



# LL SERIES

## Low Leakage Current 105°C 低漏電品 105°C

### Features

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

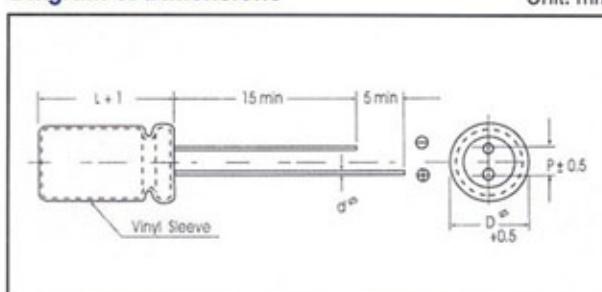
### Specifications

Items	Performance Characteristics							
Operating Temperature Range	-40 to +105°C							
Rated Working Voltage Range	6.3 to 63V DC							
Nominal Capacitance Range	0.1 to 2200 $\mu$ F							
Capacitance Tolerance	$\pm 20\%$ (120Hz, +20°C)							
Leakage Current	1 $\leq$ 0.002CV or 0.3( $\mu$ A) whichever is greater measured after 3 minutes application of rated working voltage at +20°C							
Dissipation Factor ( $\tan \delta$ ) (120Hz, +20°C)	Working voltage (v)	6.3	10	16	25	35	50	63
	$\tan \delta$ (max)	0.24	0.20	0.17	0.15	0.12	0.10	0.10
High Temperature Loading	Test conditions Duration : 2000 hours Ambient temperature : +105°C Applied Voltage : Rated DC working voltage							
	Post test requirements at +20°C Leakage current : $\leq$ initial specified value Capacitance change : $\leq +20\%$ of initial measured value (4V: $\leq +30\%$ ) $\tan \delta$ : $\leq 150\%$ of initial specified value							
Shelf Life	Test conditions Duration : 1000 hours Ambient temperature : +105°C Applied voltage : (None)							
	Post test requirements at +20°C Leakage current : $\leq$ initial specified value Capacitance change : $\leq +20\%$ of initial measured value (4V: $\leq +30\%$ ) $\tan \delta$ : $\leq 150\%$ of initial specified value							
*Pre-treatment for measurements Measurements Shall be conducted after application of DC working voltage for 30 minutes								
Others	Satisfies characteristic W of JIS C 5141-1982							

Case Size Table

$\mu$ F WV (SV)	6.3 (8)	10 (13)	16 (20)	25 (32)	35 (44)	50 (63)	63 (73)	$\phi D \times L$ (mm)
0.1						5×11	5×11	
0.22						5×11	5×11	
0.33						5×11	5×11	
0.47						5×11	5×11	
1.0						5×11	5×11	
2.2						5×11	5×11	
3.3						5×11	5×11	
4.7					5×11	5×11	5×11	6.3×11
10			5×11	5×11	5×11	5×11	6.3×11	
22		5×11	5×11	5×11	5×11	6.3×11	8×11	
33		5×11	5×11	5×11	6.3×11	6.3×11	10×13	
47		5×11	6.3×11	6.3×11	6.3×11	8×11	10×16	
100		6.3×11	6.3×11	8×11	8×11	10×13	10×21	
220	8×11	8×11	8×11	8×11	10×13	10×21		
330	8×11	8×11	8×11	10×13	10×21			
470	10×13	8×11	8×11	10×16	13×21			
1,000	10×16	10×16	10×16	13×21				
2,200	13×21	13×21	13×26					

Diagram of Dimensions



D $\phi$	5	6.3	8	10	13	16
P	2.0	2.5	3.5	5.0	5.0	7.5
d $\phi$	0.5		0.6		0.6	0.8