

LLE SERIES
Load Life: 105°C 12000~20000 hours

*For LED Lighting.


◆SPECIFICATIONS

Items	Characteristics																						
Category Temperature Range	-40~+105°C	-25~+105°C																					
Rated Voltage Range	160~400Vdc	450Vdc																					
Capacitance Tolerance	±20% (20°C, 120Hz)																						
Leakage Current(MAX)	<table border="1"> <tr> <td>CV ≤ 1000</td> <td>CV > 1000</td> </tr> <tr> <td>I = 0.1CV + 40µA (1 minute)</td> <td>I = 0.04CV + 100µA (1 minute)</td> </tr> <tr> <td>I = 0.03CV + 15µA (5 minutes)</td> <td>I = 0.02CV + 25µA (5 minutes)</td> </tr> </table>	CV ≤ 1000	CV > 1000	I = 0.1CV + 40µA (1 minute)	I = 0.04CV + 100µA (1 minute)	I = 0.03CV + 15µA (5 minutes)	I = 0.02CV + 25µA (5 minutes)	I = Leakage Current (µA) C = Capacitance (µF) V = Rated Voltage (Vdc)															
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Dissipation Factor(MAX) (tanδ)	<table border="1"> <tr> <td>Rated Voltage (Vdc)</td> <td>160</td> <td>200</td> <td>250</td> <td>400</td> <td>450</td> <td>(20°C, 120Hz)</td> </tr> <tr> <td>tanδ</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> <td></td> </tr> </table>		Rated Voltage (Vdc)	160	200	250	400	450	(20°C, 120Hz)	tanδ	0.24	0.24	0.24	0.24	0.24								
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Endurance	After applying rated voltage with rated ripple current for specified time at 105°C, the capacitors shall meet the following requirements.																						
	<table border="1"> <tr> <td>Capacitance Change</td> <td>Within ±30% of the initial value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 300% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </table>	Capacitance Change	Within ±30% of the initial value.	Dissipation Factor	Not more than 300% of the specified value.	Leakage Current	Not more than the specified value.	<table border="1"> <tr> <td>Case Size</td> <td>Life Time (hrs)</td> </tr> <tr> <td>6.3×11, 8×9, 10×9</td> <td>12000</td> </tr> <tr> <td>8×11.5, 10×12.5</td> <td>15000</td> </tr> <tr> <td>10×16, 10×20 φD ≥ 12.5</td> <td>20000</td> </tr> </table>	Case Size	Life Time (hrs)	6.3×11, 8×9, 10×9	12000	8×11.5, 10×12.5	15000	10×16, 10×20 φD ≥ 12.5	20000							
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Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <tr> <td>Rated Voltage (Vdc)</td> <td>160</td> <td>200</td> <td>250</td> <td>400</td> <td>450</td> <td>(120Hz)</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>6</td> <td>6</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>8</td> <td>8</td> <td>8</td> <td>10</td> <td>-</td> <td></td> </tr> </table>		Rated Voltage (Vdc)	160	200	250	400	450	(120Hz)	Z(-25°C)/Z(20°C)	3	3	3	6	6		Z(-40°C)/Z(20°C)	8	8	8	10	-	
Rated Voltage (Vdc)	160	200	250	400	450	(120Hz)																	
Z(-25°C)/Z(20°C)	3	3	3	6	6																		
Z(-40°C)/Z(20°C)	8	8	8	10	-																		

◆MULTIPLIER FOR RIPPLE CURRENT

160~400Vdc

Frequency (Hz)	120	1k	10k	100k ≤
1~5.6µF	1.0	1.6	1.8	2.0
6.8~18µF	1.0	1.5	1.7	1.9
22~33µF	1.0	1.4	1.6	1.8

450Vdc

Frequency (Hz)	120	1k	10k	100k ≤
4.7~15µF	0.3	0.6	0.9	1.0
22~68µF	0.4	0.7	0.9	1.0

◆OPTION

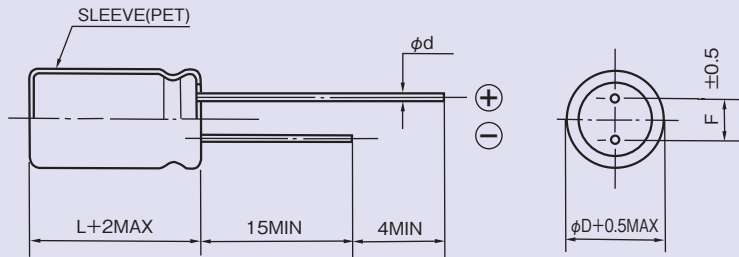
	Code
PET Sleeve	EFC

◆PART NUMBER

□□□	LLE	□□□□□	M	□□□	□□	D×L
Rated Voltage	Series	Capacitance	Capacitance Tolerance	Option	Lead Forming	Case Size

◆ DIMENSIONS

(mm)



ϕD	6.3	8	10	12.5	16	18
ϕd	0.5	0.6		0.8		
F	2.5	3.5	5		7.5	

◆ STANDARD SIZE

Rated Voltage (Vdc)	Capacitance (μF)	Size $\phi D \times L$ (mm)	Rated Ripple Current (mA r.m.s., 105°C)	
			120Hz	100kHz
160	5.6	6.3×11	52	104
	10	8×9	70	133
	15	8×11.5	92	174
		10×9	95	180
	22	10×12.5	121	217
	33	10×16	158	284
200	2.2	6.3×11	36	72
	3.3	6.3×11	42	84
	4.7	6.3×11	49	98
	5.6	8×9	56	112
	6.8	8×9	62	117
	8.2	8×9	66	125
	10	8×11.5	80	152
	12	10×9	88	167
	18	10×12.5	113	214
	27	10×16	149	268
250	1.8	6.3×11	33	66
	2.2	6.3×11	36	72
	3.3	6.3×11	42	84
	4.7	8×9	53	106
	5.6	8×11.5	62	124
	6.8	8×11.5	68	129
	8.2	10×9	76	144
	10	10×12.5	90	171
	12	10×12.5	97	184
	18	10×16	127	241

Rated Voltage (Vdc)	Capacitance (μF)	Size $\phi D \times L$ (mm)	Rated Ripple Current (mA r.m.s., 105°C)	
			120Hz	100kHz
400	1	6.3×11	24	48
	1.2	8×9	28	56
	1.5	8×9	30	60
	1.8	8×9	33	66
	2.2	8×9	36	72
		8×11.5	40	80
	2.7	8×11.5	43	86
	3.3	8×11.5	47	94
		10×9	48	96
	3.9	10×12.5	57	114
	4.7	10×12.5	61	122
	6.8	10×16	85	161
450	4.7	10×16	54	180
		10×20	66	220
	6.8	10×20	84	280
	8.2	10×20	84	280
	10	12.5×20	135	450
	15	12.5×25	180	600
	22	12.5×25	240	600
		16×20	292	730
	33	16×25	392	980
		18×20	312	780
47	18×25	480	1200	
68	18×31.5	520	1300	