CD 136 PK SERIES

2000h at 105℃

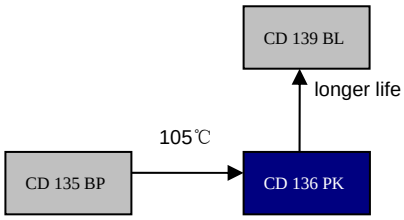
■ Features

●Standard at 105℃

●RoHS Compliant

■ Applications

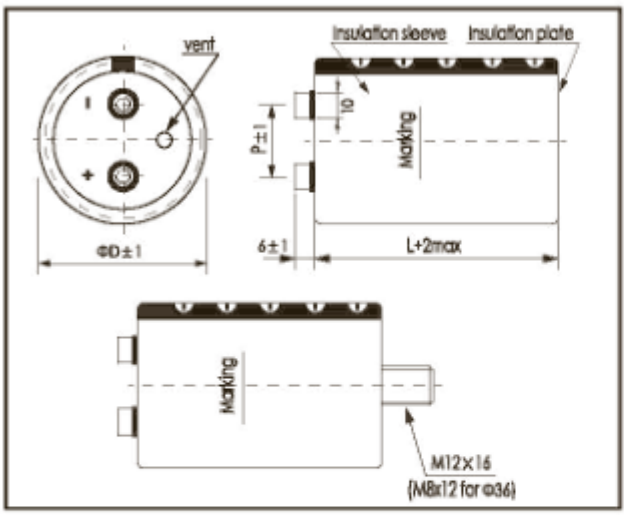
●Professional Inverters and Power Supplies



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
Life Time	＞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 than130% 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: 6Nm. Max troque for bolt mounting M12: 12.5Nm.
*Screws, Bracket and cap nut will be delivered separately.
See "Accessories" (page 94,95) for shape and dimensions.

Part Number System (Ex: 400v3300μF)

ECG 2G PK 332 M D 130 Y □

- Electrolytic Capacitor Screw Type
- Rated Voltage
- Series Code (CD136)
- Rated Capacitance(3300μF)
- Capacitance Tolerance(±20%)
- Diameter Code
- Length(130mm)
- Terminals

Mounting Style

B	Bolt Mounting
Y	3-leg Bracket
I	2-leg Bracket
N	No Bracket

Diameter	Code
36mm	A
51mm	C
64mm	D
77mm	E
90mm	F
100mm	G

*See page 95 for detailed dimensions of terminals.

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

Ambient Temp(℃)		40	55	70	85	105
Coefficient	25~100V	4.9	3.9	3.0	1.8	1.0
	160~250V	3.8	3.3	2.5	2.0	1.0
	350~450V	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 exeeding the rated ripple current without any cooling measures as this will shorten capacitor' s life.

