

# ULR Series

+105°C, Higher Ripple Current, Lower ESR than ULG

## Features

- Higher Ripple Current, Lower ESR than ULG
- Wide Temperature Range
- RoHS Compliant



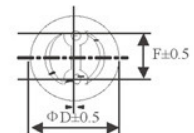
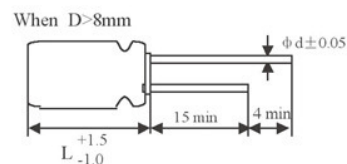
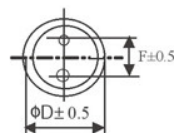
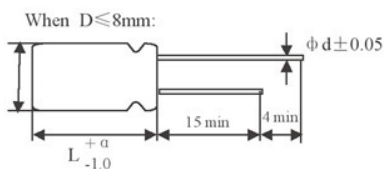
## Applications

- Suitable for DC-DC Converters, Voltage Regulators, Decoupling Applications for Computer Motherboards, etc.

## Specifications

Item	Performance Characteristics				
Operating Temperature Range	-55 to +105°C				
Rated Working Voltage Range	2.5VDC to 35VDC				
Surge Voltage, SV	SV=WVx1.15 VDC (Normal temperature)				
Nominal Capacitance Range	22 to 2700μF (120Hz, +20°C)				
Capacitance Tolerance	±20% (120Hz, +20°C)				
tanδ	0.10 (120Hz, +20°C)				
Leakage Current, Lc	I ≤ 0.2CV or 280(μA) whichever is greater measured, after 2 minutes application of rated working voltage at +20°C				
Temperature Characteristics, Impedance Ratio	At -55°C 100kHz (Low temperature)			Z/Z20°C ≤ 1.25	
	At +105°C 100kHz (High temperature)			Z/Z20°C ≤ 1.25	
Frequency Coefficient for Allowable Ripple Current	Frequency	120Hz ≤ f < 1kHz	1kHz ≤ f < 10kHz	10kHz ≤ f < 100kHz	100kHz ≤ f < 500kHz
	Coefficient	0.05	0.30	0.70	1.00
Endurance	Test conditions +105°C, 2000 hours Rated voltage applied	ΔC/C	Within ±20% of initial measured value		
		tanδ	≤ 150% of initial specified value		
		ESR	≤ 150% of initial specified value		
		Lc	≤ Initial specified value		
Damp Heat Test (Steady State)	Test conditions +60°C, 90% to 95% RH 1000 hours No applied voltage	ΔC/C	Within ±20% of initial measured value		
		tanδ	≤ 150% of initial specified value		
		ESR	≤ 150% of initial specified value		
		Lc	≤ Initial specified value		
Surge Voltage Test	At normal temperature, charge at surge voltage for 30 sec. and discharge via a 1kΩ protective resistor for 330 sec. Repeat for 1000 cycles.	ΔC/C	Within ±20% of initial measured value		
		tanδ	≤ 150% of initial specified value		
		ESR	≤ 150% of initial specified value		
		Lc	≤ Initial specified value		
Others	JIS-C-5101-4				

## Dimensions



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## Size List

RV: Rated Voltage

RV μF	Code	2.5(0E)	4(0G)	6.3(0J)	10(1A)	16(1C)	20(1D)	25(1E)	35(1V)
22	226				E08			E08	
33	336				E08		E08	F08	
47	476				E08	E08 <sup>NEW</sup>	F08	F08	
100	107					E06, E08, E11 <sup>NEW</sup>	F1A	F1A	G1B
150	157						G1B		
180	187					F1A			
220	227				E06, E08	E11, F08, F1A			G1B
270	277	E06	E08	D07	F08, F1A	F08, F1A			
330	337			E06, E08, F08	F1A <sup>NEW</sup>	F08, G1B		G1B	
390	397	E06		F08	F08, F1A				
470	477	D09		E08, F08, F1A	F08, F1A, G1B	F1A, G1B			
560	567	D08, D09, E06, E08, F08 <sup>NEW</sup>	E08, F08, F1A	E08, F08	F08, F1A <sup>NEW</sup>				
680	687	F08	F08, F1A	E08, F08, F1A, G1B <sup>NEW</sup>	F1A, G1B	G1B			
820	827	E08, F08, F1A	F1A	F08, F1A, G1B	F1A	G1B			
1000	108	F1A	F08, G1B	F1A	G1B <sup>NEW</sup>	G1B			
1200	128		F08, G1B <sup>NEW</sup>	F1A	G1B				
1500	158	F1A, G1B		G1B					
2700	278	G1B	G1B						

(Unit: mm)

