nichicon

ULH

Chip Type, High Voltage.
High Reliability.

For SMD | Long Life

- Chip type, High voltage and High Reliability.
- Load life of 4000 hours at +125°C.
- Applicable to automatic mounting machine using carrier tape.
- Adapted to the RoHS directive (2011/65/EU).

ULH ← Long Life → ULT

■Specifications

Item	Performance Characteristics
Category Temperature Range	−40 to +125°C
Rated Voltage Range	160 to 450V
Rated Capacitance Range	2.2 to 27μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 0.04CV+100 (μA).
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C

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

Stability at Low Temperature	Measurement frequency : 120Hz				
Rated voltage (V)		160	200	250	400	450
Impedance ratio ZT / Z20 (MAX.)	Z−40°C / Z+20°C	6	6	10	10	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 4000 hours at 125°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

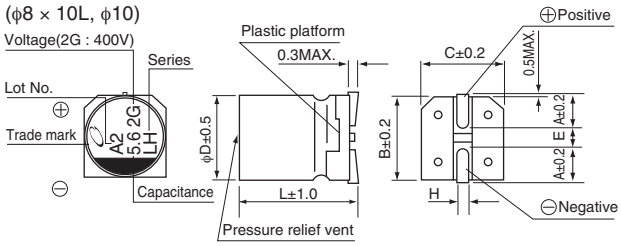
Shelf Life	After storing the capacitors under no load at 125°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.	

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 × 10L, φ10)



(mm)

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
Code	2C	2D	2E	2G	2W

Type numbering system (Example : 400V 5.6μF)

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

- 14: Taping code
- 10–11: Configuration
- 9: Capacitance tolerance (±20%)
- 5–8: Rated capacitance (5.6μF)
- 4: Rated voltage (400V)
- 2–3: Series name
- 1: Type

■Dimensions

Cap.(μF) \ V / Code	160 / 2C		200 / 2D		250 / 2E		400 / 2G		450 / 2W	
2.2	2R2								8 × 10	20
3.3	3R3						8 × 10	30		
3.9	3R9								10 × 10	35
5.6	5R6						10 × 10	45	10 × 13.5	40
7.5	7R5				8 × 10	30	10 × 13.5	50		
10	100		8 × 10	45						
12	120	8 × 10	45		10 × 10	45				
15	150		10 × 10	60	10 × 13.5	50				
18	180	10 × 10	60							
22	220		10 × 13.5	65					Case size φD × L (mm)	Rated ripple
27	270	10 × 13.5	65							

Rated ripple current (mArms) at 125°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.