

# LED series

## Features

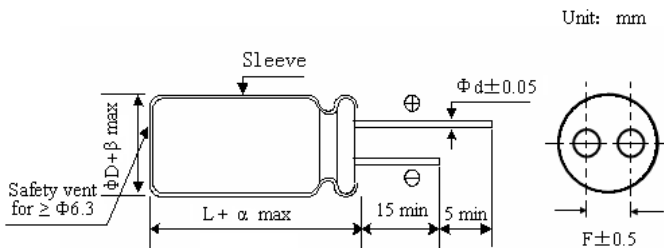
- ◆ Low impedance for high ripple current , 4000 to 10000 hours at 105°C.
- ◆ Especially designed for LED driver, LED lighting .
- ◆ RoHS Compliant .



## Specifications

Item	Performance Characteristics																											
Temperature Range	-40~+105°C																											
Rated Voltage Range	6.3~100Vdc																											
Capacitance Range	10~10000μF																											
Capacitance Tolerance	±20% (120Hz, +20°C)																											
Leakage Current (+20°C,max.)	I≤0.01CV 或 3 (μA) After 2 minutes, whichever is greater measured with rated working voltage applied																											
Dissipation Factor (tgδ) 120Hz, +20°C	<table border="1"> <tr> <td>Working Voltage(Vdc)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>D.F (%) max.</td> <td>22</td> <td>19</td> <td>16</td> <td>14</td> <td>12</td> <td>10</td> <td>9</td> <td>8</td> </tr> </table>	Working Voltage(Vdc)	6.3	10	16	25	35	50	63	100	D.F (%) max.	22	19	16	14	12	10	9	8									
	Working Voltage(Vdc)	6.3	10	16	25	35	50	63	100																			
D.F (%) max.	22	19	16	14	12	10	9	8																				
For capacitance>1000μF, Add 2% per another 1000μF (120Hz, +20°C)																												
Low Temperature Characteristics (120Hz)	Impedance ratio max.																											
	<table border="1"> <tr> <td>Working Voltage(Vdc)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Z-25°C/ Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C/ Z+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	Working Voltage(Vdc)	6.3	10	16	25	35	50	63	100	Z-25°C/ Z+20°C	4	3	2	2	2	2	2	2	Z-40°C/ Z+20°C	8	6	4	3	3	3	3	3
	Working Voltage(Vdc)	6.3	10	16	25	35	50	63	100																			
Z-25°C/ Z+20°C	4	3	2	2	2	2	2	2																				
Z-40°C/ Z+20°C	8	6	4	3	3	3	3	3																				
The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple Current is applied for the specified period of time at 105°C																												
Endurance	<table border="1"> <tr> <td>Rated Voltage</td> <td>6.3 to 10Vdc</td> <td>16 to 100Vdc</td> <td>ΦD</td> <td>6.3~10 WV</td> <td>16~100 WV</td> </tr> <tr> <td>Capacitance Change</td> <td>≤±30% of the initial</td> <td>≤±25% of the initial value</td> <td>5~6.3</td> <td>4000 h</td> <td>5000 h</td> </tr> <tr> <td>D.F.( tgδ)</td> <td colspan="2">≤200% of the initial specified value</td> <td>8~10</td> <td>6000 h</td> <td>7000 h</td> </tr> <tr> <td>Leakage Current</td> <td colspan="2">≤The initial specified value</td> <td>≥13</td> <td>8000 h</td> <td>10000 h</td> </tr> </table>	Rated Voltage	6.3 to 10Vdc	16 to 100Vdc	ΦD	6.3~10 WV	16~100 WV	Capacitance Change	≤±30% of the initial	≤±25% of the initial value	5~6.3	4000 h	5000 h	D.F.( tgδ)	≤200% of the initial specified value		8~10	6000 h	7000 h	Leakage Current	≤The initial specified value		≥13	8000 h	10000 h			
	Rated Voltage	6.3 to 10Vdc	16 to 100Vdc	ΦD	6.3~10 WV	16~100 WV																						
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	D.F.( tgδ)	≤200% of the initial specified value		8~10	6000 h	7000 h																						
Leakage Current	≤The initial specified value		≥13	8000 h	10000 h																							
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the load life characteristics listed above.																											
Others	JISC-5101(IEC 60384)																											

