

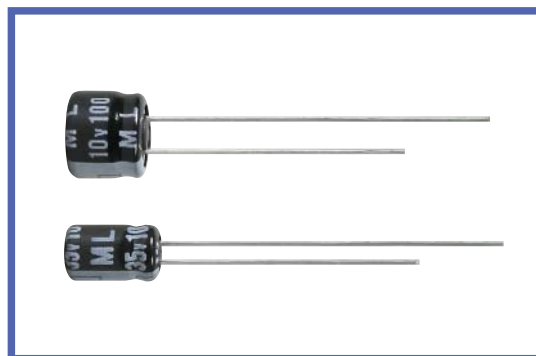


**ML SERIES**

105°C Long Life, 5mm~9mm Height.

◆ **FEATURES**

- Load Life : 105°C 3000~5000hours.
- RoHS compliance.



◆ **SPECIFICATIONS**

Items	Characteristics																								
Category Temperature Range	-40 ~ +105°C																								
Rated Voltage Range	6.3~50V.DC																								
Capacitance Tolerance	± 20%(20°C,120Hz)																								
Leakage Current(MAX)	I=0.01CV or 3µA whichever is greater. (After 2 minutes application of rated voltage) I=Leakage Current(µA)    C=Rated Capacitance(µF)    V=Rated Voltage(V)																								
Dissipation Factor(MAX) (tanδ)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>(20°C,120Hz)</th> </tr> </thead> <tbody> <tr> <td>tanδ</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.20</td> <td></td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	(20°C,120Hz)	tanδ	0.40	0.35	0.30	0.25	0.20	0.20									
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Endurance	After life test with rated ripple current at conditions stated in the table below, the capacitors shall meet the following requirements. <table border="1"> <thead> <tr> <th>Capacitance Change</th> <th>Within ±30% of the initial value.</th> <th>Case Size</th> <th>Life Time (hrs)</th> </tr> </thead> <tbody> <tr> <td>Dissipation Factor</td> <td>Not more than 300% of the specified value.</td> <td>L=5mm</td> <td>3000</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> <td>L ≥ 7mm</td> <td>5000</td> </tr> </tbody> </table>	Capacitance Change	Within ±30% of the initial value.	Case Size	Life Time (hrs)	Dissipation Factor	Not more than 300% of the specified value.	L=5mm	3000	Leakage Current	Not more than the specified value.	L ≥ 7mm	5000												
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Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>(120Hz)</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>12</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td></td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	(120Hz)	Z(-25°C)/Z(20°C)	6	4	4	3	2	2		Z(-40°C)/Z(20°C)	12	10	8	6	4	4	
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Z(-25°C)/Z(20°C)	6	4	4	3	2	2																			
Z(-40°C)/Z(20°C)	12	10	8	6	4	4																			

◆ **MULTIPLIER FOR RIPPLE CURRENT**

Frequency coefficient

Frequency (Hz)		60(50)	120	500	1k	10k≤
Coefficient	1µF	0.50	1.0	1.20	1.30	1.50
	2.2~6.8µF	0.65	1.0	1.20	1.30	1.50
	10~82µF	0.80	1.0	1.20	1.30	1.50
	100~1000µF	0.80	1.0	1.10	1.15	1.20

◆ **PART NUMBER**

   **ML**                           **DxL**  
 Rated Voltage    Series    Rated Capacitance    Capacitance Tolerance    Option    Lead Forming    Case Size



◆ DIMENSIONS

(mm)

$\phi D$	4	5	6.3	8x5	8x7	8x7.5	8x9	10
$\phi d$	0.45						0.6	
F	1.5	2.0	2.5		3.5		5.0	
$\alpha$	L=7 : $\alpha$ =1.0		L=5 : $\alpha$ =1.5		1.5	1.0	2.0	

◆ STANDARD SIZE

Size  $\phi D \times L$ (mm), Ripple Current (mA r.m.s./105°C, 120Hz)

Cap( $\mu$ F)	WV (V.DC)	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
		Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
1												4x5	8
2.2												4x5	11
3.3												4x5	14
4.7												4x7	23
6.8										4x5	17	5x5	25
10								4x5	18	4x7	28	5x7	30
12										5x5	34	6.3x5	37
15								4x7	35				
18						4x5	20			5x7	48	6.3x7	50
22				4x5	22	4x7	40	5x5	42			8x5	62
27		4x5	25					5x7	57	6.3x5	58		
33				4x7	43	5x5	45					8x7	75
39						5x7	65			6.3x7	76		
47		4x7	47	5x5	48			6.3x5	65	8x5	80		
56		5x5	50	5x7	68			6.3x7	85	8x7	105	8x7.5	115
68						6.3x5	70						
82		5x7	75					8x5	100			8x9	160
100				6.3x5	75	6.3x7	95	8x7	112	8x7.5	125		
120		6.3x5	80	6.3x7	100	8x5	110					10x9	315
150						8x7	125	8x7.5	140	8x9	180		
180		6.3x7	110	8x5	120								
220		8x5	125	8x7	160	8x7.5	170	8x9	190	10x9	360		
270		8x7	165										
330				8x7.5	180	8x9	195	10x9	450				
470		8x7.5	190	8x9	210	10x9	460						
560		8x9	230										
680				10x9	470								
1000		10x9	480										