

2000h at 105°C

- Features
  - Standard at 105°C
  - RoHS Compliant
- Applications
  - Professional Inverters and Power Supplies



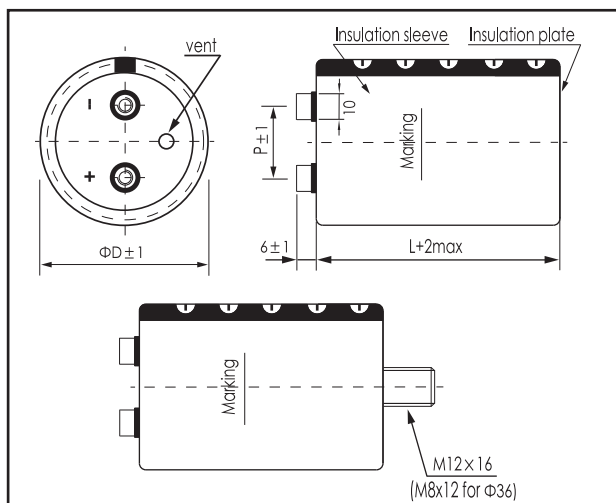
SCREW

Items	Characteristics	
Operating Temperature Range (°C)	-40 ~ +105	-25 ~ +105
Voltage Range (V)	25 ~ 100	160 ~ 450
Capacitance Range (μF)	220 ~ 33000	
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 values shown in the standard ratings	

	Useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	>4000h	>200000h	2000h	2000h	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**

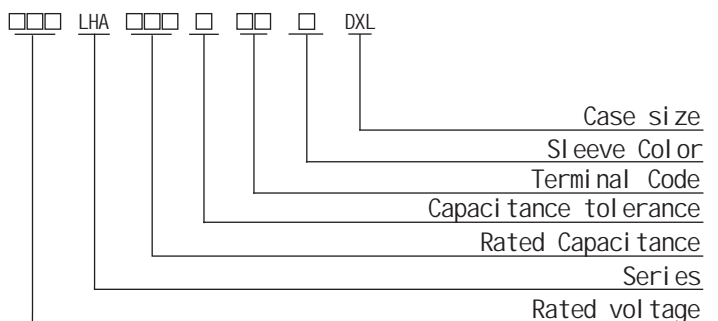
mm



ΦD/mm	36	51	64	77	90
P/mm	12.7	22.0	28.2	31.4	31.4

\*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" for shape and dimensions.

**Part Number System**



**Ripple Current Coefficient**

Rated Voltage(V)	Frequency(Hz)				
	50/60	120	300	1K	>10k
25~100	0.95	1.00	1.04	1.10	1.15
160~250	0.90	1.00	1.08	1.15	1.20
350~450	0.80	1.00	1.18	1.35	1.40

Coefficient	Ambient Temp(°C)					
	25~100V	40	55	70	85	105
	160~250V	4.9	3.9	3.0	1.8	1.0
	350~450V	3.8	3.3	2.5	2.0	1.0
		2.44	2.28	2.12	2.0	1.0

