nichicon

ULV

Chip Type, High Voltage.
Long Life.

For SMD | Long Life

- Chip Type, high voltage and long life.
- Load life of 10000 hours at +105°C
- Applicable to automatic mounting machine using carrier tape.
- Compliant to the RoHS directive (2011/65/EU).

ULV → Long Life → ULR

Specifications

Item	Performance Characteristics
Category Temperature Range	−40 to +105°C
Rated Voltage Range	160 to 500V
Rated Capacitance Range	1.8 to 33μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	Rated voltage (V): 160 to 450 / 500 –: 0.04CV+100(μA)max.(1 minute's at 20°C) / 0.04CV+200(μA)max.(1 minute's at 20°C)
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C

Rated voltage (V)	160	200	250	400	450	500
tan δ (MAX.)	0.20	0.20	0.25	0.25	0.30	0.30

Stability at Low Temperature — Measurement frequency: 120Hz

Rated voltage (V)		160	200	250	400	450	500
Impedance ratio ZT / Z20 (MAX.)	Z−40°C / Z+20°C	6	6	10	10	15	15

Endurance

The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 10000 hours at 105°C.

Capacitance change	Within ±30% of the initial capacitance value
tan δ	300% or less than the intial 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 and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the characteristic requirements listed at right when they are removed from the plate.

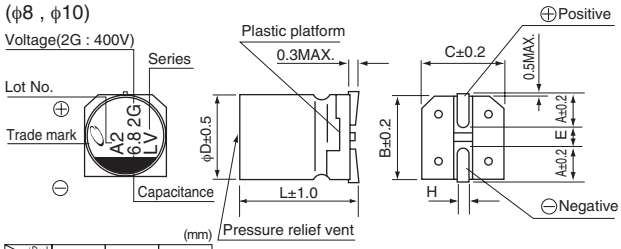
Capacitance change	Within ±10% of the initial capacitance value
tan δ	Less than or equal to the initial specified value
Leakage current	Less than or equal to the initial specified value

Marking

Black print on the case top.

Chip Type

(φ8 , φ10)



φD×L	8×10	10×10	10×13.5
A	2.9	3.2	3.2
B	8.3	10.3	10.3
C	8.3	10.3	10.3
E	3.1	4.5	4.5
L	10	10	13.5
H	0.8 to 1.1	0.8 to 1.1	0.8 to 1.1

Voltage

V	160	200	250	400	450	500
Code	2C	2D	2E	2G	2W	2H

Type numbering system (Example : 400V 6.8μF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	L	V	2	G	6	R	8	M	N	L	1	G	S

- 14: Taping code
- 10–12: Configuration
- 9: Capacitance tolerance (±20%)
- 6–8: Rated capacitance (6.8μF)
- 4–5: Rated voltage (400V)
- 2–3: Series name
- 1: Type

Dimensions

Cap.(μF) \ V	Code	160		200		250		400		450		500	
		2C		2D		2E		2G		2W		2H	
1.8	1R8											8×10	25
3.3	3R3									8×10	25	10×10	40
3.9	3R9							8×10	35				
4.7	4R7											10×13.5	45
5.6	5R6									10×10	40		
6.8	6R8							10×10	50				
7.5	7R5									10×13.5	45		
8.2	8R2					8×10	35						
10	100							10×13.5	55				
12	120			8×10	50								
15	150	8×10	50			10×10	50						
18	180			10×10	65	10×13.5	55						
22	220	10×10	65										
27	270			10×13.5	70							Case size φD×L (mm)	Rated ripple
33	330	10×13.5	70										

Rated ripple current (mArms) at 105°C 120Hz

Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
Coefficient	0.80	1.00	1.25	1.40	1.60

- 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.