

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS



130°C, Long Life, Low Impedance Series



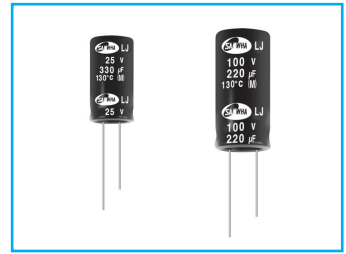
Low Impedance



Miniaturized



Solvent Proof  
WV ≤ 100V

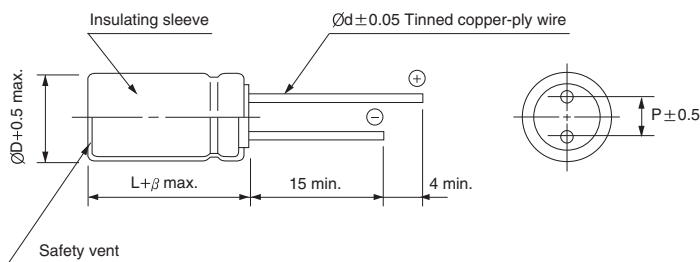


- For LED Lighting, LED Display
- High reliability withstanding 4000 hours load life at 130°C
- Complied to the RoHS directive

Item	Characteristics																														
Operating temperature range	-40 ~ +130°C(10 ~ 100WV), -25 ~ +130°C(200, 400WV)																														
Leakage current max.	WV ≤ 100 I = 0.01CV or 3μA whichever is greater (after 2 min.) I = 0.03CV or 4μA whichever is greater (after 1 min.)																														
	WV > 100 I = 0.02CV + 15μA (after 5 min.)																														
Capacitance tolerance	±20% at 120Hz, 20°C																														
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000μF : tanδ increases by 0.02 for each 1000μF from below value.																														
	<table border="1"> <thead> <tr> <th>WV</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>200</th> <th>400</th> </tr> </thead> <tbody> <tr> <td>tanδ</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.1</td> <td>0.09</td> <td>0.08</td> <td>0.15</td> <td>0.2</td> </tr> </tbody> </table>	WV	10	16	25	35	50	63	100	200	400	tanδ	0.19	0.16	0.14	0.12	0.1	0.09	0.08	0.15	0.2										
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Low temperature characteristics (Impedance ratio at 120Hz)	<table border="1"> <thead> <tr> <th>WV</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>200</th> <th>400</th> </tr> </thead> <tbody> <tr> <td>Z-25°C/Z+20°C</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>6</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	WV	10	16	25	35	50	63	100	200	400	Z-25°C/Z+20°C	3	2	2	2	2	2	2	3	6	Z-40°C/Z+20°C	6	4	3	3	3	3	3	-	-
	WV	10	16	25	35	50	63	100	200	400																					
Z-25°C/Z+20°C	3	2	2	2	2	2	2	3	6																						
Z-40°C/Z+20°C	6	4	3	3	3	3	3	-	-																						
Load life (after application of the rated voltage for 4000 hours at 130°C)	Rated voltage (Vdc)	10 ~ 100WV	200, 400WV																												
	Capacitance change	Within ±30% of initial value	Within ±20% of initial value																												
	tanδ	Within ±300% of initial value	Within ±200% of initial value																												
	Leakage current	Less than specified value																													
	Life time (hrs)	<table border="1"> <thead> <tr> <th>∅D</th> <th>~100V</th> <th>200, 400V</th> </tr> </thead> <tbody> <tr> <td>∅D = 6.3</td> <td>1,000</td> <td>-</td> </tr> <tr> <td>∅D = 8,10</td> <td>2,000</td> <td>3,000</td> </tr> <tr> <td>∅D ≥ 12.5</td> <td>4,000</td> <td>-</td> </tr> </tbody> </table>		∅D	~100V	200, 400V	∅D = 6.3	1,000	-	∅D = 8,10	2,000	3,000	∅D ≥ 12.5	4,000	-																
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Shelf life (at 130°C)	After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4																														

