

UUL

Chip Type, Long Life Assurance



For SMD



Long Life

Anti-Solvent  
Feature

- Chip type with load life of 5000 hours at +105°C.
- Designed for surface mounting on high density PC board.
- Compliant to the RoHS directive (2011/65/EU).

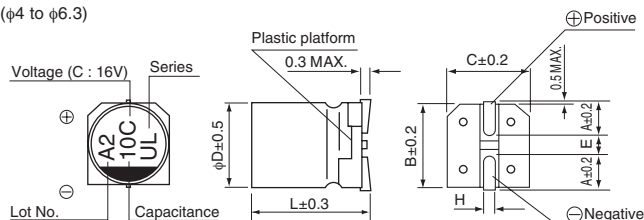
UCB ← Long Life **UUL** ← Long Life UUA

## Specifications

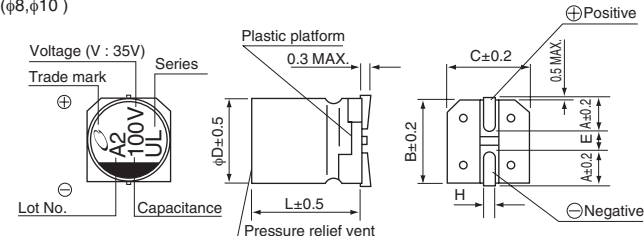
Item	Performance Characteristics							
Category Temperature Range	-40 to +105°C							
Rated Voltage Range	6.3 to 50V							
Rated Capacitance Range	1 to 1000μF							
Capacitance Tolerance	±20% at 120Hz, 20°C							
Leakage Current	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01 CV or 3 (μA), Max							
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C							
	Rated voltage (V)	6.3	10	16	25	35	50	
	tan δ (MAX.)	0.32	0.24	0.20	0.16	0.13	0.12	
Stability at Low Temperature	Measurement frequency : 120Hz							
	Rated voltage (V)		6.3	10	16	25	35	50
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	4	3	2	2	2	2
		Z-40°C / Z+20°C	10	7	5	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 5000 hours at 105°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 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.							
Resistance to soldering heat	The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.				Capacitance change		Within ±10% of the initial capacitance value	
					tan δ		Less than or equal to the initial specified value	
					Leakage current		Less than or equal to the initial specified value	
Marking	Black print on the case top.							

## Chip Type

(φ4 to φ6.3)



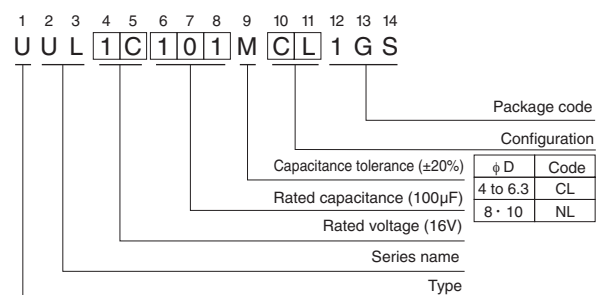
(φ8, φ10)



Voltage

V	6.3	10	16	25	35	50
Code	j	A	C	E	V	H

## Type numbering system (Example : 16V 100μF)



	(mm)					
φ D × 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 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

● Dimension table in next page.

UUL

## ■ Dimensions

Cap. (μF)	V Code	6.3		10		16		25		35		50	
		0J		1A		1C		1E		1V		1H	
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	5 × 5.8	35	6.3 × 5.8	48	6.3 × 5.8	48	6.3 × 7.7	57	8 × 10	77
47	470	5 × 5.8	36	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 × 5.8	60	6.3 × 7.7	81	6.3 × 7.7	81	8 × 10	116	10 × 10	151	10 × 10	151
220	221	6.3 × 7.7	101	8 × 10	141	10 × 10	216	10 × 10	216	10 × 10	216		
330	331	8 × 10	160	10 × 10	238	10 × 10	238	10 × 10	238				
470	471	10 × 10	254	10 × 10	254	10 × 10	254						
1000	102	10 × 10	313									Case size φ D × L (mm)	Rated ripple

Rated ripple current (mA<sub>rms</sub>) at 105°C 120Hz

## ● Frequency coefficient of rated ripple current

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

- 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.