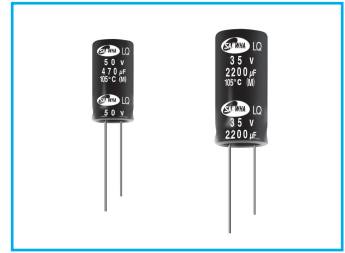


# LQ

## Low Imp., High Ripple Current Series

Low Impedance   
 Miniaturized   
 Solvent Proof

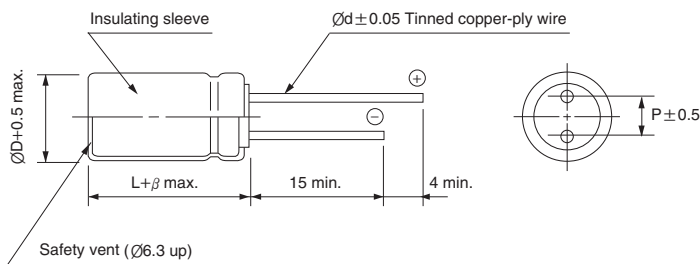


- For LED Lighting
- High reliability withstanding 10000 hours load life at 105°C (6000 ~ 9000 hours for smaller case sizes as specified below)
- Complied to the RoHS directive, Halogen-Free

Item	Characteristics																														
Operating temperature range	-40 ~ +105°C																														
Leakage current max.	$I = 0.01CV$ or $3\mu A$ whichever is greater (after 2 minutes)																														
Capacitance tolerance	$\pm 20\%$ at 120Hz, 20°C																														
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000 $\mu F$ : $\tan\delta$ increases by 0.02 for each 1000 $\mu F$ from below value.																														
	<table border="1"> <tr> <td>WV</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td><math>\tan\delta</math></td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> <td>0.08</td> </tr> </table>	WV	6.3	10	16	25	35	50	63	80	100	$\tan\delta$	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08										
WV	6.3	10	16	25	35	50	63	80	100																						
$\tan\delta$	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08																						
Low temperature characteristics (Impedance ratio at 120Hz)	Z-25°C / Z+20°C	2																													
	Z-40°C / Z+20°C	3																													
Load life	After an application of DC bias voltage plus the rated AC ripple current for 10000 hours at 105°C. The measurement shall meet the following limits. The DC voltage plus the peak AC voltage combined must not exceed the rated voltage.																														
	<table border="1"> <tr> <td>Rated voltage (Vdc)</td> <td>6.3 ~ 10</td> <td>16 ~ 100</td> </tr> <tr> <td>Capacitance change</td> <td>Within <math>\pm 30\%</math> of initial value</td> <td>Within <math>\pm 25\%</math> of initial value</td> </tr> <tr> <td><math>\tan\delta</math></td> <td colspan="2">Less than 200% of specified value</td> </tr> <tr> <td>Leakage current</td> <td colspan="2">Less than specified value</td> </tr> </table>	Rated voltage (Vdc)	6.3 ~ 10	16 ~ 100	Capacitance change	Within $\pm 30\%$ of initial value	Within $\pm 25\%$ of initial value	$\tan\delta$	Less than 200% of specified value		Leakage current	Less than specified value																			
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<table border="1"> <tr> <td rowspan="2"><math>\varnothing D</math></td> <td colspan="3">Life time (hrs)</td> </tr> <tr> <td>6.3Vdc</td> <td>10~50Vdc</td> <td>63~100Vdc</td> </tr> <tr> <td><math>\varnothing 5 \sim \varnothing 6.3</math></td> <td>6000</td> <td>7000</td> <td>6000</td> </tr> <tr> <td><math>\varnothing 8 \times 11.5L</math></td> <td>8000</td> <td>9000</td> <td>8000</td> </tr> <tr> <td><math>\varnothing 8 \times 15L \sim 20L</math></td> <td>9000</td> <td>10000</td> <td>9000</td> </tr> <tr> <td><math>\varnothing 10 \times 12.5L</math></td> <td colspan="3">9000</td> </tr> <tr> <td><math>\varnothing 10 \times 16L \sim 25L</math></td> <td colspan="3">10000</td> </tr> <tr> <td><math>\varnothing 12.5 \sim</math></td> <td colspan="3">10000</td> </tr> </table>	$\varnothing D$	Life time (hrs)			6.3Vdc	10~50Vdc	63~100Vdc	$\varnothing 5 \sim \varnothing 6.3$	6000	7000	6000	$\varnothing 8 \times 11.5L$	8000	9000	8000	$\varnothing 8 \times 15L \sim 20L$	9000	10000	9000	$\varnothing 10 \times 12.5L$	9000			$\varnothing 10 \times 16L \sim 25L$	10000			$\varnothing 12.5 \sim$	10000		
$\varnothing D$		Life time (hrs)																													
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$\varnothing 10 \times 16L \sim 25L$	10000																														
$\varnothing 12.5 \sim$	10000																														
Shelf life (at 105°C)	After 1000 hours no load test, leakage current, capacitance and $\tan\delta$ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4																														

### ● DRAWING

Unit : mm



$\varnothing D$	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
$\varnothing d$	0.5	0.5	0.6	0.6	0.6	0.8	0.8
$\beta$	1.5			2.0			

### ● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

$\mu F$ \ Frequency	120Hz	1kHz	10kHz	50kHz	100kHz $\leq$
~ 33	0.42	0.70	0.90	0.95	1.00
47 ~ 270	0.50	0.73	0.92	0.96	1.00
330 ~ 680	0.55	0.77	0.94	0.97	1.00
820 ~ 1800	0.60	0.80	0.96	0.98	1.00
2200 ~	0.70	0.85	0.98	0.99	1.00

