

20000h at 85°C

- Features
 - Longest useful life
 - High Reliability
 - RoHS Compliant
- Applications
 - Highest Professional Power
 - Application



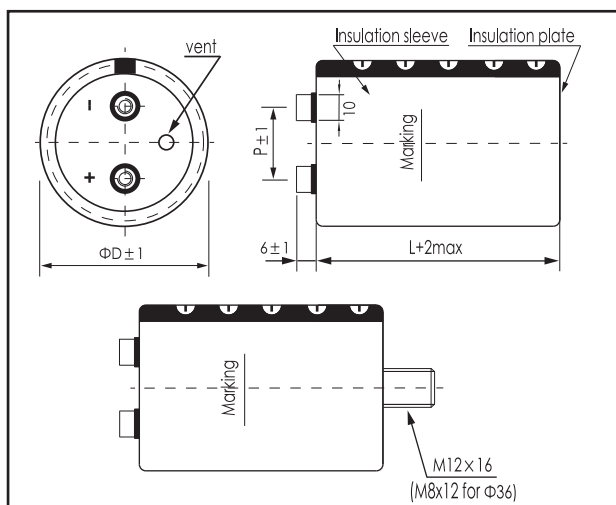
SCREW

Items	Characteristics
Operating Temperature Range (°C)	-40 ~ +85
Voltage Range (V)	350 ~ 450
Capacitance Range (μF)	1000 ~ 15000
Capacitance Tolerance (20°C, 120Hz)	± 20%
Leakage Current (μA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 5mA, whichever is smaller. C: Nominal Capacitance (μF) V: Rated Voltage (V)
Dissipation Factor (20°C, 120Hz)	Less than 0.15
Stability at Low Temperature (120Hz)	$C_{-25^{\circ}\text{C}} / C_{+20^{\circ}\text{C}} \geq 0.7$

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	>25000h	>250000h	20000h	20000h	1000h
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value
Condition: Applied Voltage Applied Current Applied Temperature	U_R I_R 85°C	U_R $1.2 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C	$U_R = 0$ $I_R = 0$ 85°C After test: U_R to be applied for 60min >24h before measurement

Dimensions

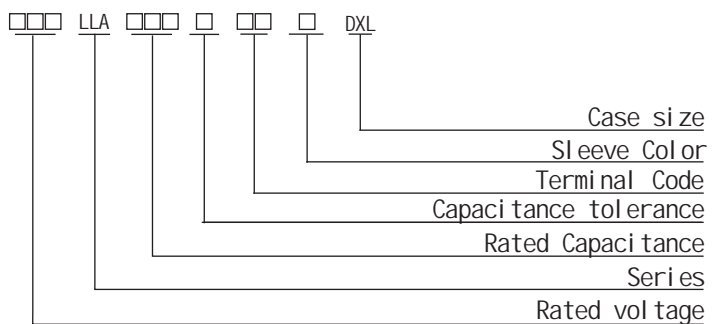
mm



ΦD/mm	51	64	77	90	101
P/mm	22.0	28.2	31.4	31.4	41.5

*Hex head screw M5 x 10 and M6 x 12 are standard screws. Longer screws are available on request.
 *Max tightening torque for screw terminal M5: 3Nm, M6: 4Nm. Max torque for bolt mounting M12: 12.5Nm.
 *Screws, Bracket and cap nut will be delivered separately. See "Accessories" for shape and dimensions.

Part Number System



Ripple Current Coefficient

Frequency (Hz)	50/60	120	300	1k	>10k
Coefficient	0.80	1.00	1.10	1.30	1.40

Ambient Temp (°C)	40	60	85
Coefficient	1.89	1.67	1.00

The useful life can be prolonged by operating capacitor at loads below the rated values (e.g. lower operating voltage, Rms ripple current or ambient temperature) and by appropriate cooling measures.
 It is advisable not to apply a ripple current exceeding the rated ripple current without any cooling measures as this will shorten capacitor's life.

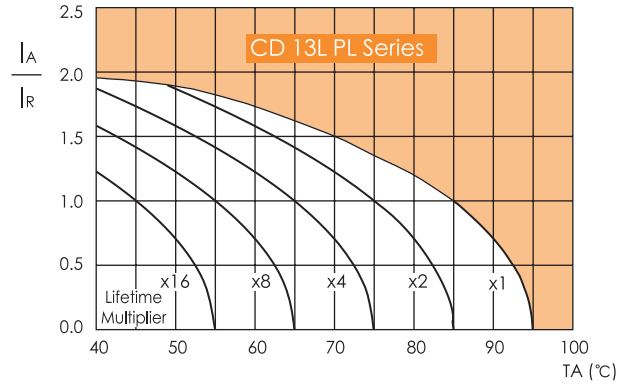
Ratings for CD 13L Series

SCREW

U_R (Surge Voltage) Code	Rated Capa- cance	Max.ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size $\Phi D \times L$
(V)	(μF)	(m Ω)	(m Ω)	(Arms)	(mm)
350 (400) 2V	1000	259	69	3.9	51×75
	1200	215	65	4.2	51×75
	1500	172	55	5.2	51×96
	1800	143	43	5.7	51×96
	2200	117	30	7.1	51×130
	2700	96	27	7.7	64×96
	3300	78	23	9.1	64×115
	3900	66	19	10.4	64×130
	4700	55	15	12.2	64×155
		55	16	11.5	77×115
	5600	46	13	14.6	64×195
		46	14	13.1	77×130
	6800	38	13	15.5	77×155
	8200	31	11	18.1	90×157
	10000	26	10	19.9	90×157
	12000	22	8	23.8	90×196
15000	17	6	28.8	90×236	
400 (450) 2G	1000	215	70	3.9	51×75
	1200	179	64	4.6	51×96
	1500	143	54	5.6	51×115
	1800	119	43	6.4	51×130
	2200	98	41	6.9	64×96
	2700	80	38	8.2	64×115
	3300	65	29	9.5	64×130
	3900	55	26	11.1	64×155
		55	28	10.4	77×115
	4700	46	20	13.4	64×195
		46	22	12.0	77×130
	5600	39	19	14.6	64×195
		39	19	14.0	77×155
	6800	32	17	16.5	90×157
	8200	26	15	18.1	90×157
	10000	22	12	21.7	90×196
12000	18	8	25.8	90×236	
450 (500) 2W	1000	215	70	4.2	51×96
	1200	179	66	5.0	51×115
	1500	143	54	5.9	51×130
	1800	119	44	6.3	64×96
	2200	98	42	7.4	64×115
	2700	80	40	8.6	64×130
	2700	80	42	8.7	77×115
	3300	65	31	10.2	64×155
		65	35	10.1	77×130
	3900	55	28	12.3	64×195
	4700	46	25	12.9	77×155
	5600	38	22	15.4	77×195
		38	24	14.9	90×157
	6800	32	21	18.0	90×196
	8200	27	18	19.8	90×196
	10000	22	16	23.6	90×236

Mounting code(" B" for bolt mounting, "Y/I/N" for bracket mounting)
Terminal options(A,B,C see "Dimensions" for details.)

Lifetime Diagram



I_A = actual ripple current at 120Hz, I_R = rated ripple current at 120Hz, 85°C
Multiplier of Useful Life as a function of ambient temperature and ripple current load

Capacitor diameter d(mm)	length l(mm)	Packing units (pcs.)	
51	all	42	
63.5	all	30	
77	all	12	15
89	all	8	
100	all	6	