CD 136 PK SERIES

Ratings for CD 136 PK Series

U_R (Surge Voltage) Code	Rated Capacit-ance	Dissipa-tion Factor 20℃, 120Hz	Typ ESR 20℃, 120Hz	Rated Ripple Current 105℃, 120Hz	Size ΦD x L	P/N
(v)	(μF)	-	(mΩ)	(Arms)	(mm)	-
25 (32) 1E	10000	0.35	25	2.9	36X53	ECG1EPK103MA053□□
	15000	0.35	20	4.2	36X83	ECG1EPK153MA063□□
	22000	0.40	13	5.1	36X83	ECG1EPK223MA063□□
	33000	0.40	10	6.3	36X100	ECG1EPK333MA100□□
	47000	0.40	7	8	51X75	ECG1EPK473MC075□□
	68000	0.50	6	10	51X115	ECG1EPK683MC115□□
	100000	0.60	5	11.3	64X96	ECG1EPK104MD096□□
	150000	0.80	4	12.9	64X115	ECG1EPK154MD115□□
	220000	1.00	3	14.8	77X115	ECG1EPK224ME115□□
	330000	1.00	2	19.9	90X131	ECG1EPK334MF131□□
35 (44) 1V	6800	0.30	25	2.6	36X53	ECG1VPK682MA053□□
	10000	0.30	20	3.7	36X83	ECG1VPK103MAC83□□
	15000	0.30	13	4.5	36X83	ECG1VPK153MAC83□□
	22000	0.35	10	5.5	36X100	ECG1VPK223MA100□□
	33000	0.40	7	6.7	51X75	ECG1VPK333MC075□□
	47000	0.45	6	8.1	51X96	ECG1VPK473MC096□□
	68000	0.50	5	10	51X115	ECG1VPK683MC115□□
	100000	0.60	4	12.1	64X115	ECG1VPK104MD115□□
	150000	0.70	3	13.8	77X115	ECG1VPK154ME115□□
	220000	0.70	2	17.6	90X131	ECG1VPK224MF131□□
50 (63) 1H	3300	0.20	50	2.2	36X53	ECG1HPK332MA0S3□□
	4700	0.25	36	3.3	36X53	ECG1HPK472MA053□□
	6800	0.25	32	3.4	36X83	ECG1HPK682MA083□□
	10000	0.25	22	4.1	36X83	ECG1HPK103MA083□□
	15000	0.30	14	4.9	36X100	ECG1HPK153MA100□□
	22000	0.35	10	5.9	51X75	ECG1HPK223MC075□□
	33000	0.40	7	7.8	51X115	ECG1HPK333MC115□□
	47000	0.40	6	9.5	64X96	ECG1HPK473MD096□□
	68000	0.45	5	11.6	64X115	ECG1HPK683MD115□□
	100000	0.50	4	14.1	77X115	ECG1HPK104ME115□□
	150000	0.50	3	18.9	90X131	ECG1HPK154MF131□□
63 (79) 1J	2200	0.15	70	2.1	36X53	ECG1JPK222MAD53□□
	3300	0.20	50	2.2	36X53	ECG1JPK332MAD53□□
	4700	0.20	36	3.1	36X83	ECG1JPK472MAD83□□
	6800	0.20	25	3.7	36X83	ECG1JPK682MAD83□□
	10000	0.25	20	4.4	36X100	ECG1JPK103MA100□□
	15000	0.25	14	5.7	51X75	ECG1JPK153MC075□□
	22000	0.30	10	6.8	51X96	ECG1JPK223MC0?6□□
	33000	0.30	7	9.2	64X96	ECG1JPK333MD096□□
	47000	0.35	6	10.9	64X115	ECG1JPK473MD115□□
	68000	0.40	5	13	77X115	ECG1JPK683ME115□□
	100000	0.40	4	17.2	90X131	ECG1JPK104MF131□□
80 (100) IK	2200	0.15	57	2.1	36X53	ECG1KPK222MA053□□
	3300	0.15	38	3	36X83	ECG1KPK332MA063□□
	4700	0.15	27	3.6	36X83	ECG1KPK472MAC83□□
	6800	0.20	19	4	36X100	ECG1KPK682MA100□□
	10000	0.20	17	5.2	51X75	ECG1KPK103MC075□□
	15000	0.25	11	6.2	51X96	ECG1KPK153MC096□□
	22000	0.25	8	8.2	64X96	ECG1KPK223MD096□□
	33000	0.30	7	9.7	77X96	ECG1KPK333ME096□□
	47000	0.30	6	12.5	77X115	ECG1KPK473ME115□□
	68000	0.30	5	16.4	90X131	ECG1KPK683MF131□□
100 (125) 2A	1000	0.15	70	1.4	36X53	ECG2APK102MA053□□
	1500	0.15	55	1.7	36X53	ECG2APK152MA053□□
	2200	0.15	38	2.5	36X83	ECG2APK222MA083□□
	3300	0.15	25	3	36X83	ECG2APK332MA083□□
	4700	0.15	21	3.9	36X100	ECG2APK472MA100□□
	6800	0.15	19	5	51X75	ECG2APK682MC075□□
	10000	0.15	13	6.5	51X96	ECG2APK103MC096□□
	15000	0.20	9	7.6	64X96	ECG2APK153MD096□□
	22000	0.20	7	9.7	77X96	ECG2APK223ME096□□
	33000	0.25	6	11.8	77X130	ECG2APK333ME130□□
	47000	0.25	5	15	90X131	ECG2APK473MF131□□

