

5000h at 105°C

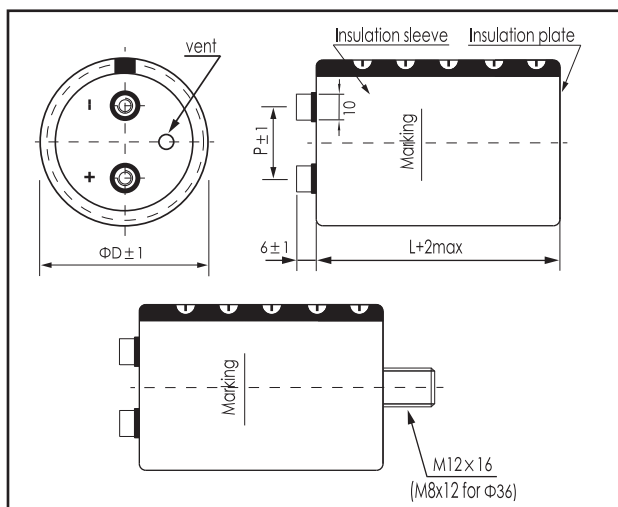
- Features
 - Long Useful Life at 105°C
 - Higher current and High Reliability
 - RoHS Compliant
- Applications
 - Highest Professional Power
 - Application



Items	Characteristics
Operating Temperature Range (°C)	-40 ~ +105
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	>9000h	>200000h	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 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 105°C	U_R $1.2 \times I_R$ 40°C	U_R I_R 105°C	U_R $I_R = 0$ 105°C	$U_R = 0$ $I_R = 0$ 105°C After test: U_R to be applied for 60min >24h before measurement

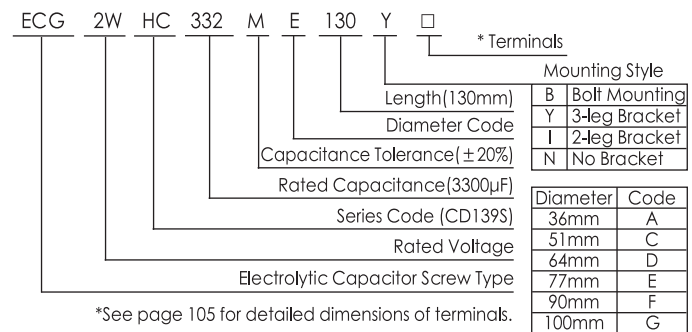
Dimensions mm



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" (page 104,105) for shape and dimensions.

Part Number System (Ex: 450V3300µF)



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	105
Coefficient	2.44	2.16	2.00	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.

SCREW

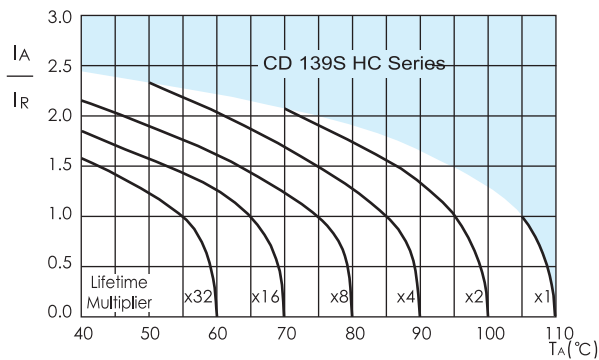
Ratings for CD 139S HC Series

U_R (Surge Voltage) Code	Rated Capacitance	Max.ESR 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C,120Hz	Size $\Phi D \times L$	P/N
(V)	(μF)	(m Ω)	(m Ω)	(Arms)	(mm)	-
350 (400) 2V	3300	55	23	14.4	64×115	ECG2VHC332MD115□□
	3900	46	19	16.6	64×130	ECG2VHC392MD130□□
	4700	39	17	19.8	64×155	ECG2VHC472MD155□□
	4700	39	17	19.1	77×115	ECG2VHC472ME115□□
	5600	32	14	21.9	77×130	ECG2VHC562ME130□□
	6800	27	12	26.2	77×155	ECG2VHC682ME155□□
	8200	22	11	29.3	90×157	ECG2VHC822MF157□□
	10000	18	10	32.3	90×157	ECG2VHC103MF157□□
	12000	15	8	39.0	90×196	ECG2VHC123MF196□□
400 (450) 2G	2700	56	28	13.1	64×115	ECG2GHC272MD115□□
	3300	46	23	15.2	64×130	ECG2GHC332MD130□□
	3900	39	21	17.9	64×155	ECG2GHC392MD155□□
	3900	39	21	18.2	77×115	ECG2GHC392ME115□□
	4700	32	17	20.1	77×130	ECG2GHC472ME130□□
	5600	27	15	23.8	77×155	ECG2GHC562ME155□□
	6800	22	13	26.7	90×157	ECG2GHC682MF157□□
	8200	18	11	29.3	90×157	ECG2GHC822MF157□□
	10000	15	9	35.6	90×196	ECG2GHC103MF196□□
450 (500) 2W	2200	69	38	11.8	64×115	ECG2GHC222MD115□□
	2700	56	31	13.7	64×130	ECG2GHC272MD130□□
	2700	56	31	14.5	77×115	ECG2GHC272ME115□□
	3300	46	23	16.5	64×155	ECG2WHC332MD155□□
	3300	46	25	16.9	77×130	ECG2WHC332ME130□□
	4700	32	18	21.7	77×155	ECG2WHC472ME155□□
	5600	27	16	26.4	77×195	ECG2WHC562ME195□□
	5600	27	16	24.2	90×157	ECG2WHC562MF157□□
	6800	22	14	29.5	90×196	ECG2WHC682MF196□□
	8200	19	12	32.4	90×196	ECG2WHC822MF196□□

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



I_A = actual ripple current at 120Hz, I_R = rated ripple current at 120Hz, 105°C
Multiplier of Useful Life as a function of ambient temperature and ripple current load