

LL Long life Series

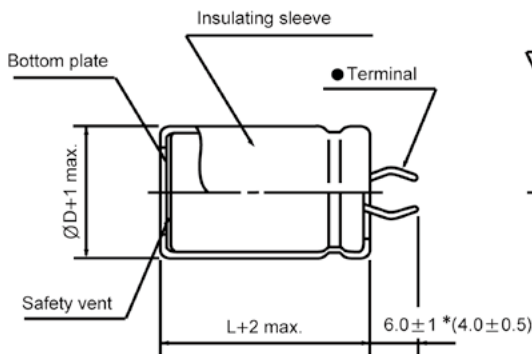
- Load life of 5000 hours at 105°C
- Complied to the RoHS directive

Items	Performance characteristics									
Operating temperature range	-40 ~ +105°C (10V~250V); -25 ~ +105°C (350V~500V)									
Leakage current max.	$I=3\sqrt{CV}$ (μA) (after 5 minutes)									
Capacitance tolerance	±20% at 120Hz, 20°C									
Dissipation factor max. (at 120Hz, 20°C)	WV	10	16	25	35	50	63	80,100	160~400	450,500
	Tanδ	0.55	0.50	0.40	0.35	0.30	0.25	0.20	0.15	0.20
Load life (after application of the rated voltage for 5000 hours at 105°C)	Leakage current					Less than specified value				
	Capacitance change					Within ±25% of initial value				
	Tanδ					Less than 250% of specified value				
Shelf life (at 105°C)	After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value.									

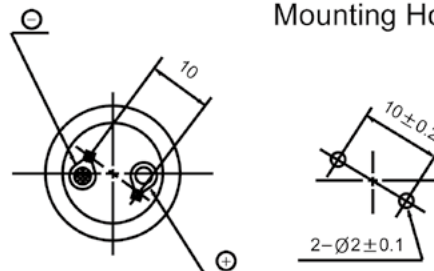
DRAWING

Unit : mm

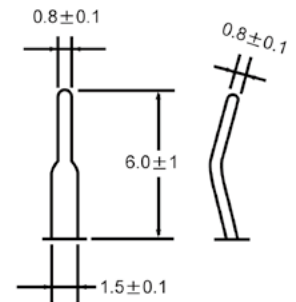
∅D ≤ 40



PC Board Mounting Holes

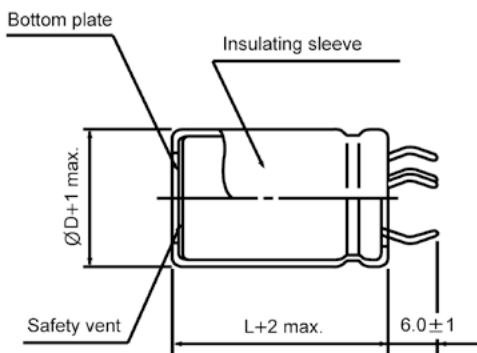


Terminal

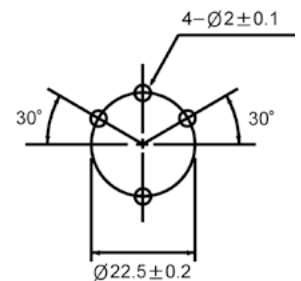
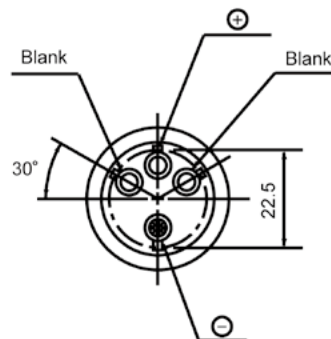


* Shorter terminal(4.0±0.5) is also available upon request.
Terminal length of height 20mm products is applied shorter terminal to standard terminal type.

∅D = 35, 40



PC Board Mounting Holes



● FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

WV \ Frequency	50Hz	120Hz	300Hz	1kHz	10kHz ≤
~ 100	0.85	1.00	1.06	1.15	1.20
160 ~ 250	0.85	1.00	1.20	1.25	1.45
350 ~	0.85	1.00	1.15	1.20	1.40