## DRAWING

Unit : mm



∅D	8	10	12.5	16	18
P	3.5	5.0	5.0	7.5	7.5
∅d	0.6	0.6	0.6	0.8	0.8
β	1.5	2.0			

## FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

WV	μF	Frequency	120Hz	1kHz	10kHz	50kHz	100kHz ≤
			10~100	~ 4.7	0.42	0.60	0.80
	10 ~ 33	0.55	0.75	0.90	0.95	1.00	
	47 ~ 330	0.70	0.85	0.95	0.98	1.00	
	470 ~ 1500	0.75	0.90	0.98	1.00	1.00	
	2200 ~	0.80	0.95	1.00	1.00	1.00	
200, 400	~ 5.6	0.20	0.40	0.80	0.90	1.00	
	6.8 ~ 15	0.30	0.60	0.90	0.95	1.00	
	22 ~	0.50	0.80	0.90	0.95	1.00	

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

**LJ** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV Item μF	10			16			25			35			50		
	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz
4.7													8 × 11.5	1.000	100
10													8 × 11.5	0.800	200
22													8 × 11.5	0.800	260
33													8 × 11.5	0.600	300
47													8 × 11.5	0.600	300
100															
220							8 × 11.5	0.220	360	10 × 12.5	0.150	620	10 × 20	0.082	890
330	8 × 11.5	0.220	360	8 × 11.5	0.220	360	10 × 12.5	0.150	620	10 × 16	0.100	800	12.5 × 20	0.065	1000
470	10 × 12.5	0.150	620	10 × 12.5	0.150	620	10 × 16	0.100	800	10 × 20	0.073	960	12.5 × 25	0.051	1200
1000	10 × 20	0.070	960	10 × 20	0.070	960	12.5 × 20	0.060	1100	12.5 × 25	0.040	1430	16 × 31.5	0.037	2180
2200	12.5 × 25	0.040	1430	12.5 × 25	0.040	1430	16 × 31.5	0.034	2300	16 × 35.5	0.031	2550	18 × 40	0.029	2800
3300	16 × 25	0.038	1900	16 × 31.5	0.034	2300	16 × 35.5	0.031	2550	18 × 35.5	0.028	2800			
4700	16 × 31.5	0.034	2300	16 × 35.5	0.031	2550									

WV Item μF	63			100			200		400	
	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz	ØD×L (mm)	IMP. (Ω)max. 20°C 100kHz	Ripple current (mA rms) 130°C 100kHz	ØD×L (mm)	Ripple current (mA rms) 130°C 100kHz	ØD×L (mm)	Ripple current (mA rms) 130°C 100kHz
1.0									8 × 11.5	65
1.5									8 × 11.5	75
									8 × 15	80
1.8									8 × 11.5	75
									8 × 15	85
2.2									8 × 11.5	75
									8 × 15	90
									8 × 20	110
2.7									8 × 15	95
									8 × 20	115
3.3									8 × 20	120
4.7				8 × 11.5	1.300	100	8 × 11.5	120	8 × 20	120
									10 × 16	125
5.6							8 × 11.5	130	10 × 16	130
							8 × 15	180	10 × 20	145
6.8							8 × 11.5	130	10 × 20	150
							8 × 15	180		
10				8 × 11.5	1.000	200	8 × 15	200		
							8 × 20	240		
15							8 × 15	200		
							8 × 20	240		
22				8 × 11.5	1.000	220	8 × 20	240		
							10 × 16	240		
33	8 × 11.5	0.500	250	10 × 12.5	0.670	260	10 × 20	320		
47	10 × 12.5	0.370	400	10 × 16	0.330	330				
100	10 × 16	0.300	450	12.5 × 20	0.170	670				
220	12.5 × 20	0.120	820	16 × 25	0.130	1100				
330	12.5 × 25	0.102	1000	16 × 31.5	0.100	1300				
470	16 × 25	0.089	1500	18 × 31.5	0.092	1600				
1000	16 × 31.5	0.076	1850							
1500	18 × 40	0.063	2350							