Size Code	D07	D08	D09	E06	E08	E11	F08	F1A	G1B
ΦDxL	5x7	5x8	5x9	6.3x6	6.3x8	6.3x11	8x8	8x11.5	10x12.5
F±0.5	2.0	2.0	2.0	2.5	2.5	2.5	3.5	3.5	5.0
Φd	0.5	0.6	0.6	0.45	0.6	0.6	0.6	0.6	0.6
α	L<11: α=1.0; L≥11: α=1.5								

## Characteristics List

Rated Voltage (V)	Rated Capacitance (μF)	Case Size	Size Code	Part Number	ESR (mΩ) (max) 100kHz to 300kHz at 20°C	Rated Ripple Current 100kHz (mArms) at 105°C	Tangent of Loss Angle (%max)	Leakage Current (μA)(max) After 2 minutes
2.5	220	6.3x6	E06	ULR227M0EE06	15	3400	10	280
2.5	390	6.3x6	E06	ULR397M0EE06	15	3400	10	280
2.5	470	5x9	D09	ULR477M0ED09	7	4180	10	280
2.5	560	5x8	D08	ULR567M0ED08	7	4180	10	280
2.5	560	5x9	D09	ULR567M0ED09	7	4180	10	280
2.5	560	6.3x6	E06	ULR567M0EE06	15	3400	10	280
2.5	560	6.3x8	E08	ULR567M0EE08	7	4000	10	280
2.5	560	8x8	F08	ULR567M0EF08	7	6100	10	280
2.5	820	6.3x8	E08	ULR827M0EE08	7	5600	10	410
2.5	820	8x8	F08	ULR827M0EF08	7	6100	10	410
2.5	820	8x11.5	F1A	ULR827M0EF1A	7	6100	10	410



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Rated Voltage (V)	Rated Capacitance (μF)	Case Size	Size Code	Part Number	ESR (mΩ) (max) 100kHz to 300kHz at 20°C	Rated Ripple Current 100kHz (mArms) at 105°C	Tangent of Loss Angle (%max)	Leakage Current (μA)(max) After 2 minutes
2.5	1000	8x11.5	F1A	ULR108M0EF1A	7	6100	10	500
2.5	1500	8x11.5	F1A	ULR158M0EF1A	7	6100	10	750
2.5	1500	10x12.5	G1B	ULR158M0EG1B	7	6100	10	750
2.5	2700	10x12.5	G1B	ULR278M0EG1B	8	5560	10	1350
4	270	6.3x8	E08	ULR277M0GE08	12	3200	10	280
4	560	6.3x8	E08	ULR567M0GE08	7	5600	10	448
4	560	8x8	F08	ULR567M0GF08	7	6100	10	448
4	560	8x11.5	F1A	ULR567M0GF1A	7	6100	10	448
4	680	8x8	F08	ULR687M0GF08	7	6100	10	544
4	680	8x11.5	F1A	ULR687M0GF1A	7	6100	10	544
4	820	8x8	F08	ULR827M0GF08	7	6100	10	656
4	820	8x11.5	F1A	ULR827M0GF1A	7	6100	10	656
4	1000	8x8	F08	ULR108M0GF08	7	6100	10	800
4	1000	10x12.5	G1B	ULR108M0GG1B	7	6640	10	800
4	1200	8x8	F08	ULR128M0GF08	7	6100	10	960
4	1200	10x12.5	G1B	ULR128M0GG1B	8	5600	10	960
4	2700	10x12.5	G1B	ULR278M0GG1B	8	6900	10	2160
6.3	270	5x7	D07	ULR277M0JD07	11	3700	10	340
6.3	330	6.3x6	E06	ULR337M0JE06	20	3160	10	416
6.3	330	6.3x8	E08	ULR337M0JE08	10	4500	10	416
6.3	330	8x8	F08	ULR337M0JF08	8	5700	10	416
6.3	390	8x8	F08	ULR397M0JF08	8	5700	10	492
6.3	470	6.3x8	E08	ULR477M0JE08	8	4700	10	592
6.3	470	8x8	F08	ULR477M0JF08	8	5700	10	593
6.3	470	8x11.5	F1A	ULR477M0JF1A	7	6100	10	592
6.3	560	6.3x8	E08	ULR567M0JE08	8	4700	10	706
6.3	560	8x8	F08	ULR567M0JF08	8	5700	10	706
6.3	680	6.3x8	E08	ULR687M0JE08	8	4700	10	857
6.3	680	8x8	F08	ULR687M0JF08	8	5700	10	857
6.3	680	8x11.5	F1A	ULR687M0JF1A	7	6100	10	857
6.3	680	10x12.5	G1B	ULR687M0JG1B	7	6640	10	857
6.3	820	8x8	F08	ULR827M0JF08	7	6100	10	1033
6.3	820	8x11.5	F1A	ULR827M0JF1A	7	6100	10	1033
6.3	820	10x12.5	G1B	ULR827M0JG1B	7	6640	10	1033
6.3	1000	8x11.5	F1A	ULR108M0JF1A	7	6100	10	1260
6.3	1200	8x11.5	F1A	ULR128M0JF1A	7	6100	10	1512
6.3	1500	10x12.5	G1B	ULR158M0JG1B	10	5560	10	1890
10	22	6.3x8	E08	ULR226M1AE08	45	1870	10	280
10	33	6.3x8	E08	ULR336M1AE08	35	2000	10	280
10	47	6.3x8	E08	ULR476M1AE08	32	2100	10	280
10	220	6.3x6	E06	ULR227M1AE06	15	2700	10	440
10	220	6.3x8	E08	ULR227M1AE08	12	3200	10	440
10	270	8x8	F08	ULR277M1AF08	14	4420	10	540

