

# ULR

## Aluminum Polymer Capacitors

### High Temperature



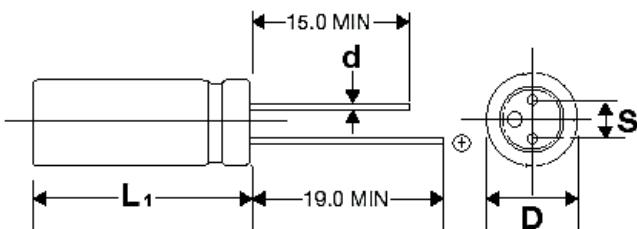
#### FEATURES

High Temperature – Very Low ESR – High Ripple Current – Stable with Temperature – High Frequency

#### APPLICATIONS

DC-DC Converters – Voltage Regulators – Decoupling

<b>Operating Temperature Range</b>		<b>-55°C to +105°C</b>					
<b>Capacitance Tolerance</b>		<b>+20% at 120 Hz, 20°C</b>					
<b>Surge Voltage</b>	<b>WVDC</b>	<b>2.5</b>	<b>4</b>	<b>10</b>	<b>16</b>	<b>20</b>	<b>25</b>
	<b>SVDC</b>	1.15 x rated WVDC					
<b>Dissipation Factor 120 Hz, 20°C</b>		<b>10% MAX</b>					
<b>Leakage Current</b>		<b>2 Minutes</b>					
		0.2CV or 280uA, whichever is greater					
<b>Low Temperature Stability Impedance Ratio (100 kHz)</b>	<b>-55°C/ +20°C</b>	≤1.25					
	<b>+105°C/ +20°C</b>	≤1.25					
<b>Load Life</b>		<b>2000 hours at 105°C with rated WVDC applied</b>					
		<b>Capacitance Change</b>	≤20% of initial measured value				
		<b>Dissipation Factor</b>	≤150% of maximum specified value				
		<b>ESR</b>	≤150% of maximum specified value				
		<b>Leakage Current</b>	≤100% of maximum specified value				
<b>Damp Heat test</b>		<b>1000 hours at 60°C with rated voltage applied at 90-95% R.H.</b>					
		<b>Capacitance Change</b>	≤20% of initial measured value				
		<b>Dissipation Factor</b>	≤150% of maximum specified value				
		<b>ESR</b>	≤150% of maximum specified value				
		<b>Leakage Current</b>	≤100% of maximum specified value				
<b>Surge Voltage test</b>		<b>1000 cycles at 105°C with rated surge voltage applied for 30 seconds through a 1kΩ resistor and discharged for 5 minutes and 30 seconds</b>					
		<b>Capacitance Change</b>	≤20% of initial measured value				
		<b>Dissipation Factor</b>	≤150% of maximum specified value				
		<b>ESR</b>	≤150% of maximum specified value				
		<b>Leakage Current</b>	≤100% of maximum specified value				
<b>Ripple Current Multipliers</b>		<b>Frequency (Hz)</b>					
		120Hz≤f<1kHz	1kHz≤f<10kHz	10kHz≤f<100kHz	100kHz≤f≤500kHz		
		0.05	0.3	0.7	1.0		



D+0.5	5	6.3	8	10
S±0.5	2	2.5	3.5	5.0
d	0.5 L≤7mm 0.6 (L>7mm)	0.45 L≤6mm 0.6 (L>6mm)	0.6	0.6

