are given in page 22.
- Recommended land size are given in page 23
- Please refer to page 3 for the minimum order quantity.