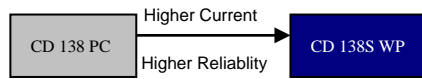


10000h at 85°C

■ Features

- Higher ripple current
- Long useful life & High Reliability
- RoHS Compliant



■ Applications

- For Professional Power application and Inverters

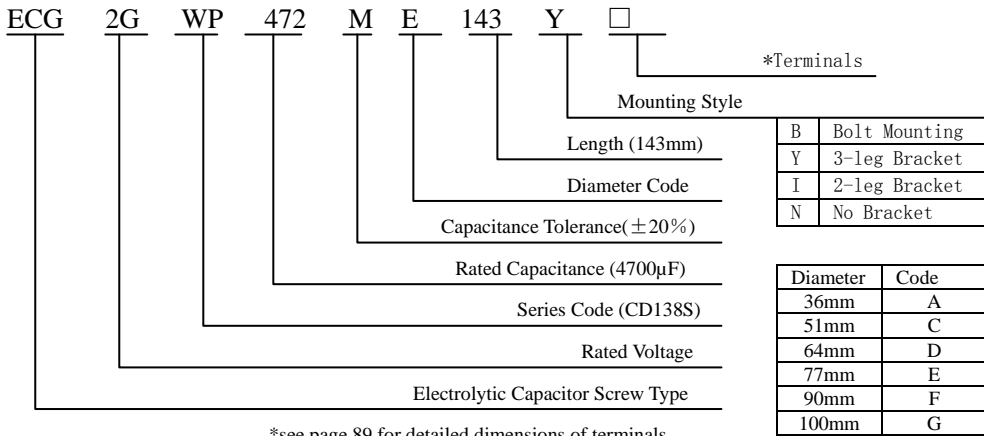
Items	Characteristics
Operating Temperature Range(°C)	-40 ~ +85
Voltage Range (V)	350~500
Capacitance Range(μF)	1500~12000
Capacitance Tolerance (20°C,120Hz)	±20%
Leakage Current (μA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 5mA, whichever is smaller . C: Nominal Capacitance(μF) V: Rated Voltage(V)
Dissipation Factor (20°C, 120Hz)	Less than 0.15
Stability at Low Temperature(120Hz)	$C(-25^{\circ}\text{C})/C(+20^{\circ}\text{C}) \geq 0.7$

Life Time	Useful Life		Load Life	Endurance Test	Shelf Life
	15000h	>250000h	10000h	12000h	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	<div style="border: 1px solid black; padding: 5px;"> After test: U_R to be applied for 60min>24h before measurement </div>

CD 138S WP SERIES

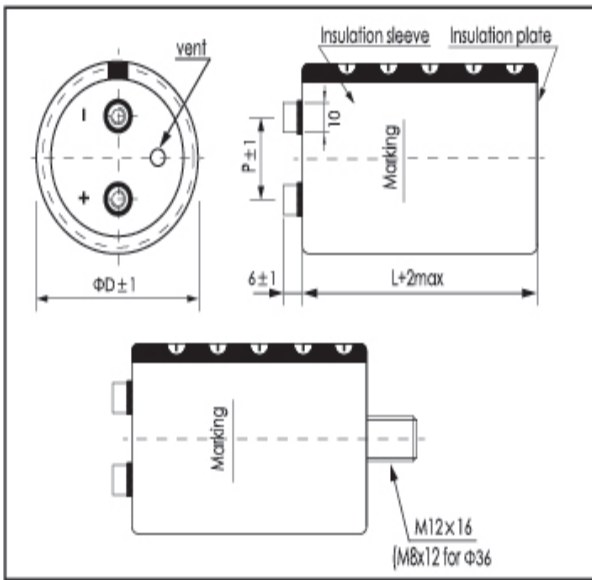


Part Number System (Ex:450v4700μF)



*see page 89 for detailed dimensions of terminals.

Dimensions mm



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

- *Hex head screw M5×10 and M6×12 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 88.89)for shape and dimensions.

Ripple Current Coefficient

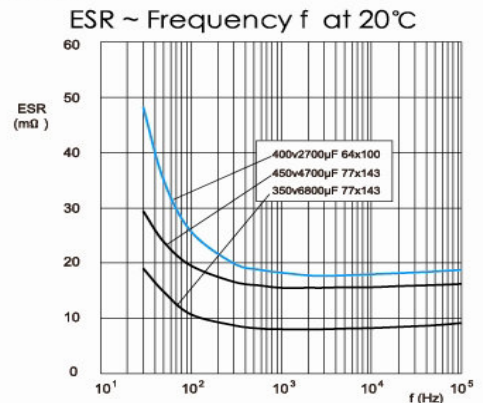
Frequency(Hz)	50/60	120	300	1k	>10k
Coefficient	0.80	1.00	1.10	1.30	1.40

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

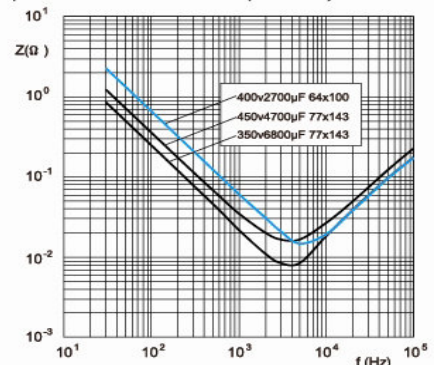
The useful life can be prolonged by operating capacitor at loads below the rated values (e.g.lower operating voltage, Rms ripple current or ambient temperature) and by appropriate cooling measures.