## Diagram of Dimensions



## Frequency Multipliers

μF \ Hz	120	1K	10K	100K
< 47	0.55	0.70	0.90	1.00
47~330	0.70	0.85	0.95	1.00
470~1000	0.75	0.90	0.98	1.00
> 1000	0.80	0.95	1.00	1.00

ΦD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8
α	(L< 20) + 1.5		(L≥20) + 2.0				
β	(D< 20) + 0.5		(D≥20) + 1.0				

# LED series

## Standard Ratings

Voltage	6.3V			10V			16V			25V		
Cap(μF)	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
<b>47</b>							5×11	0.80	170	5×11	0.80	170
<b>100</b>	5×11	0.58	210	5×11	0.58	210	6.3×11	0.30	290	6.3×11	0.30	290
<b>220</b>	6.3×11	0.30	290	6.3×11	0.30	290	8×12	0.16	580	8×12	0.16	580
<b>330</b>	6.3×11	0.27	320	8×12	0.16	580	8×12	0.16	580	8×16	0.10	808
<b>470</b>	8×12	0.16	580	8×12	0.16	580	8×16	0.10	808	10×17	0.069	1050
<b>680</b>	8×12	0.16	580	8×16	0.10	808	10×17	0.069	1050	10×20	0.046	1400
<b>1000</b>	8×16	0.10	808	10×17	0.069	1050	10×20	0.046	1400	13×20	0.035	1900
<b>1500</b>	10×20	0.046	1400	10×25	0.042	1650	13×20	0.035	1900	13×25	0.030	2124
<b>2200</b>	10×25	0.042	1650	13×20	0.035	1900	13×25	0.030	2124	13×35	0.025	2410
<b>3300</b>	13×20	0.035	1900	13×25	0.030	2124	13×35	0.025	2410	16×30	0.023	2720
<b>4700</b>	13×30	0.027	2250	13×35	0.025	2410	16×30	0.023	2720	16×40	0.019	3090
<b>6800</b>	16×30	0.025	2600	16×30	0.023	2720	16×40	0.019	3090			
<b>8200</b>	16×30	0.023	2720	16×35	0.021	2910	18×40	0.016	3370			
<b>10000</b>	16×35	0.021	2910	16×40	0.019	3090	18×45	0.015	3650			

Voltage	35V			50V			63V			100V		
Cap(μF)	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
<b>10</b>	5×11	2.00	72	5×11	1.50	100	5×11	1.20	140	6.3×11	0.96	115
<b>22</b>	5×11	1.83	135	6.3×11	0.70	185	6.3×11	0.96	115	8×12	0.50	230
<b>33</b>	5×11	0.90	150	6.3×11	0.60	230	6.3×11	0.96	115	8×16	0.44	310
<b>47</b>	6.3×11	0.60	230	6.3×11	0.30	295	8×12	0.34	320	10×12	0.40	430
<b>68</b>	6.3×11	0.40	250	8×12	0.20	430	8×12	0.34	320	10×17	0.24	530
<b>100</b>	8×12	0.18	460	8×12	0.17	555	10×12	0.20	400	10×25	0.14	890
<b>220</b>	8×16	0.087	840	10×17	0.090	1050	10×20	0.168	466	13×25	0.10	1040
<b>330</b>	10×17	0.060	1210	10×25	0.060	1400	13×20	0.110	900	16×25	0.075	1330
<b>470</b>	10×20	0.046	1400	13×20	0.055	1660	13×25	0.096	922	16×30	0.050	1760
<b>680</b>	13×20	0.035	1900	13×30	0.040	2050	16×25	0.065	1660	16×40	0.040	2240
<b>1000</b>	13×25	0.030	2124	13×40	0.035	2160	16×35	0.050	1880	18×40	0.035	2360
				16×30	0.030	2320						
<b>1500</b>	13×35	0.025	2410	16×35	0.025	2670	18×35	0.035	2380			
<b>2200</b>	16×30	0.023	2720	18×35	0.023	3010						
<b>3300</b>	16×40	0.019	3090									

Max Allowable Ripple Current (mA,rms) at 105°C 100KHz, Max Impedance(Ω) at 20°C 100 KHz,Case Size ΦD×L(mm).

Above size is the standard size for our product. If you need special size please contact our sales offices.