MINIATURE TYPES

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

**LQ** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV Item μF	6.3			10			16			25			35		
	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz
47												5 × 11	0.400	450	
68												5 × 11	0.400	450	
100												5 × 11	0.400	450	
120							5 × 11	0.400	450						
150				5 × 11	0.400	450						6.3 × 11	0.170	700	
180															
220	5 × 11	0.400	345												
270															
330				5 × 11	0.170	700						8 × 11.5	0.075	1200	
390												8 × 15	0.059	1600	
470	6.3 × 11	0.170	540				8 × 11.5	0.075	1200	10 × 12.5	0.053	1700	10 × 16	0.038	2100
560				8 × 11.5	0.110	1200	8 × 15	0.059	1600	8 × 20	0.041	1960	10 × 20	0.028	2500
680				8 × 15	0.059	1600	10 × 12.5	0.053	1700	10 × 16	0.036	2000	10 × 25	0.024	2900
820	8 × 11.5	0.075	945	10 × 12.5	0.053	1700	8 × 20	0.041	1960				12.5 × 20	0.025	2600
1000	8 × 15	0.059	1250	10 × 16	0.041	1960	10 × 16	0.036	2000	10 × 20	0.027	2500	12.5 × 20	0.025	2800
1200	10 × 12.5	0.053	1500	10 × 16	0.036	2000				10 × 25	0.023	2900	12.5 × 25	0.019	3200
1500	8 × 20	0.041	1500				10 × 20	0.027	2500	12.5 × 20	0.024	2600	12.5 × 30	0.018	3660
1800	10 × 16	0.036	1760	10 × 20	0.027	2500	10 × 25	0.023	2900	12.5 × 25	0.018	3200	16 × 20	0.021	3330
2200				10 × 25	0.023	2900	12.5 × 20	0.024	2600	12.5 × 30	0.017	3660	16 × 25	0.017	3810
2700	10 × 20	0.027	1960	10 × 20	0.024	2600	12.5 × 25	0.018	3200	12.5 × 34.5	0.015	4120			
3300	10 × 25	0.023	2250	12.5 × 25	0.018	3200	12.5 × 30	0.017	3660	16 × 25	0.016	3810			
3900	12.5 × 20	0.024	2480				16 × 20	0.020	3300						
4700	12.5 × 25	0.018	2900	12.5 × 30	0.018	3660	12.5 × 34.5	0.015	4120						
5600	12.5 × 30	0.017	3450	16 × 25	0.016	3300	16 × 25	0.016	3810						
6800	12.5 × 34.5	0.015	3570	16 × 25	0.021	4120									
8200	16 × 25	0.016	3630	16 × 25	0.017	3810									

WV Item μF	50			63			80			100		
	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz
8.2										5 × 11	1.200	220
12							5 × 11	1.200	220			
18				5 × 11	0.710	240				6.3 × 11	0.460	370
27	5 × 11	0.480	310				6.3 × 11	0.460	370			
33										8 × 11.5	0.450	620
47	6.3 × 11	0.380	400	6.3 × 11	0.280	420	8 × 11.5	0.290	620	8 × 15	0.350	780
56	6.3 × 11	0.220	500				10 × 12.5	0.250	780	10 × 12.5	0.250	780
68							8 × 15	0.200	780	10 × 12.5	0.250	780
82							8 × 20	0.170	780	8 × 20	0.250	1040
100	8 × 11.5	0.120	950	8 × 15	0.130	990	10 × 12.5	0.170	780	10 × 16	0.105	1040
120	8 × 15	0.082	1230	10 × 12.5	0.110	990	10 × 16	0.110	1040	10 × 16	0.105	1140
150	10 × 12.5	0.073	1280	8 × 20	0.096	1200	10 × 16	0.110	1040	10 × 16	0.105	1140
180	8 × 20	0.058	1580	10 × 16	0.076	1200	10 × 16	0.110	1040	10 × 16	0.105	1140
220	10 × 16	0.050	1650				10 × 20	0.084	1430	12.5 × 16	0.105	1430
270				10 × 20	0.070	1570	12.5 × 16	0.110	1430	10 × 25	0.066	1620
330	10 × 20	0.036	2060	10 × 25	0.060	1990	12.5 × 20	0.062	1750	12.5 × 25	0.045	2210
390	10 × 25	0.030	2240	12.5 × 20	0.041	1990	12.5 × 25	0.047	2210	12.5 × 30	0.040	2400
470	12.5 × 20	0.030	2300	12.5 × 25	0.031	2460	12.5 × 30	0.042	2400	16 × 20	0.046	1950
560				12.5 × 30	0.028	2760	16 × 20	0.048	1950	12.5 × 34.5	0.034	2600
680	12.5 × 25	0.024	2800	12.5 × 34.5	0.024	3040	18 × 20	0.045	2270	12.5 × 40	0.030	2860
820	12.5 × 30	0.022	3370	16 × 25	0.025	2890	16 × 25	0.038	2430	16 × 25	0.036	2430
1000	16 × 20	0.025	3070	16 × 25	0.025	2890	18 × 20	0.045	2270	18 × 20	0.045	2270
1200	12.5 × 34.5	0.020	3810	16 × 31.5	0.023	2950	16 × 31.5	0.032	2640	16 × 31.5	0.030	2640
2200	16 × 25	0.021	3510	16 × 31.5	0.023	2950	16 × 35.5	0.029	2860	16 × 35.5	0.026	3510
				18 × 40	0.02	3200	18 × 25	0.036	2500	18 × 35.5	0.026	3510
							18 × 31.5	0.030	2860	18 × 40	0.025	3860
							18 × 40	0.026	3860			