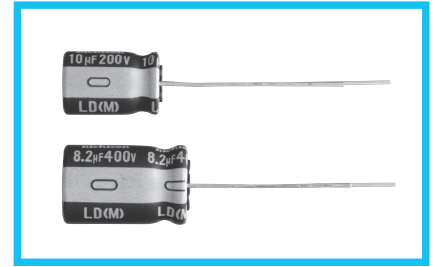


ULD

Miniature sized, Long Life Assurance



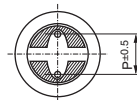
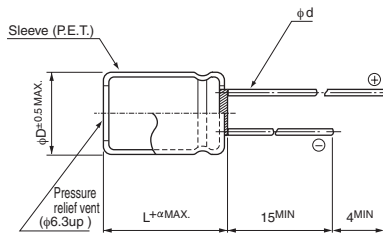
- Long Life product withstanding load life of 10000 to 20000 hours at +105°C.
- Suited for the power supply for LED lighting.
- Compliant to the RoHS directive (2011/65/EU).



Specifications

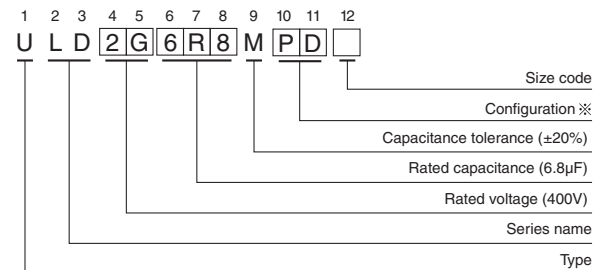
Item	Performance Characteristics								
Category Temperature Range	-25 to +105°C(10 to 100V, 450V), -40 to +105°C(160 to 400V)								
Rated Voltage Range	10 to 450V								
Rated Capacitance Range	1 to 330µF								
Capacitance Tolerance	±20% at 120Hz, 20°C								
Leakage Current	Rated Voltage(V)	10 to 100							
	—	After 2 minute's application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3(µA), whichever is greater.							
Tangent of loss angle (tan δ)	Rated Voltage(V)	160 to 450							
	—	After 1 minute's application of rated voltage at 20°C, CV ≤ 1000 : I=0.1CV+40(µA) or less After 1 minute's application of rated voltage at 20°C, CV>1000 : I=0.04CV+100(µA) or less							
Stability at Low Temperature	Measurement frequency : 120Hz at 20°C								
	Rated voltage (V)	10	16	25	35	50	63	100	160 to 450
Endurance	Rated Voltage(V)	10 to 100				160 to 450			
	—	The specifications listed below shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 10000 hours at 105°C, the peak voltage shall not exceed the rated voltage.				The specifications listed below shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 20000 hours (12000 hours for φ6.3×11L, φ8×9L φ10×9L, 15000 hours φ8×11.5L, φ10×12.5L) at 105°C, the peak voltage shall not exceed the rated voltage.			
Shelf Life	Capacitance change	Within ± 25%(10V to 100V) ± 30%(160V to 450V) 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							
Marking	Printed with white color letter on dark brown sleeve.								

Radial Lead Type



	(mm)							
φD	5	6.3	8	10	12.5	16	18	
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	
α	1.5	1.5	2.0	2.0	2.0	2.0	2.0	

Type numbering system (Example : 400V 6.8µF)



※ Configuration	
φ D	Pb-free leadwire Pb-free PET sleeve
5	DD
6.3	ED
8 · 10	PD
12.5 to 18	HD

- Please refer to page 20 about the end seal configuration.
- Please refer to page 20, 21, 22 about the formed or taped product spec.
- Please refer to page 4 for the minimum order quantity.

ULD

■ Dimensions

Cap	V Code	10		16		25		35		50		63		100	
		1A		1C		1E		1V		1H		1J		2A	
1	010									5×11	25			Case size φD × L (mm)	※
2.2	2R2									5×11	35				
3.3	3R3									5×11	70				
4.7	4R7									5×11	80			5×11	70
6.8	6R8									5×11	80			5×11	70
10	100									5×11	90	5×11	80	6.3×11	150
22	220									5×11	135	6.3×11	170	8×11.5	230
33	330					5×11	130	5×11	130	6.3×11	190	6.3×11	170		
47	470			5×11	130	5×11	130	6.3×11	210	6.3×11	190	8×11.5	240		
100	101	5×11	130	6.3×11	210	6.3×11	210	8×11.5	330	8×11.5	270				
150	151			6.3×11	210	8×11.5	330								
220	221	6.3×11	210	8×11.5	330										
270	271			8×11.5	330										
330	331	8×11.5	330												

※ : Rated ripple (mArms) at 105°C 100kHz

• Frequency coefficient of rated ripple current

Cap.(μF)	Frequency	120Hz	1kHz	10kHz	100kHz
1 to 10μF		0.42	0.60	0.80	1.00
22 to 33μF		0.55	0.75	0.90	1.00
47 to 330μF		0.70	0.85	0.95	1.00

Cap	V Code	160		200		250		400		450	
		2C		2D		2E		2G		2W	
1	010							6.3 × 11	24	Case size φD × L (mm)	※
1.2	1R2							8 × 9	28		
1.5	1R5							6.3 × 11	29		
1.8	1R8					6.3 × 11	33	▲ 8 × 9	30		
1.8	1R8					6.3 × 11	33	8 × 9	33		
2.2	2R2			6.3 × 11	36	6.3 × 11	36	8 × 11.5	40		
2.2	2R2							▲ 8 × 9	33		
2.7	2R7							8 × 11.5	43		
3.3	3R3			6.3 × 11	42	6.3 × 11	42	8 × 11.5	47		
3.3	3R3							▲ 10 × 9	48		
3.9	3R9							10 × 12.5	57		
4.7	4R7			6.3 × 11	49	8 × 9	53	10 × 12.5	61		
5.6	5R6	6.3 × 11	52	6.3 × 11	50	8 × 11.5	62	10 × 12.5	64	10 × 16	58
5.6	5R6			▲ 8 × 9	56						
6.8	6R8	6.3 × 11	55	8 × 9	62	8 × 11.5	68	10 × 16	85	10 × 16	62
8.2	8R2			8 × 9	66	10 × 9	76	10 × 16	88	10 × 20	88
10	100	8 × 9	70	8 × 11.5	80	10 × 12.5	90			10 × 20	92
12	120			10 × 9	88	10 × 12.5	97				
15	150	8 × 11.5	92							12.5 × 20	140
15	150	▲ 10 × 9	95								
18	180			10 × 12.5	113	10 × 16	129				
22	220	10 × 12.5	121							12.5 × 25	240
22	220									▲ 16 × 20	292
27	270			10 × 16	149					16 × 20	305
33	330	10 × 16	158							16 × 25	392
33	330									▲ 18 × 20	312
47	470									18 × 25	480
68	680									18 × 31.5	520

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

▲ : In this case, 6 will be put at 12th digit of type numbering system.

Cap.(μF)	Frequency	120Hz	1kHz	10kHz	100kHz or more
1 to 5.6μF		1.00	1.60	1.80	2.00
6.8 to 18μF		1.00	1.50	1.70	1.90
22 to 68μF		1.00	1.40	1.60	1.80