



# Aluminum Electrolytic Capacitors

**XL** Series

## Features

- Low Impedance, High Ripple Current
- Load Life of 2000~3000 Hours at 105°C
- RoHS Compliance



## Specification

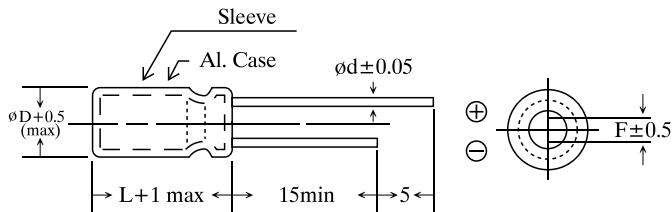
Items	Performance														
Capacitance Tolerance	$\pm 20\%$ (at 120Hz, 20°C)														
Rated Voltage Range	6.3 to 50 VDC														
Capacitance Range	100 to 4700 $\mu$ F														
Operating Temperature Range	-40 to + 105°C														
Leakage Current (at 20°C)	<p><math>I \leq 0.01 CV</math> or <math>3 (\mu A)</math>, whichever is greater.</p> <p>After 2 minutes application of working voltage.</p> <p><math>I</math>=Leakage current (<math>\mu A</math>), <math>C</math>=Rated capacitance (<math>\mu F</math>), <math>V</math>=Rated voltage (V)</p>														
Dissipation Factor (Tan $\delta$ at 120Hz, 20°C)	Rated Voltage	6.3	10	16	25	35	50								
	Tan $\delta$ (max)	0.22	0.19	0.16	0.14	0.12	0.10								
	For capacitance $> 1000 \mu F$ , add 0.02 per $1000 \mu F$ increase.														
Low Temperature Characteristics (at 120Hz)	Impedance ratio max.														
	Rated Voltage	6.3	10	16	25	35	50								
	Z-25°C/Z+20°C	3	3	2	2	2	2								
	Z-40°C/Z+20°C	6	6	4	4	3	3								
Load Life	<p>Application of W.V. at +105°C, the capacitor shall meet the following limits.</p> <table> <tr> <td>Capacitance change</td> <td>: <math>\leq \pm 25\%</math> of initial value</td> </tr> <tr> <td>Dissipation factor</td> <td>: <math>\leq 200\%</math> of initial specified value</td> </tr> <tr> <td>Leakage Current</td> <td>: <math>\leq</math>Initial specified value</td> </tr> <tr> <td>Life Time</td> <td>: 3000 hours for <math>\phi D &gt; 10</math> 2000 hours for <math>\phi D = 8, 10</math></td> </tr> </table>							Capacitance change	: $\leq \pm 25\%$ of initial value	Dissipation factor	: $\leq 200\%$ of initial specified value	Leakage Current	: $\leq$ Initial specified value	Life Time	: 3000 hours for $\phi D > 10$ 2000 hours for $\phi D = 8, 10$
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Dissipation factor	: $\leq 200\%$ of initial specified value														
Leakage Current	: $\leq$ Initial specified value														
Life Time	: 3000 hours for $\phi D > 10$ 2000 hours for $\phi D = 8, 10$														
Shelf Life	After storage for 1000 hours at 105°C, with no voltage applied and being stabilized at + 20°C, Capacitor shall meet the limit specified in load life.														
Ripple Current & Frequency Multiplier	Freq.(Hz) Cap. ( $\mu$ F)	60 (50)	120	1K	10K	100K									
	under 330	0.60	0.70	0.85	0.95	1.00									
	470 to 1000	0.65	0.75	0.90	0.98	1.00									
	1200 up above	0.75	0.80	0.95	1.00	1.00									
Ripple Current & Temperature Multiplier	Temperature(°C)	85		105											
	Multiplier	1.70		1.00											



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## DIAGRAM OF DIMENSIONS



## LEAD SPACING AND DIAMETER

Unit: mm

D	8	10	13
F	3.5	5.0	5.0
d	0.5	0.6	

Dimension :  $\phi D \times L$  (mm)

Ripple Current : mA/rms at 100KHz, 105°C

Max Impedance : ( $\Omega$ ) at 100KHz, 20°C

## DIMENSION & PERMISSIBLE RIPPLE CURRENT

VDC μF	6.3V			10V			16V		
	ø DxL	Ripple	Impedance	ø DxL	Ripple	Impedance	ø DxL	Ripple	Impedance
220									
330							8x12	610	0.085
470							10x12.5	900	0.060
1000	8x14	840	0.065	8x14	900	0.065	10x20	1650	0.040
1200	10x16	1180	0.060	10x20	1560	0.035	10x25	1920	0.035
1500	10x20	1400	0.050	10x20	1650	0.030	13x21	2100	0.030
2200	10x20 10x25	1560 1920	0.040 0.040	10x25 13x21	2000 2100	0.035 0.035	10x25 13x26	2000 2500	0.035 0.030
3300	13x21	2050	0.030	13x26	2500	0.030			
4700	13x26	2850	0.030						

VDC μF	25V			35V			50V		
	ø DxL	Ripple	Impedance	ø DxL	Ripple	Impedance	ø DxL	Ripple	Impedance
100				8x12	400	0.120	8x12	500	0.090
220	8x14	600	0.085	10x12.5	900	0.065	10x20	1100	0.050
330	10x12.5	900	0.060	10x16	1250	0.050	10x25	1650	0.040
470	10x16	1250	0.050	10x20	1650	0.030	13x21	1900	0.035
1000	10x25	1910	0.030	13x26	2150	0.030			
1500	13x26	2500	0.030						
2200	13x26	2800	0.030						