

# ALUMINUM ELECTROLYTIC CAPACITORS

**ULV** Chip Type, High Voltage.  
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,(EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

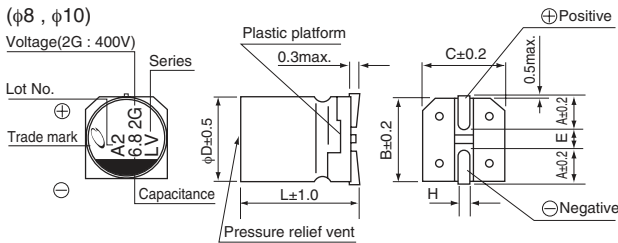


## Specifications

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
	-	0.04CV+100(μA)max.(1 minute's at 20°C)
Tangent of loss angle (tan δ)	500	
	0.04CV+200(μA)max.(1 minute's at 20°C)	
	Measurement frequency : 120Hz at 20°C	
Stability at Low Temperature	Rated voltage (V)	160 200 250 400 450 500
	tan δ (max.)	0.20 0.20 0.25 0.25 0.30 0.30
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
Shelf Life	tan δ	300% or less than the initial specified value
	Leakage current	Less than or equal to the initial specified value
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
Marking	tan δ	Less than or equal to the initial specified value
	Leakage current	Less than or equal to the initial specified value
	Black print on the case top.	

※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

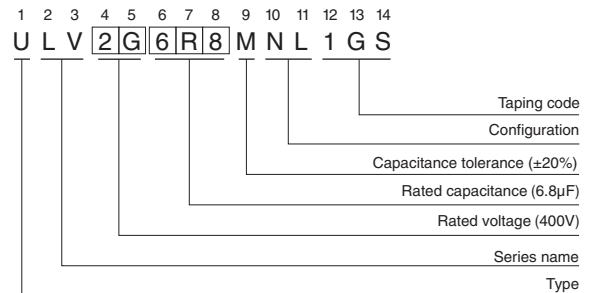
## Chip Type



(mm)	$\phi 8 \times L$	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)



## 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

● Dimension table in next page.

ULV

## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance ( $\mu$ F)	Case Size $\phi$ D $\times$ L (mm)	tan $\delta$	Leakage Current ( $\mu$ A) (at 20°C after 1 minute)	Rated Ripple (mArms) (105°C/120Hz)	Part Number
160 (2C)	15	8 $\times$ 10	0.20	196	50	ULV2C150MNL1GS
	22	10 $\times$ 10	0.20	240.8	65	ULV2C220MNL1GS
	33	10 $\times$ 13.5	0.20	311.2	70	ULV2C330MNL1GS
200 (2D)	12	8 $\times$ 10	0.20	196	50	ULV2D120MNL1GS
	18	10 $\times$ 10	0.20	244	65	ULV2D180MNL1GS
	27	10 $\times$ 13.5	0.20	316	70	ULV2D270MNL1GS
250 (2E)	8.2	8 $\times$ 10	0.25	182	35	ULV2E8R2MNL1GS
	15	10 $\times$ 10	0.25	250	50	ULV2E150MNL1GS
	18	10 $\times$ 13.5	0.25	280	55	ULV2E180MNL1GS
400 (2G)	3.9	8 $\times$ 10	0.25	162.4	35	ULV2G3R9MNL1GS
	6.8	10 $\times$ 10	0.25	208.8	50	ULV2G6R8MNL1GS
	10	10 $\times$ 13.5	0.25	260	55	ULV2G100MNL1GS
450 (2W)	3.3	8 $\times$ 10	0.30	159.4	25	ULV2W3R3MNL1GS
	5.6	10 $\times$ 10	0.30	200.8	40	ULV2W5R6MNL1GS
	7.5	10 $\times$ 13.5	0.30	235	45	ULV2W7R5MNL1GS
500 (2H)	1.8	8 $\times$ 10	0.30	236	25	ULV2H1R8MNL1GS
	3.3	10 $\times$ 10	0.30	266	40	ULV2H3R3MNL1GS
	4.7	10 $\times$ 13.5	0.30	294	45	ULV2H4R7MNL1GS

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.