



LW Ultra Low ESR Series

- Features: 105°C 2000 hours ,Lower ESR and higher ripple current
- Recommended Applications: Applicable for switching regulator of computer, especially for high frequency
- Corresponding product to RoHS

LW
↑ Low E.S.R
LZ



■ Specifications

Item	Characteristics												
Operating Temperature Range	-40 ~ +105°C												
Rated Voltage Range	6.3 ~ 16VDC												
Rated Capacitance Range	470 ~ 3300 μF												
Capacitance Tolerance	± 20 % at 120Hz , 20°C												
Leakage Current (MAX)(20°C)	I=0.03CV ,(After rated voltage applied for 2 minutes)												
Dissipation Factor (MAX) (tan δ) (120Hz ,20°C)	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>WV</td> <td>6.3</td> <td>10</td> <td>16</td> </tr> <tr> <td>tan δ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> </tr> </table>	WV	6.3	10	16	tan δ	0.22	0.19	0.16				
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tan δ	0.22	0.19	0.16										
When nominal capacitance is over 1000 μ F, tan δ shall be added 0.02 to the listed value with increase of every 1000 μ F.													
Low Temperature Stability Impedance Ratio (MAX)	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>Z(120Hz)</td> <td>6.3</td> <td>10</td> <td>16</td> </tr> <tr> <td>Z-25°C / Z+20°C</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	Z(120Hz)	6.3	10	16	Z-25°C / Z+20°C	2	2	2	Z-40°C / Z+20°C	3	3	3
	Z(120Hz)	6.3	10	16									
	Z-25°C / Z+20°C	2	2	2									
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After applying rated voltage with ripple current for 2000 hours at 105°C, the capacitors shall meet the following requirements.													
Endurance	<table border="1" style="width: 100%;"> <tr> <td>Capacitance Change</td> <td>Within ± 25 % of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value</td> </tr> </table>	Capacitance Change	Within ± 25 % of initial value	Dissipation Factor	Not more than 200% of specified value	Leakage Current	Not more than the specified value						
	Capacitance Change	Within ± 25 % of initial value											
	Dissipation Factor	Not more than 200% of specified value											
Leakage Current	Not more than the specified value												
Shelf Life	After placed at 105°C without voltage applied for 1000 hours, the capacitors shall meet the same requirement as Endurance.												

■ Diagram of Dimensions

φ D	8	10
P	3.5	5.0
φ d	0.6	0.6
a	1.5	1.5

■ Multiplier for Ripple Current

Frequency coefficient

Frequency (Hz)	120	1K	10K	100K ≤
Factor	0.5	0.8	0.9	1.0



Ultra Low ESR Series

■ Dimensions, Rated Ripple Current, Equivalent Series Resistance

Rated (Surge) Voltage 6.3V (8)			
CAP (μ F)	D x L (mm)	Ripple Current (mA/ rms 105°C / 100KHz)	ESR (m Ω Max 20°C / 100KHz)
820	8 x 11	1036	43
1200	8 x 15	1355	34
1500	8 x 20	1740	25
	10 x 12.5	1400	31
1800	10 x 16	1818	23
2200	10 x 20	2318	15
3300	10 x 25	2364	14

Rated (Surge) Voltage 10V (13)			
CAP (μ F)	D x L (mm)	Ripple Current (mA/ rms 105°C / 100KHz)	ESR (m Ω Max 20°C / 100KHz)
680	8 x 11	1036	43
1000	8 x 15	1355	34
	10 x 12.5	1400	31
1500	8 x 20	1700	25
	10 x 16	1818	23
1800	10 x 20	2318	16
2200	10 x 25	2545	14

Rated (Surge) Voltage 16V (20)			
CAP (μ F)	D x L (mm)	Ripple Current (mA/ rms 105°C / 100KHz)	ESR (m Ω Max 20°C / 100KHz)
470	8 x 11	1036	43
680	8 x 15	1355	34
	10 x 12.5	1400	31
1000	8 x 20	1700	25
	10 x 16	1818	23
1500	10 x 20	2318	16
1800	10 x 25	2546	14

☆ Size: D ϕ x L (mm) ☆ Ripple Current: (mA/rms), 105°C, 100KHz ☆ ESR (Ω), 20°C, 100KHz