LL Series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF	WV		10		16		25		35		50		63	
1200													22×25	1.30
1500													22×30 25×25	1.50 1.50
1800											22×25	1.30	22×35 25×30 30×25	1.60 1.60 1.60
2200											22×30	1.40	22×40 25×30 30×30	1.80 1.80 1.80
2700											22×30 25×25	1.60 1.60	22×45 25×35 30×30	2.00 2.00 2.00
3300								22×25	1.50	22×35 25×30	1.80 1.80	22×50 25×40 30×35 35×25	2.20 2.20 2.20 2.20	
3900								22×30	1.60	22×40 25×30 30×25	1.90 1.90 1.90	25×45 30×35 35×30	2.40 2.40 2.40	
4700								22×35 25×25	1.80 1.80	22×40 25×35 30×30 35×25	2.00 2.10 2.10 2.10	25×50 30×40 35×35	2.60 2.60 2.60	
5600					22×25	1.50	22×35 25×30	2.00 2.00	2.00	22×45 25×40 30×35 35×25	2.20 2.30 2.30 2.30	30×45 35×35	2.80 2.80	
6800					22×30 25×25	1.90 1.90	22×40 25×35 30×25	2.20 2.20 2.20	2.20	22×50 25×45 30×35 35×30	2.40 2.50 2.50 2.50	35×40	3.10	
8200			22×25	1.80	22×35 25×30 30×25	2.10 2.10 2.10	22×45 25×35 30×30 35×25	2.30 2.30 2.40 2.40	2.30	30×40 35×30	2.80 2.70	35×45	3.40	
10000			22×30 25×25	2.20 2.20	22×40 25×35 30×25	2.30 2.30 2.20	25×40 30×35 35×25	2.50 2.60 2.50	2.50	30×45 35×35	3.00 3.00	35×50	3.80	
12000	22×30	2.10	22×35 25×30	2.40 2.40	22×40 25×35 30×30	2.50 2.50 2.60	25×45 30×35 35×30	2.80 2.80 2.90	2.80	35×40	3.30			
15000	22×30 25×25	2.30 2.30	22×40 25×35 30×30	2.70 2.70 2.70	25×40 30×35 35×30	2.80 2.90 2.90	30×40 35×35	3.10 3.20	3.10	35×45	3.70			
18000	22×35 25×30	2.70 2.70	22×45 25×40 30×30 35×25	2.80 3.00 3.00 3.00	25×50 30×40 35×30	3.10 3.10 3.10	30×45 35×40	3.30 3.50	3.30					
22000	22×40 25×35 30×30	2.90 2.90 2.90	25×40 30×35 35×30	3.10 3.30 3.30	30×45 35×35	3.50 3.50	35×45	3.70	3.70					
27000	22×45 25×40 30×30 35×25	3.30 3.30 3.30 3.30	30×40 35×30	3.60 3.60	30×50 35×40	3.80 3.70	↑↑ Ripple current (A rms) at 105°C, 120Hz Case size ΦD×L (mm)							
33000	25×45 30×35 35×30	3.50 3.50 3.50	30×45 35×35	4.00 4.00	35×45	4.10								
39000	30×40 35×30	3.80 3.70	30×50 35×40	4.30 4.30	35×50	4.40								
47000	30×45 35×35	4.00 3.90	35×45	4.60										
56000	35×40	4.50												