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.

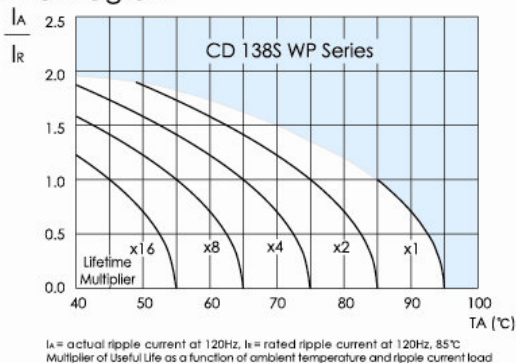
Typical Curves



Impedance Z ~ Frequency f at 20°C



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

CD 138S WP SERIES



Ratings for CD 138S WP Series

U _R (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	3900	50	25	14.6	64X115	ECG2VWP392MD115□□
	4700	40	20	16.9	64X130	ECG2VWP472MD130□□
	5600	34	17	19.8	64X155	ECG2VWP562MD155□□
	5600	34	17	21.6	77X121	ECG2VWP562ME121□□
	6800	28	14	25.0	77X143	ECG2VWP682ME143□□
	6800	28	14	26.2	90X121	ECG2VWP682MF121□□
	8200	24	12	29.3	77X161	ECG2VWP822ME161□□
	8200	24	12	30.1	90X137	ECG2VWP822MF137□□
	10000	18	9	35.7	90X161	ECG2VWP103MF161□□
	12000	16	8	39.1	90X161	ECG2VWP123MF161□□
400 (450) 2G	2700	76	38	11.5	64X100	ECG2GWP272MD100□□
	3300	60	30	14.2	64X130	ECG2GWP332MD130□□
	3900	52	26	16.5	64X155	ECG2GWP392MD155□□
	3900	52	26	17.2	77X121	ECG2GWP392ME121□□
	4700	42	21	18.1	64X155	ECG2GWP472MD155□□
	4700	42	21	20.8	77X130	ECG2GWP472MD130□□
	5600	36	18	22.7	77X143	ECG2GWP562ME143□□
	5600	36	18	23.8	90X121	ECG2GWP562MF121□□
	6800	30	15	26.6	77X161	ECG2GWP682ME161□□
	6800	30	15	27.4	90X137	ECG2GWP682MF137□□
	8200	24	12	32.2	90X161	ECG2GWP822MF161□□
	10000	20	10	35.7	90X161	ECG2GWP103MF161□□
450 (500) 2W	2200	92	46	10.4	64X100	ECG2WWP222MD100□□
	2200	92	46	11.5	77X96	ECG2WWP222ME096□□
	2700	76	38	12.8	64X130	ECG2WWP272MD130□□
	3300	60	30	15.2	64X155	ECG2WWP332MD155□□
	3300	60	30	15.8	77X121	ECG2WWP332ME121□□
	3900	54	27	16.5	64X155	ECG2WWP392MD155□□
	3900	54	27	18.0	77X121	ECG2WWP392ME121□□
	4700	42	21	20.8	77X143	ECG2WWP472ME143□□
	4700	42	21	21.8	90X121	ECG2WWP472MF121□□
	5600	36	18	24.2	77X161	ECG2WWP562ME161□□
	5600	36	18	24.9	90X137	ECG2WWP562MF137□□
	6800	30	15	29.4	90X161	ECG2WWP682MF161□□
	8200	24	12	32.2	90X161	ECG2WWP822MF161□□
	10000	20	10	36.9	90X178	ECG2WWP103MF103□□
500 (550) 2H	1500	148	74	8.6	64X115	ECG2HWP152MD115□□
	1800	132	62	10.0	64X130	ECG2HWP182MD130□□
	2200	102	51	11.7	64X155	ECG2HWP222MD155□□
	2700	82	41	15.0	77X121	ECG2HWP272ME121□□
	3300	68	34	17.5	77X143	ECG2HWP332ME143□□
	3900	58	29	20.2	77X155	ECG2HWP392ME155□□
	4700	48	24	21.8	90X137	ECG2HWP472MF137□□
	5600	40	20	25.3	90X161	ECG2HWP562MF161□□
	6800	32	16	29.0	90X178	ECG2HWP682MF178□□

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.

