



MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

MLC Series

• 85°C 10,000Hrs assured.

- Non-solvent proof.
- Long life.
- For LED TV Power, SMPS.
- RoHS compliant.
- Halogen-free capacitors are also available.



SPECIFICATIONS

Item	Characteristics										
Rated Voltage Range	400 V _{DC}	420 ~ 500 V _{DC}									
Operating Temperature Range	-40 ~ + 85°C	-25 ~ + 85°C									
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)										
Leakage Current	<table border="1"> <thead> <tr> <th>C · V \ Time</th> <th>After 1 minute</th> <th>After 5 minutes</th> </tr> </thead> <tbody> <tr> <td>≤ 1000</td> <td>I = 0.1CV + 40</td> <td>I = 0.03CV + 15</td> </tr> <tr> <td>> 1000</td> <td>I = 0.04CV + 100</td> <td>I = 0.02CV + 25</td> </tr> </tbody> </table> <p>Where, I:Max. Leakage current(μA) C:Nominal capacitance(μF) V:Rated voltage(V_{DC}) (at 20°C)</p>		C · V \ Time	After 1 minute	After 5 minutes	≤ 1000	I = 0.1CV + 40	I = 0.03CV + 15	> 1000	I = 0.04CV + 100	I = 0.02CV + 25
C · V \ Time	After 1 minute	After 5 minutes									
≤ 1000	I = 0.1CV + 40	I = 0.03CV + 15									
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Dissipation Factor (Tanδ)	<table border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</th> <th>400</th> </tr> </thead> <tbody> <tr> <td>Tanδ(Max.)</td> <td>0.24</td> </tr> </tbody> </table> <p>(at 20°C, 120Hz)</p>		Rated Voltage(V _{DC})	400	Tanδ(Max.)	0.24					
Rated Voltage(V _{DC})	400										
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Temperature Characteristics (Max. Impedance ratio)	<table border="1"> <thead> <tr> <th>Rated Voltage(V_{DC})</th> <th>400</th> <th>420~500</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>6</td> <td>-</td> </tr> </tbody> </table> <p>(at 120Hz)</p>		Rated Voltage(V _{DC})	400	420~500	Z(-25°C)/Z(+20°C)	5	6	Z(-40°C)/Z(+20°C)	6	-
Rated Voltage(V _{DC})	400	420~500									
Z(-25°C)/Z(+20°C)	5	6									
Z(-40°C)/Z(+20°C)	6	-									
Load Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 10,000 hours at 85°C.</p> <p>Capacitance change ≤ ±20% of the initial value Tanδ ≤ 200% of the initial specified value Leakage current ≤ The initial specified value</p>										
Shelf Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements.</p> <p>Capacitance change ≤ ±20% of the initial value Tanδ ≤ 200% of the initial specified value Leakage current ≤ 500% of the initial specified value</p>										
Others	Satisfied characteristics KS C IEC 60384-4										

DIMENSIONS OF MLC Series

Unit(mm)

Marking : BLACK SLEEVE, WHITEINK

Symbol	12.5	16	18
∅D	12.5	16	18
∅d	0.6	0.8	0.8
F	5.0	7.5	7.5
∅D'	∅D + 0.5 max.		
L'	L + 2.0 max.		

RATINGS OF MLC Series

V _{dc}	Cap.(μ F)	Case size \varnothing D \times L(mm)	Rated Ripple Current (mA _{rms} /85°C)				
			120Hz	1KHz	10KHz	50KHz	100KHz
400	68	16 \times 31.5	676	946	1,013	1,351	1,892
		18 \times 25	653	914	979	1,306	1,828
	82	16 \times 35.5	780	1,092	1,170	1,560	2,184
		18 \times 31.5	780	1,092	1,170	1,560	2,184
	100	16 \times 40	936	1,310	1,404	1,872	2,621
		18 \times 31.5	840	1,176	1,260	1,680	2,352
	120	16 \times 45	1,067	1,494	1,600	2,134	2,987
		18 \times 35.5	996	1,394	1,494	1,992	2,789
	150	16 \times 50	1,176	1,646	1,764	2,352	3,293
	420	68	16 \times 31.5	660	924	990	1,320
18 \times 25			640	896	960	1,280	1,280
82		16 \times 35.5	765	1,071	1,148	1,530	1,530
		18 \times 31.5	765	1,071	1,148	1,530	1,530
100		16 \times 40	870	1,218	1,305	1,740	1,740
		18 \times 35.5	830	1,162	1,245	1,660	1,660
120		16 \times 45	1,020	1,428	1,530	2,040	2,040
		18 \times 40	1,020	1,428	1,530	2,040	2,040
150		16 \times 50	1,104	1,546	1,656	2,208	2,208
450		68	16 \times 35.5	670	838	1,005	1,340
	18 \times 31.5		644	902	966	1,288	1,288
	82	16 \times 40	760	1,064	1,140	1,520	1,520
		18 \times 31.5	760	1,064	1,140	1,520	1,520
	100	16 \times 40	900	1,125	1,350	1,800	1,800
		16 \times 45	912	1,277	1,368	1,824	1,824
	120	18 \times 35.5	900	1,260	1,350	1,800	1,800
		16 \times 50	960	1,344	1,440	1,920	1,920
	150	18 \times 40	966	1,352	1,449	1,932	1,932
		16 \times 50	1,040	1,456	1,560	2,080	2,080
500	10	12.5 \times 16	129	180	193	258	258
	22	16 \times 25	258	361	386	515	515
	47	16 \times 35.5	430	602	645	860	860
	56	16 \times 40	500	700	750	1,000	1,000
	68	16 \times 40	590	738	885	1,180	1,180
		16 \times 45	600	840	900	1,200	1,200
	82	16 \times 45	630	882	945	1,260	1,260
		16 \times 50	680	952	1,020	1,360	1,360
	100	16 \times 45	840	1,050	1,260	1,680	1,680
		16 \times 50	840	1,176	1,260	1,680	1,680
		18 \times 45	840	1,176	1,260	1,680	1,680