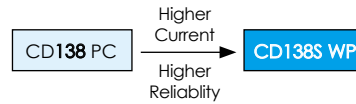


10000h at 85°C

- Features
 - Higher ripple current
 - Long useful life & High Reliability
 - RoHS Compliant
- Applications
 - For Professional Power application and Inverters



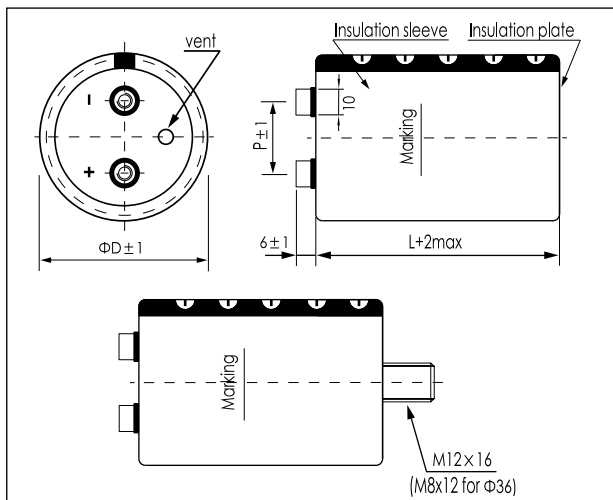
SCREW

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)	$C_{-25^{\circ}\text{C}}/C_{+20^{\circ}\text{C}} \geq 0.7$

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	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	$U_R = 0$ $I_R = 0$ 85°C After test: U_R to be applied for 60 min > 24h before measurement

Dimensions

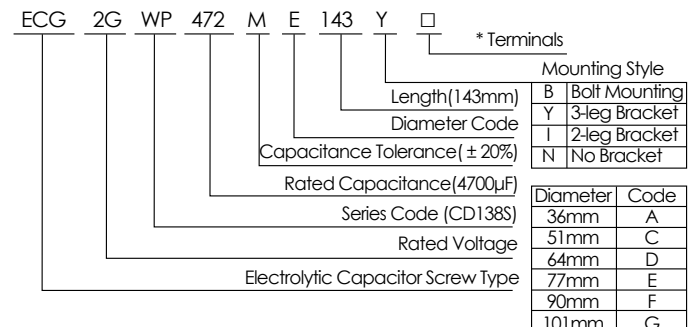
mm



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

*Hex head screw M5 × 10 and M6 × 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 (Ex: 450v4700µF)



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.

