

# ULR Series

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

## Features

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



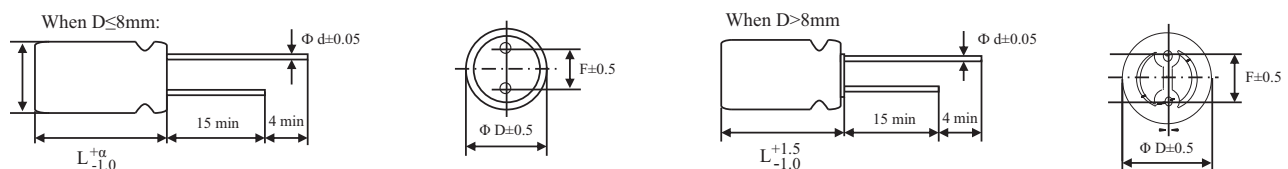
## Applications

- 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=WVx1.15VDC (Normal temperature)				
Nominal Capacitance Range	22 to 2700µF (120Hz, +20°C)				
Capacitance Tolerance	±20% (120Hz, +20°C)				
tan δ	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, 2,000 hours Rated voltage applied	ΔC/C	Within ±20% of the initial measured value		
		tan δ	≤150% of the initial specified value		
		ESR	≤150% of the initial specified value		
		Lc	≤The initial specified value		
Damp Heat Test (Steady State)	Test conditions +60°C, 90% to 95% RH 1,000 hours No applied voltage	ΔC/C	Within ±20% of the initial measured value		
		tan δ	≤150% of the initial specified value		
		ESR	≤150% of the initial specified value		
		Lc	≤The 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 1,000 cycles.	ΔC/C	Within ±20% of the initial measured value		
		tan δ	≤150% of the initial specified value		
		ESR	≤150% of the initial specified value		
		Lc	≤The initial specified value		
Others	JIS-C-5101-4				

## Dimensions



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## Size List

 New item | 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	F08	F08	
100	107			E55 <sup>①</sup>		D09 <sup>①</sup> , E06, E07 <sup>①</sup> , E08, E11	F1A	F1A	G1B
150	157			C65 <sup>①</sup>			G1B		
180	187				E08 <sup>①</sup>	F1A			
220	227	E06		D07 <sup>①</sup> , E06 <sup>①</sup> , E08 <sup>①</sup>	E06, E07 <sup>①</sup> , E08	E11, F08, F1A			G1B
270	277		E08	D07	F08, F1A	E11 <sup>①</sup> , F08, F1A			
330	337	E08 <sup>①</sup>		D08 <sup>①</sup> , D09 <sup>①</sup> , E06, E08, F08	E08 <sup>①</sup> , F1A	F07 <sup>①</sup> , F08, F1A <sup>①</sup> , G09 <sup>①</sup> , G1B		G1B	
390	397	E06		D09 <sup>①</sup> , F08	F08, F1A				
470	477	D09		E08, F08, F1A	F08, F1A, G1B	F1A, G1B			
560	567	D08, D09, E06, E08, F08	E08, F08, F1A	E08, F08	F08, F1A				
680	687	F08 <sup>①</sup>	F08, F1A	E08, F08, F1A, G1B	F1A, G1B	G1B			
820	827	E08, F08, F1A	F08, F1A	F08, F1A, G1B	F1A	G1B			
1000	108	F08 <sup>①</sup> , F09 <sup>①</sup> , F1A	F08, G1B	E1K <sup>①</sup> , F08 <sup>①</sup> , F1A, G1B <sup>①</sup>	G1B	G1B			
1200	128	F08 <sup>①</sup>	F08, F1A <sup>①</sup> , G1B	F1A	G1B				
1500	158	F1A, G1B		F1A <sup>①</sup> , G1B					
2700	278	G1B	G1B						

(Unit: mm)

