

SLL SERIES (105°C Low Leakage Current 低漏電)

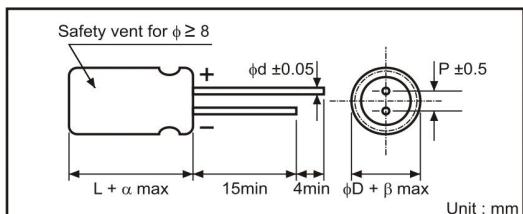
- Extremely low and stable leakage current characteristics.
- Close capacitance tolerance $\pm 20\% (\pm 10\%)$.



◆ SPECIFICATIONS

Item	Performance Characteristics																																		
Operating temperature range	-40 to +105°C																																		
Rated Working Voltage Range	6.3 to 100V																																		
Nominal Capacitance Range	0.1 to 3300μF																																		
Capacitance Tolerance	$\pm 20(120\text{Hz}, +20^\circ\text{C})$																																		
Leakage Current	$I \leq 0.002CV$ or $0.8(\mu\text{A})$ whichever is greater measured after 2minutes application of with rated working voltage at $+20^\circ\text{C}$																																		
Dissipation Factor $\tan \delta(120\text{Hz}, +20^\circ\text{C})$	<table border="1"> <tr> <td>Working Voltage(V)</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>$\tan \delta(\text{max})$</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </table> <p>For capacitance value $> 1000\mu\text{F}$, add 0.02 per another $1000\mu\text{F}$</p>								Working Voltage(V)	6.3	10	16	25	35	50	63	100	$\tan \delta(\text{max})$	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08									
Working Voltage(V)	6.3	10	16	25	35	50	63	100																											
$\tan \delta(\text{max})$	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08																											
Low Temperature Characteristics	<p>Impedance ratio max at 120Hz</p> <table border="1"> <tr> <td>Working Voltage(V)</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>$Z-25^\circ\text{C}/Z+20^\circ\text{C}$</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>$Z-40^\circ\text{C}/Z+20^\circ\text{C}$</td> <td>12</td> <td>10</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table> <p>For capacitance value $> 1000\mu\text{F}$, Add 0.5 per another $1000\mu\text{F}$ for $Z-25^\circ\text{C}/Z+20^\circ\text{C}$ Add 1.0 per another $1000\mu\text{F}$ for $Z-40^\circ\text{C}/Z+20^\circ\text{C}$</p>								Working Voltage(V)	6.3	10	16	25	35	50	63	100	$Z-25^\circ\text{C}/Z+20^\circ\text{C}$	5	4	3	2	2	2	2	2	$Z-40^\circ\text{C}/Z+20^\circ\text{C}$	12	10	8	5	4	3	3	3
Working Voltage(V)	6.3	10	16	25	35	50	63	100																											
$Z-25^\circ\text{C}/Z+20^\circ\text{C}$	5	4	3	2	2	2	2	2																											
$Z-40^\circ\text{C}/Z+20^\circ\text{C}$	12	10	8	5	4	3	3	3																											
High Temperature Loading	<p>Test conditions</p> <p>Duration : 1000 hours</p> <p>Ambient temp : $+105^\circ\text{C}$</p> <p>Applied vlotage: Rated DC working voltage</p> <p>Post test requirements at $+20^\circ\text{C}$</p> <p>Leakage current : \leq Initial specified value</p> <p>Cap . Change : $\leq \pm 20\%$ of Initial measured value</p> <p>$\tan \delta$: $\leq 200\%$ of Initial specified value</p>																																		
Shelf Life	<p>Test conditions</p> <p>Duration : 500 hours</p> <p>Ambient temp : $+105^\circ\text{C}$</p> <p>Applied vlotage:(None)</p> <p>Post test requirements at $+20^\circ\text{C}$</p> <p>Leakage current : \leq Initial specified value</p> <p>Cap . Change : $\leq \pm 20\%$ of Initial measured value</p> <p>$\tan \delta$: $\leq 200\%$ of Initial specified value</p>																																		

◆ CASE SIZE TABLE



ΦD	5	6.3	8	10	12.5	16
P	2.0	2.5	3.5	5.0	5.0	7.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8
α	$(L < 20)1.5 \quad (L \geq 20)2.0$					
β	$(D < 20)0.5 \quad (D \geq 20)1.0$					

◆ RIPPLE CURRENT MULTIPLIER

(1) Frequency Coefficient

freq. (Hz) cap(μF)	50	120	300	1k	10k~
≤ 47	0.75	1.00	1.35	1.57	2.00
56~470	0.80	1.00	1.23	1.34	1.50
680~3300	0.80	1.00	1.1	1.13	1.50

(2) Temperature Coefficient

Tmperatu	-55	60	70	85	105
FACTOR	2.23	2.17	2.00	1.75	1.00

SLL SERIES (105°C Low Leakage Current 低漏電)

◆ DIMENSIONS

Voltage	6.3V		10V		16V		25V	
Cap(μF)	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
4.7							5*11	18
10					5*11	24	5*11	30
22	5*11	21	5*11	33	5*11	45	5*11	48
33	5*11	33	5*11	48	5*11	54	5*11	57
47	5*11	45	5*11	57	5*11	66	5*11	69
100	5*11	78	5*11	87	6.3*11	105	6.3*11	111
220	6.3*11	129	6.3*11	138	8*12	180	8*12	192
330	6.3*11	159	8*12	198	8*12	216	10*12.5	252
470	8*12	216	8*12	234	10*12.5	282	10*16	324
1000	10*12.5	342	10*16	378	10*20	474	12.5*20	570
2200	12.5*20	630	12.5*20	660				
3300	12.5*20	750						

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz

Case Size ΦD X L (mm)

Voltage	35V		50V		63V		100V	
Cap(μF)	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
1			5*11	10			5*11	10
2.2			5*11	14			5*11	18
3.3			5*11	21			5*11	24
4.7	5*11	21	5*11	24	5*11	27	5*11	27
10	5*11	33	5*11	39	5*11	42	6.3*11	45
22	5*11	51	6.3*11	57	6.3*11	69	8*12	78
33	5*11	63	6.3*11	75	8*12	84	10*12.5	102
47	6.3*11	84	6.3*11	90	8*12	114	10*16	138
100	8*12	138	8*12	150	10*12.5	180	12.5*20	240
220	10*12.5	222	10*16	264	10*20	294		
330	10*16	294	10*20	398	12.5*20	408		
470	10*20	384	12.5*20	456				

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz

Case Size ΦD X L (mm)