L<sub>1</sub>=L+1.0 mm MAX L<11mm  
L<sub>1</sub>=L+1.5 mm MAX, L≥11 mm

Americas / EU  
Phone: 1-508-996-8561  
Email: cdena@cde.com



Asia  
Phone: 852-2793-0931  
Email: cdeasia@cde.com

# ULR

+105°C 2000 hour Low ESR

WVDC	Capacitance (µF)	IC PART NUMBER	Maximum ESR (Ω) 120 Hz, +20°C	Maximum ESR (mΩ) 100 kHz, +20°C	Leakage Current (µA)	Maximum RMS Ripple Current (mA) 100 kHz, +105°C	Dims DxL (mm)
2.5	220	227ULR2R5MEW	0.75	15	280	3400	6.3x6
2.5	390	397ULR2R5MEW	0.43	15	280	3400	6.3x6
2.5	470	477ULR2R5MDK	0.35	7	280	4180	5x9
2.5	560	567ULR2R5MDF	0.3	7	280	4180	5x8
2.5	560	567ULR2R5MDK	0.3	7	280	4180	5x9
2.5	560	567ULR2R5MFF	0.3	7	280	4000	6.3x8
2.5	560	567ULR2R5MEF	0.3	7	280	6100	8x8
2.5	820	827ULR2R5MEF	0.2	7	410	5600	6.3x8
2.5	820	827ULR2R5MFF	0.2	7	410	6100	8x8
2.5	820	827ULR2R5MFH	0.2	7	410	6100	8x11.5
2.5	1000	108ULR2R5MFH	0.17	7	500	6100	8x11.5
2.5	1500	158ULR2R5MFH	0.11	7	750	6100	8x11.5
2.5	1500	158ULR2R5MGU	0.11	7	750	6100	10x12.5
2.5	2700	278ULR2R5MGU	0.06	8	1350	5660	10x12.5
4	270	277ULR4R0MEF	0.61	12	280	3200	6.3x8
4	560	567ULR4R0MEF	0.3	7	448	5600	6.3x8
4	560	567ULR4R0MFF	0.3	7	448	6100	8x8
4	560	567ULR4R0MFH	0.3	7	448	6100	8x11.5
4	680	687ULR4R0MFF	0.24	7	544	6100	8x8
4	680	687ULR4R0MFH	0.24	7	544	6100	8x11.5
4	820	827ULR4R0MFF	0.2	7	656	6100	8x8
4	820	827ULR4R0MFH	0.2	7	656	6100	8x11.5
4	1000	108ULR4R0MFF	0.17	7	800	6100	8x8
4	1000	108ULR4R0MGU	0.17	7	800	6640	10x12.5
4	1200	128ULR4R0MFF	0.14	7	960	6100	8x8
4	2700	278ULR4R0MGU	0.06	8	2160	6900	10x12.5
6.3	270	277ULR6R3MDY	0.61	11	340	3700	5x7
6.3	330	337ULR6R3MEW	0.5	20	416	3160	6.3x6
6.3	330	337ULR6R3MEF	0.5	10	416	4500	6.3x8
6.3	330	337ULR6R3MFF	0.5	8	416	5700	8x8
6.3	390	397ULR6R3MFF	0.43	8	492	5700	8x8
6.3	470	477ULR6R3MEF	0.35	8	592	4700	6.3x8
6.3	470	477ULR6R3MFF	0.35	8	593	5700	8x8
6.3	470	477ULR6R3MFH	0.35	7	592	6100	8x11.5
6.3	560	567ULR6R3MEF	0.3	8	706	4700	6.3x8
6.3	560	567ULR6R3MFF	0.3	8	706	5700	8x8
6.3	680	687ULR6R3MFH	0.24	7	857	6100	8x11.5
6.3	680	687ULR6R3MGU	0.24	7	857	6640	10x12.5
6.3	820	827ULR6R3MFF	0.2	7	1033	6100	8x8
6.3	820	827ULR6R3MFH	0.2	7	1033	6100	8x11.5
6.3	820	827ULR6R3MGH	0.2	7	1033	6640	10x12.5
6.3	1000	108ULR6R3MFH	0.17	7	1260	6100	8x11.5
6.3	1200	128ULR6R3MFH	0.14	7	1512	6100	8x11.5
6.3	1500	158ULR6R3MGU	0.11	10	1890	5560	10x12.5
10	22	226ULR010MEF	7.54	45	280	1870	6.3x8
10	33	336ULR010MEF	5.02	35	280	2000	6.3x8
10	47	476ULR010MEF	3.53	32	800	2100	6.3x8
10	220	227ULR010MEW	0.75	15	440	2700	6.3x6
10	220	227ULR010MEF	0.75	12	440	3200	6.3x8
10	270	277ULR010MFF	0.61	14	540	4420	8x8
10	270	277ULR010MFH	0.61	11	540	5100	8x11.5
10	390	397ULR010MFF	0.43	11	780	5000	8x8
10	390	397ULR010MFH	0.43	9	780	6100	8x11.5
10	470	477ULR010MFF	0.35	11	940	5000	8x8
10	470	477ULR010MGH	0.35	9	940	5650	8x11.5
10	470	477ULR010MGU	0.35	8	940	6100	10x12.5
10	560	567ULR010MFF	0.3	9	1120	5600	8x8
10	680	687ULR010MFH	0.24	10	1360	5800	8x11.5

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+105°C 2000 hour Low ESR

WVDC	Capacitance (µF)	IC PART NUMBER	Maximum ESR (Ω) 120 Hz, +20°C	Maximum ESR (mΩ) 100 kHz, +20°C	Leakage Current (µA)	Maximum RMS Ripple Current (mA) 100 kHz, +105°C	Dims DxL (mm)
10	680	687ULR010MGU	0.24	8	1360	6100	10x12.5
10	820	827ULR010MFH	0.2	8	1640	6100	8x11.5
10	1200	128ULR010MEF	0.14	8	2400	6200	10x12.5
16	100	107ULR016MEF	1.66	24	320	2820	6.3x8
16	100	107ULR016MEH	1.66	24	320	2820	6.3x11
16	180	187ULR016MFH	0.92	13	576	5000	8x11.5
16	220	227ULR016MEH	0.75	20	704	3100	6.3x11
16	220	227ULR016MFF	0.75	13	704	4300	8x8
16	220	227ULR016MFH	0.75	13	704	5000	8x11.5
16	270	277ULR016MFF	0.61	13	864	4300	8x8
16	270	277ULR016MFH	0.61	13	864	5000	8x11.5
16	330	337ULR016MFF	0.5	13	1056	4300	8x8
16	330	337ULR016MGU	0.5	10	1056	6100	10x12.5
16	470	477ULR016MFH	0.35	11	1504	5100	8x11.5
16	470	477ULR016MGU	0.35	10	1504	6100	10x12.5
16	680	687ULR016MGU	0.24	10	2176	6100	10x12.5
16	820	827ULR016MGU	0.2	10	2624	6100	10x12.5
16	1000	108ULR016MGU	0.17	10	3200	6100	10x12.5
20	33	336ULR020MEF	5.02	35	280	2000	6.3x8
20	47	476ULR020MFF	3.53	33	280	2100	8x8
20	100	107ULR020MFH	1.66	32	400	2750	8x11.5
20	150	157ULR020MGU	1.11	28	600	2900	10x12.5
25	22	226ULR025MEF	7.54	45	280	1870	6.3x8
25	33	336ULR025MFF	5.02	40	280	2050	8x8
25	47	476ULR025MFF	3.53	36	280	2100	8x8
25	100	107ULR025MFH	1.66	10	500	2750	8x11.5
25	330	337ULR025MGU	0.5	45	1650	2700	10x12.5
35	100	107ULR035MGU	1.66	60	700	2000	10x12.5
35	220	227ULR035MGU	0.75	50	1540	2500	10x12.5