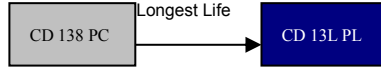


## 20000h at 85°C

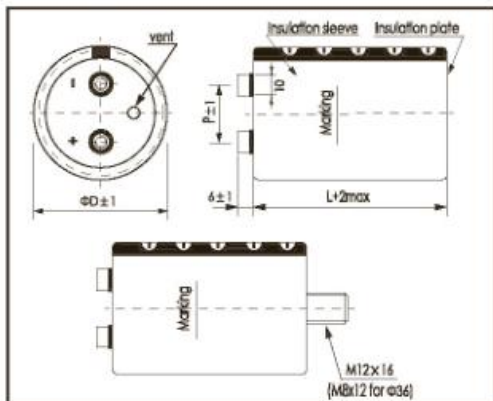
- Features
  - Longest useful life
  - High Reliability
  - RoHS Compliant
- Applications
  - Highest Professional Power
  - Application



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

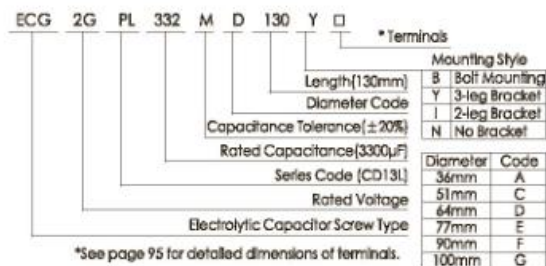
### Dimensions mm



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: 6Nm.  
 Max torque for bolt mounting M12: 12.5Nm.  
 \*Screws, Bracket and cap nut will be delivered separately.  
 See "Accessories" (page 94.95) for shape and dimensions.

### Part Number System (Ex: 400v3300μF)



### 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.

# CD 13L PL SERIES



## Ratings for CD 13L PL Series

U <sub>R</sub> (Surge Voltage) Code	Rated Capacitance	Max. ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size ΦDxL	P/N
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	-
350 (400) 2V	1000	259	69	3.9	51X75	ECG2VBL102MC075□□
	1200	215	65	4.2	51X75	ECG2VBL122MC075□□
	1500	172	55	5.2	51X96	ECG2VBL152MC096□□
	1800	143	43	5.7	51X96	ECG2VBL182MC096□□
	2200	117	30	7.1	51X130	ECG2VBL222MC130□□
	2700	96	27	7.7	64X96	ECG2VBL272MD096□□
	3300	78	23	9.1	64X115	ECG2VBL332MD115□□
	3900	66	19	10.4	64X130	ECG2VBL392MD130□□
	4700	55	15	12.2	64X155	ECG2VBL472MD155□□
		55	16	11.5	77X115	ECG2VBL472ME115□□
	5600	46	13	14.6	64X195	ECG2VBL562MD195□□
		46	14	13.1	77X130	ECG2VBL562ME130□□
	6800	38	13	15.5	77X155	ECG2VBL682ME155□□
	8200	31	11	18.1	90X157	ECG2VBL822MF157□□
	10000	26	10	19.9	90X157	ECG2VBL103MF157□□
12000	22	8	23.8	90X196	ECG2VBL123MF196□□	
15000	17	6	28.8	90X236	ECG2VBL153MF236□□	
400 (450) 2G	1000	215	70	3.9	51X75	ECG2GBL102MC075□□
	1200	179	64	4.6	51X96	ECG2GBL122MC096□□
	1500	143	54	5.6	51X115	ECG2GBL152MC115□□
	1800	119	43	6.4	51X130	ECG2GBL182MC130□□
	2200	98	41	6.9	64X96	ECG2GBL222MD096□□
	2700	80	38	8.2	64X115	ECG2GBL272MD115□□
	3300	65	29	9.5	64X130	ECG2GBL332MD130□□
	3900	55	26	11.1	64X155	ECG2GBL392MD155□□
		55	28	10.4	77X115	ECG2GBL392ME115□□
	4700	46	20	13.4	64X195	ECG2GBL472MD195□□
		46	22	12.0	77X130	ECG2GBL472ME130□□
	5600	39	19	14.6	64X195	ECG2GBL562MD195□□
		39	19	14.0	77X155	ECG2GBL562ME155□□
	6800	32	17	16.5	90X157	ECG2GBL682MF157□□
	8200	26	15	18.1	90X157	ECG2GBL822MF157□□
10000	22	12	21.7	90X196	ECG2GBL103MF196□□	
12000	18	8	25.8	90X236	ECG2GBL123MF236□□	
450 (500) 2W	1000	215	70	4.2	51X96	ECG2WBL102MC096□□
	1200	179	66	5.0	51X115	ECG2WBL122MC115□□
	1500	143	54	5.9	51X130	ECG2WBL152MC130□□
	1800	119	44	6.3	64X96	ECG2WBL182MD096□□
	2200	98	42	7.4	64X115	ECG2WBL222MD115□□
	2700	80	40	8.6	64X130	ECG2WBL272MD130□□
	2700	80	42	8.7	77X115	ECG2WBL272ME115□□
	3300	65	31	10.2	64X155	ECG2WBL332MD155□□
		65	35	10.1	77X130	ECG2WBL332ME130□□
	3900	55	28	12.3	64X195	ECG2WBL392MD195□□
	4700	46	25	12.9	77X155	ECG2WBL472ME155□□
	5600	38	22	15.4	77X195	ECG2WBL562ME195□□
		38	24	14.9	90X157	ECG2WBL562MF157□□
	6800	32	21	18.0	90X196	ECG2WBL682MF196□□
	8200	27	18	19.8	90X196	ECG2WBL822MF196□□
10000	22	16	23.6	90X236	ECG2WBL103MF236□□	

Mounting code(" B" for bolt mounting, "Y/I/N" for bracket mounting)

Terminal options(A,B,C see "Dimensions" for details.)

Customer products are available on request.

## Lifetime Diagram