LL Series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV μF	80		100		160		200		250	
	150							22×20	0.63	22×25 25×20
180							22×20 25×20	0.69 0.76	22×25 25×20	0.74 0.76
220					22×20	0.76	22×25 25×20	0.82 0.84	22×25 25×25 30×20	0.82 0.90 0.92
270					22×25 25×20	0.91 0.93	22×25 25×25 30×20	0.91 1.00 1.02	22×30 25×25 30×20	0.97 1.00 1.02
330					22×25 25×20	1.01 1.03	22×30 25×25 30×20	1.07 1.11 1.13	22×35 25×30 30×25	1.14 1.18 1.21
390					22×25 25×25 30×20	1.09 1.20 1.23	22×30 25×25 30×25	1.17 1.20 1.31	22×40 25×35 30×25 35×25	1.30 1.35 1.31 1.42
470					22×30 25×25 30×20	1.28 1.32 1.35	22×35 25×30 30×25	1.36 1.40 1.44	22×45 25×35 30×30 35×25	1.50 1.48 1.53 1.56
560					22×35 25×30 30×25	1.48 1.53 1.57	22×40 25×30 30×25 35×25	1.56 1.53 1.57 1.70	22×50 25×40 30×30 35×25	1.71 1.70 1.67 1.70
680			22×25	1.10	22×40 25×30 30×25	1.72 1.69 1.73	22×45 25×35 30×30 35×25	1.80 1.79 1.84 1.88	25×50 30×35 35×30	2.05 1.94 1.98
820	22×25	1.20	22×30 25×25	1.30 1.30	22×45 25×35 30×30 35×25	1.98 1.96 2.02 2.06	25×45 30×30 35×25	2.16 2.02 2.06	30×40 35×35	2.23 2.29
1000	22×30 25×25	1.30 1.30	22×35 25×30	1.50 1.50	22×50 25×40 30×30 35×25	2.28 2.28 2.23 2.28	25×50 30×35 35×30	2.48 2.35 2.41	30×50 35×40	2.68 2.65
1200	22×35 25×25	1.50 1.50	22×40 25×35 30×25	1.60 1.60 1.60	25×45 30×35 35×30	2.41 2.38 2.44	30×40 35×35	2.50 2.57	35×45	2.80
1500	22×40 25×30 30×25	1.60 1.60 1.60	22×45 25×40 30×30	1.80 1.80 1.80	25×50 30×40 35×35	2.81 2.79 2.73	30×50 35×40	3.04 3.00	35×50	3.25
1800	22×45 25×35 30×30	1.80 1.80 1.80	25×45 30×35 35×25	2.00 2.00 2.00	<p>Ripple current (A rms) at 105°C, 120Hz Case size ΦD×L (mm)</p>					
2200	22×50 25×40 30×30 35×25	2.00 2.00 2.00 2.00	25×50 30×40 35×30	2.20 2.20 2.20						
2700	25×45 30×35 35×30	2.20 2.20 2.20	30×45 35×35	2.40 2.40						
3300	30×40 35×35	2.40 2.40	35×40	2.70						
3900	30×45 35×40	2.60 2.60	35×45	2.90						
4700	35×45	3.00								
5600	35×50	3.30								

LL Series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF \diagdown WV	350		400		450		500	
68	22×20 25×20	0.41 0.45	22×20	0.58			22×30	0.73
82	22×25 25×20	0.48 0.49	22×25 25×20	0.62 0.69	22×25 25×25	0.67 0.69	22×35 25×25	0.83 0.83
100	22×25 25×25 30×20	0.53 0.58 0.60	22×25 25×25	0.74 0.75	22×25 25×25 30×20	0.79 0.81 0.84	22×40 25×30 30×25	0.94 0.94 0.91
120	22×30 25×25 30×20	0.62 0.64 0.65	22×30 25×25 30×20	0.86 0.84 0.92	22×30 25×25 30×25 35×20	0.90 0.89 0.92 0.99	22×50 25×30 30×25 35×25	1.08 1.02 1.04 1.01
150	22×35 25×30 30×25	0.74 0.76 0.78	22×35 25×30 30×25	1.02 0.99 1.02	22×35 25×30 30×25 35×25	1.06 1.11 1.20 1.11	22×55 25×35 30×30 35×25	1.24 1.21 1.19 1.18
180	22×40 25×30 30×25	0.85 0.83 0.86	22×40 25×30 30×25	1.16 1.15 1.20	22×40 25×30 30×25 35×25	1.22 1.22 1.20 1.22	22×60 25×40 30×35 35×30	1.38 1.36 1.34 1.25
220	22×45 25×35 30×30 35×25	0.98 0.98 1.00 1.03	22×45 25×35 30×30 35×25	1.35 1.35 1.32 1.35	22×45 25×35 30×30 35×25	1.35 1.40 1.39 1.35	25×50 30×40 35×30	1.52 1.51 1.51
270	22×50 25×40 30×30 35×25	1.14 1.14 1.11 1.14	22×50 25×40 30×30 35×25	1.58 1.56 1.53 1.58	25×40 30×35 35×30	1.54 1.62 1.56	30×45 35×35	1.69 1.62
330	25×45 30×35 35×30	1.31 1.30 1.33	25×45 30×35 35×30	1.80 1.78 1.75	30×40 35×35	2.03 1.80	30×50 35×40	1.89 1.81
390	25×50 30×40 35×35	1.49 1.48 1.52	30×40 35×35	2.02 2.00	30×45 35×40	2.12 2.08	35×45	2.08
470	30×45 35×35	1.69 1.67	30×45 35×35	2.31 2.29	30×50 35×40	2.14 2.14	35×50	2.28
560	30×50 35×40	1.92 1.90	30×50 35×40	2.33 2.33	35×45	2.26		
680			35×45	2.37	35×50	2.51		

↑ ↑
Ripple current (A rms) at 105°C , 120Hz
Case size $\Phi\text{D}\times\text{L}$ (mm)