Size Code	C65	D07	D08	D09	E55	E06	E07	E08	E1K	E11	F07	F08	F09	F1A	G09	G1B
ΦDxL	4 x 6.5	5 x 7	5 x 8	5 x 9	6.3 x 5.5	6.3 x 6	6.3 x 7	6.3 x 8	6.3 x 10.5	6.3 x 11	8 x 7	8 x 8	8 x 9	8 x 11.5	10 x 9	10 x 12.5
F±0.5	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5	5.0	5.0
Φd	0.45	0.5	0.6	0.6	0.45	0.45	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
α	1.0								1.5		1.0			1.5		

## Characteristics List

Rated Vol. (V)	Rated Cap. (μF)	Case Size ΦD x L (mm)	Size Code	Part Number	ESR (mΩ, max/ 20°C, 100kHz)	Rated Ripple (mArms/ 105°C, 100kHz)	DF (%max)	Leakage Current (μA/2 mins)
2.5	220	6.3 x 6	E06	ULR227M0EE06	15	3400	10	280
2.5	330	6.3 x 8	E08	ULR337M0EE08	7	4200	10	280
2.5	390	6.3 x 6	E06	ULR397M0EE06	15	3400	10	280
2.5	470	5 x 9	D09	ULR477M0ED09	7	4180	10	280
2.5	560	5 x 8	D08	ULR567M0ED08	7	4180	10	280
2.5	560	5 x 9	D09	ULR567M0ED09	7	4180	10	280
2.5	560	6.3 x 6	E06	ULR567M0EE06	15	3400	10	280
2.5	560	6.3 x 8	E08	ULR567M0EE08	7	4000	10	280
2.5	560	8 x 8	F08	ULR567M0EF08	7	6100	10	280
2.5	680	8 x 8	F08	ULR687M0EF08	7	6100	10	390
2.5	820	6.3 x 8	E08	ULR827M0EE08	7	5600	10	410
2.5	820	8 x 8	F08	ULR827M0EF08	7	6100	10	410
2.5	820	8 x 11.5	F1A	ULR827M0EF1A	7	6100	10	410
2.5	1000	8 x 8	F08	ULR108M0EF08	7	6100	10	500
2.5	1000	8 x 9	F09	ULR108M0EF09	7	6100	10	500