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10	270	8x11.5	F1A	ULR277M1AF1A	11	5100	10	540
10	330	8x11.5	F1A	ULR337M1AF1A	17	3950	10	660
10	390	8x8	F08	ULR397M1AF08	11	5000	10	780
10	390	8x11.5	F1A	ULR397M1AF1A	9	6100	10	780
10	470	8x8	F08	ULR477M1AF08	11	5000	10	940
10	470	8x11.5	F1A	ULR477M1AF1A	9	5650	10	940
10	470	10x12.5	G1B	ULR477M1AG1B	8	6100	10	940
10	560	8x8	F08	ULR567M1AF08	9	5600	10	1120
10	560	8x11.5	F1A	ULR567M1AF1A	9	5650	10	1120
10	680	8x11.5	F1A	ULR687M1AF1A	10	5800	10	1360
10	680	10x12.5	G1B	ULR687M1AG1B	8	6100	10	1360
10	820	8x11.5	F1A	ULR827M1AF1A	8	6100	10	1640
10	1000	10x12.5	G1B	ULR108M1AG1B	9	6100	10	2000
10	1200	10x12.5	G1B	ULR128M1AG1B	8	6200	10	2400
16	47	6.3x8	E08	ULR476M0JE08	60	458	10	280
16	100	6.3x6	E06	ULR107M0JE06	25	2700	10	320
16	100	6.3x8	E08	ULR107M0JE08	24	2820	10	320
16	100	6.3x11	E11	ULR107M1CE11	24	2820	10	320
16	180	8x11.5	F1A	ULR187M1CF1A	13	5000	10	576
16	220	6.3x11	E11	ULR227M1CE11	20	3100	10	704
16	220	8x8	F08	ULR227M1CF08	13	4300	10	704
16	220	8x11.5	F1A	ULR227M1CF1A	13	5000	10	704
16	270	8x8	F08	ULR277M1CF08	13	4300	10	864
16	270	8x11.5	F1A	ULR277M1CF1A	13	5000	10	864
16	330	8x8	F08	ULR337M1CF08	13	4300	10	1056
16	330	10x12.5	G1B	ULR377M1CG1B	10	6100	10	1056
16	470	8x11.5	F1A	ULR477M1CF1A	11	5100	10	1504
16	470	10x12.5	G1B	ULR477M1CG1B	10	6100	10	1504
16	680	10x12.5	G1B	ULR687M1CG1B	10	6100	10	2176
16	820	10x12.5	G1B	ULR827M1CG1B	10	6100	10	2624
16	1000	10x12.5	G1B	ULR108M1CG1B	10	6100	10	3200
20	33	6.3x8	E08	ULR336M1DE08	35	2000	10	280
20	47	8x8	F08	ULR476M1DF08	33	2100	10	280
20	100	8x11.5	F1A	ULR107M1DF1A	32	2750	10	400
20	150	10x12.5	G1B	ULR157M1DG1B	28	2900	10	600
25	22	6.3x8	E08	ULR226M1EE08	45	1870	10	280
25	33	8x8	F08	ULR336M1EF08	40	2050	10	280
25	47	8x8	F08	ULR476M1EF08	36	2100	10	280
25	100	8x11.5	F1A	ULR107M1EF1A	32	2750	10	500
25	330	10x12.5	G1B	ULR337M1EG1B	45	2700	10	1650
35	100	10x12.5	G1B	ULR107M1VG1B	60	2000	10	700
35	220	10x12.5	G1B	ULR227M1VG1B	50	2500	10	1540

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