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 CD 136 Series

SCREW

U <sub>R</sub> (Surge Voltage) Code	Rated Capa- cance	Dissipation Factor 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C, 120Hz	Size ΦD x L
(V)	(μF)	-	(mΩ)	(Arms)	(mm)
25 (32) 1E	10000	0.35	25	2.9	36×53
	15000	0.35	20	4.2	36×83
	22000	0.40	13	5.1	36×83
	33000	0.40	10	6.3	36×100
	47000	0.40	7	8	51×75
	68000	0.50	6	10	51×115
	100000	0.60	5	11.3	64×96
	150000	0.80	4	12.9	64×115
	220000	1.00	3	14.8	77×115
330000	1.00	2	19.9	90×131	
35 (44) 1V	6800	0.30	25	2.6	36×53
	10000	0.30	20	3.7	36×83
	15000	0.30	13	4.5	36×83
	22000	0.35	10	5.5	36×100
	33000	0.40	7	6.7	51×75
	47000	0.45	6	8.1	51×96
	68000	0.50	5	10	51×115
	100000	0.60	4	12.1	64×115
	150000	0.70	3	13.8	77×115
220000	0.70	2	17.6	90×131	
50 (63) 1H	3300	0.20	50	2.2	36×53
	4700	0.25	36	3.3	36×53
	6800	0.25	32	3.4	36×83
	10000	0.25	22	4.1	36×83
	15000	0.30	14	4.9	36×100
	22000	0.35	10	5.9	51×75
	33000	0.40	7	7.8	51×115
	47000	0.40	6	9.5	64×96
	68000	0.45	5	11.6	64×115
100000	0.50	4	14.1	77×115	
150000	0.50	3	18.9	90×131	
63 (79) 1J	2200	0.15	70	2.1	36×53
	3300	0.20	50	2.2	36×53
	4700	0.20	36	3.1	36×83
	6800	0.20	25	3.7	36×83
	10000	0.25	20	4.4	36×100
	15000	0.25	14	5.7	51×75
	22000	0.30	10	6.8	51×96
	33000	0.30	7	9.2	64×96
	47000	0.35	6	10.9	64×115
68000	0.40	5	13	77×115	
100000	0.40	4	17.2	90×131	
80 (100) 1K	2200	0.15	57	2.1	36×53
	3300	0.15	38	3	36×83
	4700	0.15	27	3.6	36×83
	6800	0.20	19	4	36×100
	10000	0.20	17	5.2	51×75
	15000	0.25	11	6.2	51×96
	22000	0.25	8	8.2	64×96
	33000	0.30	7	9.7	77×96
	47000	0.30	6	12.5	77×115
68000	0.30	5	16.4	90×131	
100 (125) 2A	1000	0.15	70	1.4	36×53
	1500	0.15	55	1.7	36×53
	2200	0.15	38	2.5	36×83
	3300	0.15	25	3	36×83
	4700	0.15	21	3.9	36×100
	6800	0.15	19	5	51×75
	10000	0.15	13	6.5	51×96
	15000	0.20	9	7.6	64×96
	22000	0.20	7	9.7	77×96
33000	0.25	6	11.8	77×130	
47000	0.25	5	15	90×131	

U <sub>R</sub> (Surge Voltage) Code	Rated Capa- cance	Dissipation Factor 20°C, 120Hz	Typ ESR 20°C, 120Hz	Rated Ripple Current 105°C, 120Hz	Size ΦD x L
(V)	(μF)	-	(mΩ)	(Arms)	(mm)
160 (200) 2C	470	0.15	265	1	36×53
	680	0.15	186	1.1	36×53
	1000	0.15	125	1.7	36×83
	1500	0.15	85	2	36×83
	2200	0.15	55	2.7	36×100
	3300	0.15	38	3.5	51×83
	4700	0.15	35	4.4	51×96
	6800	0.15	25	5.9	64×96
	10000	0.15	15	7.6	77×96
	15000	0.15	11	10.3	77×130
	22000	0.15	6	13.2	90×131
200 (250) 2D	330	0.15	375	0.8	36×53
	470	0.15	262	1	36×53
	680	0.15	180	1.1	36×53
	1000	0.15	125	1.7	36×83
	1500	0.15	75	2.2	36×100
	2200	0.15	50	2.8	51×75
	3300	0.15	36	3.7	51×96
	4700	0.15	24	4.9	64×96
	6800	0.15	16	6.3	64×115
	10000	0.15	12	8.1	77×115
	15000	0.15	6	10.9	90×131
250 (300) 2E	330	0.15	160	0.8	36×53
	470	0.15	120	1	36×53
	680	0.15	85	1.4	36×83
	1000	0.15	55	1.9	36×100
	1500	0.15	40	2.3	51×75
	2200	0.15	28	3.1	51×96
	3300	0.15	20	4.2	64×96
	4700	0.15	15	5.4	64×115
	6800	0.15	10	6.9	64×115
	10000	0.15	8	9.3	77×155
	15000	0.15	6	12.2	90×157
400 (450) 2G	1000	0.15	82	3.9	51×75
	1200	0.15	70	4.7	51×96
	1500	0.15	49	5.6	51×115
	1800	0.15	39	6.4	51×130
	2200	0.15	30	7.0	64×96
	2700	0.15	22	8.3	64×115
	3300	0.15	20	9.7	64×130
	3900	0.15	18	11.2	64×155
	3900	0.15	18	10.6	77×115
	4700	0.15	13	13.5	64×195
	4700	0.15	13	12.1	77×130
5600	0.15	12	15.0	64×195	
5600	0.15	12	14.3	77×155	
6800	0.15	11	16.7	90×157	
8200	0.15	10	18.4	90×157	
10000	0.15	9	22.0	90×196	
450 (500) 2W	220	0.15	415	1.1	36×53
	330	0.15	277	1.5	36×100
	470	0.15	195	2.1	51×83
	680	0.15	135	2.7	51×96
	1000	0.15	90	4.2	51×100
	1500	0.15	54	5.7	51×130
	2200	0.15	33	7.3	64×115
	3300	0.15	22	10.1	77×130
	4700	0.15	15	12.6	77×155
5600	0.15	11	15.8	90×157	

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