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Rated Vol. (V)	Rated Cap. (µF)	Case Size ΦD x L (mm)	Size Code	Part Number	ESR (mΩ, max/ 20°C, 100kHz)	Rated Ripple (mArms/ 105°C, 100kHz)	DF (%max)	Leakage Current (µA/2 mins)
2.5	1000	8 x 11.5	F1A	ULR108M0EF1A	7	6100	10	500
2.5	1200	8 x 8	F08	ULR128M0EF08	7	6100	10	600
2.5	1500	8 x 11.5	F1A	ULR158M0EF1A	7	6100	10	750
2.5	1500	10 x 12.5	G1B	ULR158M0EG1B	7	6100	10	750
2.5	2700	10 x 12.5	G1B	ULR278M0EG1B	8	5560	10	1350
4	270	6.3 x 8	E08	ULR277M0GE08	12	3200	10	280
4	560	6.3 x 8	E08	ULR567M0GE08	7	5600	10	448
4	560	8 x 8	F08	ULR567M0GF08	7	6100	10	448
4	560	8 x 11.5	F1A	ULR567M0GF1A	7	6100	10	448
4	680	8 x 8	F08	ULR687M0GF08	7	6100	10	544
4	680	8 x 11.5	F1A	ULR687M0GF1A	7	6100	10	544
4	820	8 x 8	F08	ULR827M0GF08	7	6100	10	656
4	820	8 x 11.5	F1A	ULR827M0GF1A	7	6100	10	656
4	1000	8 x 8	F08	ULR108M0GF08	7	6100	10	800
4	1000	10 x 12.5	G1B	ULR108M0GG1B	7	6640	10	800
4	1200	8 x 8	F08	ULR128M0GF08	7	6100	10	960
4	1200	8 x 11.5	F1A	ULR128M0GF1A	7	6100	10	960
4	1200	10 x 12.5	G1B	ULR128M0GG1B	8	5600	10	960
4	2700	10 x 12.5	G1B	ULR278M0GG1B	8	6900	10	2160
6.3	100	6.3 x 5.5	E55	ULR107M0JE55	80	1200	10	280
6.3	150	4 x 6.5	C65	ULR157M0JC65	100	2000	10	280
6.3	220	5 x 7	D07	ULR227M0JD07	11	3700	10	280
6.3	220	6.3 x 6	E06	ULR227M0JE06	20	3160	10	280
6.3	220	6.3 x 8	E08	ULR227M0JE08	20	2160	10	280
6.3	270	5 x 7	D07	ULR277M0JD07	11	3700	10	340
6.3	330	5 x 8	D08	ULR337M0JD08	12	2900	10	416
6.3	330	5 x 9	D09	ULR337M0JD09	11	3100	10	416
6.3	330	6.3 x 6	E06	ULR337M0JE06	20	3160	10	416
6.3	330	6.3 x 8	E08	ULR337M0JE08	10	4500	10	416
6.3	330	8 x 8	F08	ULR337M0JF08	8	5700	10	416
6.3	390	5 x 9	D09	ULR397M0JD09	11	3100	10	492
6.3	390	8 x 8	F08	ULR397M0JF08	8	5700	10	492
6.3	470	6.3 x 8	E08	ULR477M0JE08	8	4700	10	592
6.3	470	8 x 8	F08	ULR477M0JF08	8	5700	10	593
6.3	470	8 x 11.5	F1A	ULR477M0JF1A	7	6100	10	592
6.3	560	6.3 x 8	E08	ULR567M0JE08	8	4700	10	706
6.3	560	8 x 8	F08	ULR567M0JF08	8	5700	10	706
6.3	680	6.3 x 8	E08	ULR687M0JE08	8	4700	10	857
6.3	680	8 x 8	F08	ULR687M0JF08	8	5700	10	857
6.3	680	8 x 11.5	F1A	ULR687M0JF1A	7	6100	10	857
6.3	680	10 x 12.5	G1B	ULR687M0JG1B	7	6640	10	857
6.3	820	8 x 8	F08	ULR827M0JF08	7	6100	10	1033
6.3	820	8 x 11.5	F1A	ULR827M0JF1A	7	6100	10	1033
6.3	820	10 x 12.5	G1B	ULR827M0JG1B	7	6640	10	1033
6.3	1000	6.3 x 10.5	E1K	ULR108M0JE1K	8	4700	10	1260
6.3	1000	8 x 8	F08	ULR108M0JF08	7	6100	10	1260
6.3	1000	8 x 11.5	F1A	ULR108M0JF1A	7	6100	10	1260
6.3	1000	10 x 12.5	G1B	ULR108M0JG1B	10	5500	10	1260
6.3	1200	8 x 11.5	F1A	ULR128M0JF1A	7	6100	10	1512
6.3	1500	8 x 11.5	F1A	ULR158M0JF1A	10	4500	10	1890
6.3	1500	10 x 12.5	G1B	ULR158M0JG1B	10	5560	10	1890
10	22	6.3 x 8	E08	ULR226M1AE08	45	1870	10	280
10	33	6.3 x 8	E08	ULR336M1AE08	35	2000	10	280
10	47	6.3 x 8	E08	ULR476M1AE08	32	2100	10	280
10	180	6.3 x 8	E08	ULR187M1AE08	25	2820	10	360
10	220	6.3 x 6	E06	ULR227M1AE06	15	2700	10	440
10	220	6.3 x 7	E07	ULR227M1AE07	15	2700	10	440

