

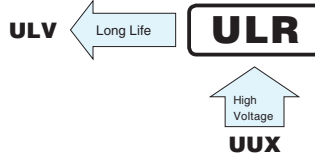
# ULR

Chip Type, High Voltage.



For SMD

- Chip Type, high Voltage.
- 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.

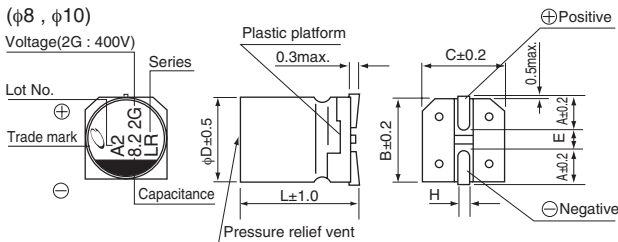


## Specifications

Item	Performance Characteristics							
Category Temperature Range	-40 to +105°C							
Rated Voltage Range	160 to 500V							
Rated Capacitance Range	2.7 to 39μF							
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	500	
Stability at Low Temperature	Measurement frequency: 120Hz							
	Rated voltage (V)	160	200	250	400	450	500	
Endurance	Impedance ratio ZT / Z20 (max.)	Z(-40°C) / Z(+20°C)	6	6	10	10	15	15
	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 3000 hours at 105°C.		Capacitance change		Within ±20% of the initial capacitance 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.		tan δ		200% 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			
			tan δ		Less than or equal to the initial specified value			
Marking	Black print on the case top.		Leakage current		Less than or equal to the initial specified value			

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

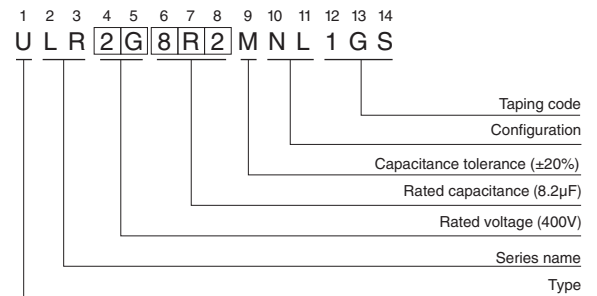
## Chip Type



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

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

## Type numbering system (Example : 400V 8.2μF)



## 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.

## ULR

## ■ 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	ULR2C150MNL1GS
	27	10 $\times$ 10	0.20	272.8	65	ULR2C270MNL1GS
	39	10 $\times$ 13.5	0.20	349.6	70	ULR2C390MNL1GS
200 (2D)	12	8 $\times$ 10	0.20	196	50	ULR2D120MNL1GS
	22	10 $\times$ 10	0.20	276	65	ULR2D220MNL1GS
	33	10 $\times$ 13.5	0.20	364	70	ULR2D330MNL1GS
250 (2E)	10	8 $\times$ 10	0.25	200	35	ULR2E100MNL1GS
	15	10 $\times$ 10	0.25	250	50	ULR2E150MNL1GS
	22	10 $\times$ 13.5	0.25	320	55	ULR2E220MNL1GS
400 (2G)	4.7	8 $\times$ 10	0.25	175.2	35	ULR2G4R7MNL1GS
	8.2	10 $\times$ 10	0.25	231.2	50	ULR2G8R2MNL1GS
	12	10 $\times$ 13.5	0.25	292	55	ULR2G120MNL1GS
450 (2W)	3.9	8 $\times$ 10	0.30	170.2	25	ULR2W3R9MNL1GS
	6.8	10 $\times$ 10	0.30	222.4	40	ULR2W6R8MNL1GS
	10	10 $\times$ 13.5	0.30	280	45	ULR2W100MNL1GS
500 (2H)	2.7	8 $\times$ 10	0.30	154	20	ULR2H2R7MNL1GS
	3.9	10 $\times$ 10	0.30	178	35	ULR2H3R9MNL1GS
	5.6	10 $\times$ 13.5	0.30	212	40	ULR2H5R6MNL1GS

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