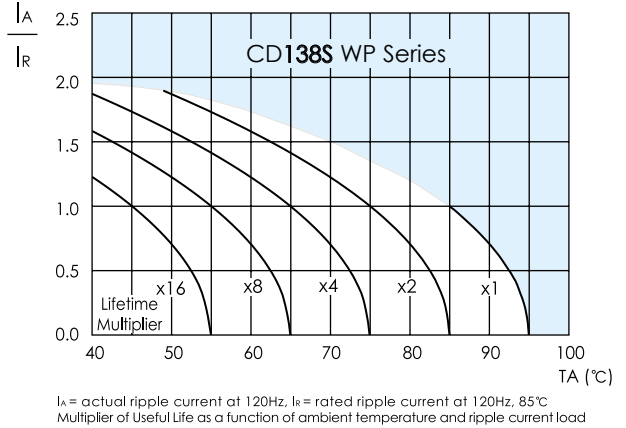
Ratings for CD138S WP Series

U_R (Surge Voltage) Code	Rated Capacitance	Max.ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 85°C, 120Hz	Size ΦD x L	P/N
(V)	(μF)	(mΩ)	(mΩ)	(Arms)	(mm)	-
350 (400) 2V	3900	50	25	14.6	64X96	ECG2VWP392MD096 □□
	4700	40	20	16.9	64X115	ECG2VWP472MD115 □□
	5600	34	17	19.8	64X130	ECG2VWP562MD130 □□
	5600	34	17	21.6	77X115	ECG2VWP562ME115 □□
	6800	28	14	25	77X143	ECG2VWP682ME143 □□
	6800	28	14	26.2	90X105	ECG2VWP682MF105 □□
	8200	24	12	29.3	77X143	ECG2VWP822ME143 □□
	8200	24	12	30.1	77X155	ECG2VWP822ME155 □□
	10000	18	9	35.7	90X157	ECG2VWP103MF157 □□
	12000	16	8	39.1	90X157	ECG2VWP123MF157 □□
400 (450) 2G	2700	76	38	11.5	64X96	ECG2GWP272MD096 □□
	3300	60	30	14.2	64X115	ECG2GWP332MD115 □□
	3900	52	26	16.5	64X115	ECG2GWP392MD115 □□
	3900	52	26	17.2	77X105	ECG2GWP392ME105 □□
	4700	42	21	18.1	64X130	ECG2GWP472MD130 □□
	4700	42	21	20.8	77X115	ECG2GWP472ME115 □□
	5600	36	18	22.7	77X130	ECG2GWP562ME130 □□
	5600	36	18	23.8	90X105	ECG2GWP562MF105 □□
	6800	30	15	26.6	77X155	ECG2GWP682ME155 □□
	6800	30	15	27.4	90X130	ECG2GWP682MF130 □□
450 (500) 2W	8200	24	12	32.2	90X157	ECG2GWP822MF157 □□
	10000	20	10	35.7	90X157	ECG2GWP103MF157 □□
	2200	92	46	10.4	64X96	ECG2WWP222MD096 □□
	2200	92	46	11.5	77X80	ECG2WWP222ME080 □□
	2700	76	38	12.8	64X115	ECG2WWP272MD115 □□
	3300	60	30	15.2	64X130	ECG2WWP332MD130 □□
	3300	60	30	15.8	77X105	ECG2WWP332ME105 □□
	3900	54	27	16.5	64X130	ECG2WWP392MD130 □□
	3900	54	27	18	77X115	ECG2WWP392ME115 □□
	4700	42	21	20.8	77X143	ECG2WWP472ME143 □□
500 (550) 2H	4700	42	21	21.8	90X105	ECG2WWP472MF105 □□
	5600	36	18	24.2	77X143	ECG2WWP562ME143 □□
	5600	36	18	24.9	90X130	ECG2WWP562MF130 □□
	6800	30	15	29.4	90X157	ECG2WWP682MF157 □□
	8200	24	12	32.2	90X157	ECG2WWP822MF157 □□
	10000	20	10	36.9	90X171	ECG2WWP103MF171 □□
	1500	148	74	8.6	64X96	ECG2HWP152MD096 □□
	1800	132	62	10	64X115	ECG2HWP182MD115 □□
	2200	102	51	11.7	64X130	ECG2HWP222MD130 □□
	2700	82	41	15	77X115	ECG2HWP272ME115 □□
500 (550) 2H	3300	68	34	17.5	77X130	ECG2HWP332ME130 □□
	3900	58	29	20.2	77X143	ECG2HWP392ME143 □□
	4700	48	24	21.8	90X130	ECG2HWP472MF130 □□
	5600	40	20	25.3	90X157	ECG2HWP562MF157 □□
	6800	32	16	29	90X171	ECG2HWP682MF171 □□

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

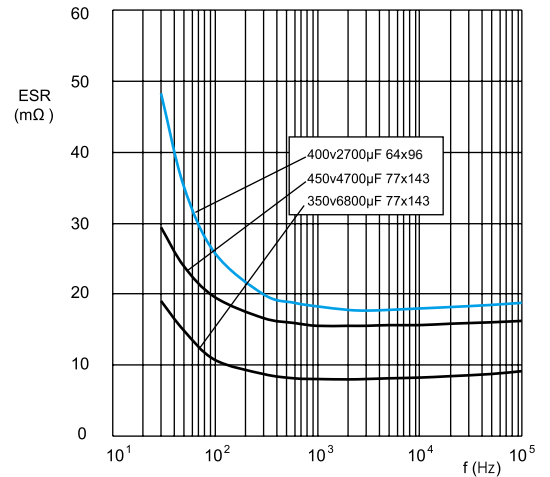
Customer products are available on request.

Lifetime Diagram



Typical Curves

ESR ~ Frequency f at 20°C



Impedance Z ~ Frequency f at 20°C