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10	220	6.3 x 8	E08	ULR227M1AE08	12	3200	10	440
10	270	8 x 8	F08	ULR277M1AF08	14	4420	10	540
10	270	8 x 11.5	F1A	ULR277M1AF1A	11	5100	10	540
10	330	6.3 x 8	E08	ULR337M1AE08	10	3500	10	660
10	330	8 x 11.5	F1A	ULR337M1AF1A	17	3950	10	660
10	390	8 x 8	F08	ULR397M1AF08	11	5000	10	780
10	390	8 x 11.5	F1A	ULR397M1AF1A	9	6100	10	780
10	470	8 x 8	F08	ULR477M1AF08	11	5000	10	940
10	470	8 x 11.5	F1A	ULR477M1AF1A	9	5650	10	940
10	470	10 x 12.5	G1B	ULR477M1AG1B	8	6100	10	940
10	560	8 x 8	F08	ULR567M1AF08	9	5600	10	1120
10	560	8 x 11.5	F1A	ULR567M1AF1A	9	5650	10	1120
10	680	8 x 11.5	F1A	ULR687M1AF1A	10	5800	10	1360
10	680	10 x 12.5	G1B	ULR687M1AG1B	8	6100	10	1360
10	820	8 x 11.5	F1A	ULR827M1AF1A	8	6100	10	1640
10	1000	10 x 12.5	G1B	ULR108M1AG1B	9	6100	10	2000
10	1200	10 x 12.5	G1B	ULR128M1AG1B	8	6200	10	2400
16	47	6.3 x 8	E08	ULR476M1CE08	60	458	10	280
16	100	5 x 9	D09	ULR107M1CD09	24	2820	10	320
16	100	6.3 x 6	E06	ULR107M1CE06	25	2700	10	320
16	100	6.3 x 7	E07	ULR107M1CE07	24	2820	10	320
16	100	6.3 x 8	E08	ULR107M1CE08	24	2820	10	320
16	100	6.3 x 11	E11	ULR107M1CE11	24	2820	10	320
16	180	8 x 11.5	F1A	ULR187M1CF1A	13	5000	10	576
16	220	6.3 x 11	E11	ULR227M1CE11	20	3100	10	704
16	220	8 x 8	F08	ULR227M1CF08	13	4300	10	704
16	220	8 x 11.5	F1A	ULR227M1CF1A	13	5000	10	704
16	270	6.3 x 11	E11	ULR277M1CE11	20	3100	10	864
16	270	8 x 8	F08	ULR277M1CF08	13	4300	10	864
16	270	8 x 11.5	F1A	ULR277M1CF1A	13	5000	10	864
16	330	8 x 7	F07	ULR337M1CF07	13	4300	10	1056
16	330	8 x 8	F08	ULR337M1CF08	13	4300	10	1056
16	330	8 x 11.5	F1A	ULR337M1CF1A	10	5800	10	1056
16	330	10 x 9	G09	ULR337M1CG09	13	4300	10	1056
16	330	10 x 12.5	G1B	ULR337M1CG1B	10	6100	10	1056
16	470	8 x 11.5	F1A	ULR477M1CF1A	11	5100	10	1504
16	470	10 x 12.5	G1B	ULR477M1CG1B	10	6100	10	1504
16	680	10 x 12.5	G1B	ULR687M1CG1B	10	6100	10	2176
16	820	10 x 12.5	G1B	ULR827M1CG1B	10	6100	10	2624
16	1000	10 x 12.5	G1B	ULR108M1CG1B	10	6100	10	3200
20	33	6.3 x 8	E08	ULR336M1DE08	35	2000	10	280
20	47	8 x 8	F08	ULR476M1DF08	33	2100	10	280
20	100	8 x 11.5	F1A	ULR107M1DF1A	32	2750	10	400
20	150	10 x 12.5	G1B	ULR157M1DG1B	28	2900	10	600
25	22	6.3 x 8	E08	ULR226M1EE08	45	1870	10	280
25	33	8 x 8	F08	ULR336M1EF08	40	2050	10	280
25	47	8 x 8	F08	ULR476M1EF08	36	2100	10	280
25	100	8 x 11.5	F1A	ULR107M1EF1A	32	2750	10	500
25	330	10 x 12.5	G1B	ULR337M1EG1B	45	2700	10	1650
35	100	10 x 12.5	G1B	ULR107M1VG1B	60	2000	10	700
35	220	10 x 12.5	G1B	ULR227M1VG1B	50	2500	10	1540

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