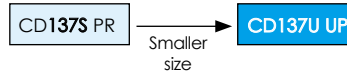


5000h at 85°C

- Extremely compact
- High ripple current & High Reliability
- RoHS Compliant



SCREW

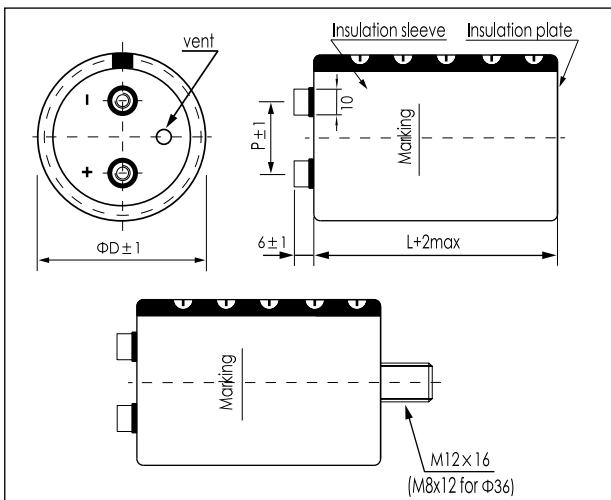
Items	Characteristics
Operating Temperature Range (°C)	-40 ~ +85
Voltage range (V)	400 ~ 450
Capacitance Range (μF)	1800 ~ 22000
Capacitance Tolerance (20°C, 120Hz)	± 20%(M)
Leakage Current (μA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 5mA, whichever is smaller. C: Nominal Capacitance (μF) V: Rated Voltage (V)
Dissipation Factor (20°C, 120Hz)	Less than 0.15
Stability at Low Temperature (Impedance ratio at 120Hz)	$C(-25^{\circ}\text{C})/C(+20^{\circ}\text{C}) \geq 0.7$, $C(-40^{\circ}\text{C})/C(+20^{\circ}\text{C}) \geq 0.6$

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	10000h	$\geq 100000\text{h}$	5000h	5000h	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 200% 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:	U_R I_R 85°C	U_R $1.4 \times I_R$ 40°C	U_R I_R 85°C	U_R $I_R = 0$ 85°C	$U_R = 0$ $I_R = 0$ 85°C

*Shelf Life test: U_R to be applied for 60min, >24h before measurement

Dimensions

mm



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

*Hex head screw M5 × 10 and M6 × 12 are standard screws.

Longer screws are available on request.

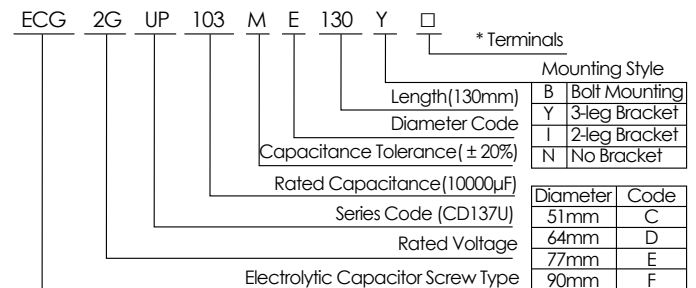
*Max tightening torque for screw terminal M5: 3Nm, M6: 4Nm.

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: 400v10000μF)



Ripple Current Coefficient

Frequency(Hz)	50/60	120	300	1k	> 10k
Coefficient	0.80	1.00	1.18	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.

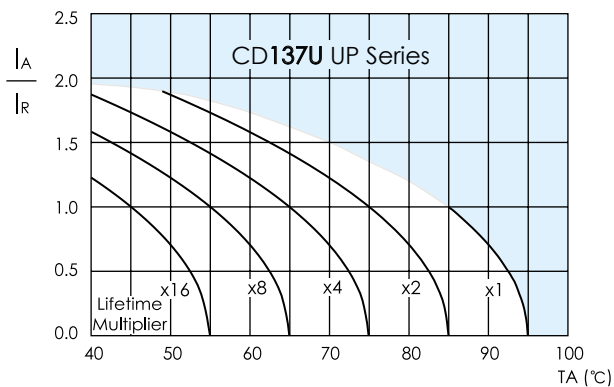
It is advisable not to apply a ripple current exceeding the rated ripple current without any cooling measures as this will shorten capacitor's life.

Ratings for CD137U UP 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)	-
400 (450) 2G	2200	76	38	7.69	51X80	ECG2GUP222MC080 □□
	2700	64	32	8.9	51X96	ECG2GUP272MC096 □□
	3300	52	26	10.3	51X105	ECG2GUP332MC105 □□
		52	26	10.6	64X80	ECG2GUP332MD080 □□
	3900	42	21	11.7	51X130	ECG2GUP392MC130 □□
	4700	36	18	12.9	64X100	ECG2GUP472MD100 □□
	5600	32	16	14.7	64X115	ECG2GUP562MD115 □□
	6800	28	14	16.6	64X130	ECG2GUP682MD130 □□
		28	14	17.5	77X105	ECG2GUP682ME105 □□
	8200	24	12	19.5	77X115	ECG2GUP822ME115 □□
	10000	20	10	22.4	77X130	ECG2GUP103ME130 □□
	12000	16	8	26.3	77X155	ECG2GUP123ME155 □□
		16	8	27	90X130	ECG2GUP123MF130 □□
	15000	14	7	31.6	77X190	ECG2GUP153ME190 □□
	18000	12	6	35.4	77X220	ECG2GUP183ME220 □□
		12	6	36.3	90X170	ECG2GUP183MF170 □□
	22000	9	4.5	39.1	90X196	ECG2GUP223MF196 □□
450 (500) 2W	1800	118	59	7.12	51X80	ECG2WUP182MC080 □□
	2200	96	48	8.3	51X96	ECG2WUP222MC096 □□
	2700	80	40	9.45	51X105	ECG2WUP272MC105 □□
		80	40	9.81	64X80	ECG2WUP272MD080 □□
	3300	66	33	11	51X130	ECG2WUP332MC130 □□
	3900	58	29	12	64X100	ECG2WUP392MD100 □□
	4700	50	25	13.5	64X115	ECG2WUP472MD115 □□
	5600	44	22	15.5	64X130	ECG2WUP562MD130 □□
	6800	36	18	19.2	77X115	ECG2WUP682ME115 □□
	8200	30	15	21.8	77X130	ECG2WUP822ME130 □□
	10000	24	12	24.9	77X155	ECG2WUP103ME155 □□
	12000	20	10	28.4	77X190	ECG2WUP123ME190 □□
	15000	16	8	33.8	77X220	ECG2WUP153ME220 □□
	18000	14	7	37	90X196	ECG2WUP183MF196 □□

Customer products are available on request.

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