

# ALUMINUM ELECTROLYTIC CAPACITORS

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.
- Compliant to the RoHS directive (2011/65/EU).

### ULH

Long Life

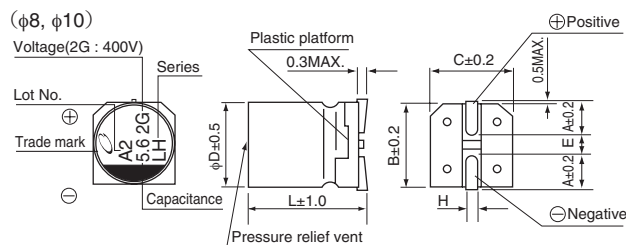
### ULT



## 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 at 20°C, 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.)	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 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.	
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.	

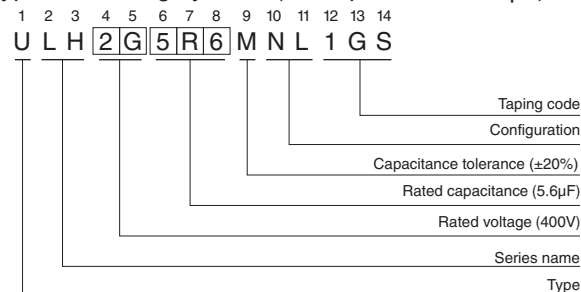
## Chip Type



(mm)	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)



## Dimensions

Cap. (μF)	V	160	200	250	400	450
Code	2C	2D	2E	2G	2W	
2.2	2R2					
3.3	3R3				8 × 10	30
3.9	3R9					
5.6	5R6				10 × 10	45
7.5	7R5				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		
27	270	10 × 13.5	65			

Rated ripple current (mA rms) 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.