



Aluminum Electrolytic Capacitors **LL** Series

Features

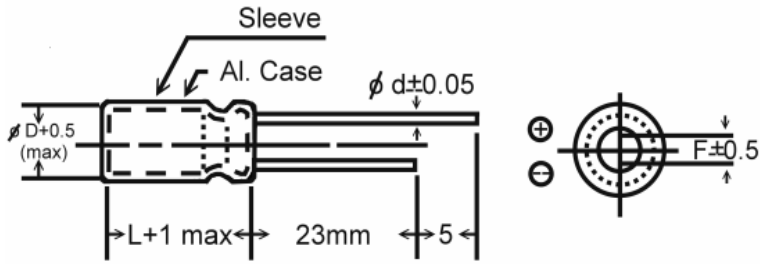
- Low Leakage Current

Specification

Items	Performance																								
Capacitance Tolerance	$\pm 20\%$ (at 120Hz, 25 °C)																								
Rated Voltage Range	10 to 63 VDC																								
Capacitance Range	0.1 to 1000 μ F																								
Operating Temperature Range	-40 to + 105°C																								
Leakage Current (at 25 °C)	I \leq 0.005 CV or 1 (μ A), whichever is greater. After 3 minutes application of working voltage. I= Leakage current (μ A), C= Rated capacitance (μ F), V= Rated voltage (V)																								
Dissipation Factor (Tan δ at 120Hz, 25 °C)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Rate Voltage</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>Tan δ (max)</td> <td>0.2</td> <td>0.17</td> <td>0.15</td> <td>0.12</td> <td>0.1</td> <td>0.10</td> </tr> </tbody> </table>	Rate Voltage	10	16	25	35	50	63	Tan δ (max)	0.2	0.17	0.15	0.12	0.1	0.10										
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For capacitance > 1000 μ F, add 0.02 per 1000 μ F increase.																									
Low Temperature characteristics (at 120Hz)	Impedance ration max.																								
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-25 /25	3	2	2	2	2	2																			
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Load Life	After 1000 hours application of W.V. at 105°C. the capacitor shall meet the followin limits. Capacitance change : $\leq \pm 25\%$ of initial value Dissipation factor : $\leq 200\%$ of initial specified value Leakage Current : \leq Initial specified value																								
Shelf Life	After storage for 500 hours at 105 °C, with no voltage applied and being stabilixed at + 25°C, Capacitor shall meet the limit specified in load life.																								
Ripple Current & Frequency Multipliers	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Freq.(Hz)</th> <th>60 (50)</th> <th>120</th> <th>1K</th> <th>10K</th> <th>100K</th> </tr> </thead> <tbody> <tr> <td>Under 100</td> <td>0.65</td> <td>0.90</td> <td>1.10</td> <td>1.20</td> <td>1.20</td> </tr> <tr> <td>100 to 1000</td> <td>0.70</td> <td>0.90</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>1000 up above</td> <td>0.80</td> <td>0.90</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> </tr> </tbody> </table>	Freq.(Hz)	60 (50)	120	1K	10K	100K	Under 100	0.65	0.90	1.10	1.20	1.20	100 to 1000	0.70	0.90	1.00	1.00	1.00	1000 up above	0.80	0.90	1.00	1.00	1.00
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Ripple Current & Temperature Multipliers	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Temperature (°C)</th> <th>85</th> <th>105</th> </tr> </thead> <tbody> <tr> <td>Multiplier</td> <td>1.20</td> <td>0.90</td> </tr> </tbody> </table>	Temperature (°C)	85	105	Multiplier	1.20	0.90																		
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Standards	Satisfied Characteristic W of JIS C																								

Aluminum Electrolytic Capacitors

LL Series



D	5	6.3	8	10	13
F	2.0	2.5	3.5	5.0	
d	0.5			0.6	

Dimension : D x L (mm)

Ripple Current : mA/rms at 120Hz,10S

DIMENSION & PERMISSIBLE RIPPLE CURRENT

VDC uF	10V		16V		25V		35V		50V		63V	
	DxL	mA	DxL	mA	DxL	mA	DxL	mA	DxL	mA	DxL	mA
0.1- 0.47									5x11.5	1	5x11.5	1
1									5x11.5	9	5x11.5	9
2.2									5x11.5	15	5x11.5	16
3.3									5x11.5	24	5x11.5	26
4.7									5x11.5	26	5x11.5	28
10					5x11.5	30	5x11.5	35	5x11.5	40	6.3x11	48
22					5x11.5	50	5x11.5	50	5x11.5	60	6.3x11	70
33			5x11.5	55	5x11.5	60	5x11.5	68	6.3x11	85	8x11	95
47	5x11.5	65	5x11.5	90	6.3x11	95	6.3x11	95	6.3x11	100	8x11	120
100	5x11.5	95	6.3x11	115	6.3x11	120	8x11	160	8x11	165	10x16	210
220	6.3x11	165	8x11	200	10x12	240	10x12	290	10x17	320	10x20	220
330	8x11	235	8x11	250	10x12	315	10x17	380	10x20	440	13x21	480
470	8x11	285	10x12.5	360	10x17	430	10x20	500	13x21	580		
1000	10x16	540	10x20	630	13x21	720	13x25	890	16x26			