U_R (Surge Voltage) Code	Rated Capac-itance	Dissipation Factor 20℃, 120Hz	Typ ESR 20℃, 120Hz	Rated Ripple Current 105℃, 120Hz	Size ΦD x L	P/N
(v)	(μF)	-	(mΩ)	(Arms)	(mm)	-
160 (200) 2C	470	0.15	265	1	36X53	ECG2CPK471MA053□□
	680	0.15	186	1.1	36X53	ECG2CPK681MA053□□
	1000	0.15	125	1.7	36X83	ECG2CPK102MA083□□
	1500	0.15	85	2	36X83	ECG2CPK152MA083□□
	2200	0.15	55	2.7	36X100	ECG2CPK222MA100□□
	3300	0.15	38	3.5	51X83	ECG2CPK332MC083□□
	4700	0.15	35	4.4	51X96	ECG2CPK472MC096□□
	6800	0.15	25	5.9	64X96	ECG2CPK682MD096□□
	10000	0.15	15	7.6	77X96	ECG2CPK103ME096□□
	15000	0.15	11	10.3	77X130	ECG2CPK153ME130□□
	22000	0.15	6	13.2	90X131	ECG2CPK223MF131□□
200 (250) 2D	330	0.15	375	0.8	36X53	ECG2DPK331MA053□□
	470	0.15	262	1	36X53	ECG2DPK471MA053□□
	680	0.15	180	1.1	36X53	ECG2DPK681MA053□□
	1000	0.15	125	1.7	36X83	ECG2DPK102MA083□□
	1500	0.15	75	2.2	36X100	ECG2DPK152MA100□□
	2200	0.15	50	2.8	51X75	ECG2DPK222MC075□□
	3300	0.15	36	3.7	51X96	ECG2DPK332MC096□□
	4700	0.15	24	4.9	64X96	ECG2DPK472MD096□□
	6800	0.15	16	6.3	64X115	ECG2DPK682MD115□□
	10000	0.15	12	8.1	77X115	ECG2DPK103ME115□□
	15000	0.15	6	10.9	90X131	ECG2DPK153MF131□□
250 (300) 2E	330	0.15	160	0.8	36X53	ECG2EPK331MA053□□
	470	0.15	120	1	36X53	ECG2EPK471MA053□□
	680	0.15	85	1.4	36X83	ECG2EPK681MA083□□
	1000	0.15	55	1.9	36X100	ECG2EPK1G2MA100□□
	1500	0.15	40	2.3	51X75	ECG2EPK152MC075□□
	2200	0.15	28	3.1	51X96	ECG2EPK222MC096□□
	3300	0.15	20	4.2	64X96	ECG2EPK332MD096□□
	4700	0.15	15	5.4	64X115	ECG2EPK472MD115□□
	6800	0.15	10	6.9	64X115	ECG2EPK682MD115□□
	10000	0.15	8	9.3	77X155	ECG2EPK103ME155□□
	15000	0.15	6	12.2	90X157	ECG2EPK153MF157□□
400 (450) 2G	1000	0.15	82	2.5	51X75	ECG2GPK102MC075□□
	1200	0.15	70	3	51X96	ECG2GPK122MC096□□
	1500	0.15	49	3.6	51X115	ECG2GPK152MC115□□
	1800	0.15	39	4.1	51X130	ECG2GPK182MC130□□
	2200	0.15	30	4.5	64X96	ECG2GPK222MD096□□
	2700	0.15	22	5.3	64X115	ECG2GPK272MD115□□
	3300	0.15	20	6.2	64X130	ECG2GPK332MD130□□
	3900	0.15	18	7.2	64X155	ECG2GPK392MD155□□
	3900	0.15	18	6.8	77X115	ECG2GPK392ME115□□
	4700	0.15	13	8.7	64X195	ECG2GPK472MD195□□
	4700	0.15	13	7.8	77X130	ECG2GPK472ME130□□
	5600	0.15	12	9.6	64X195	ECG2GPK562MD195□□
	5600	0.15	12	9.2	77X155	ECG2GPK562ME155□□
	6800	0.15	11	10.7	90X157	ECG2GPK682MF157□□
	8200	0.15	10	11.8	90X157	ECG2GPK822MF157□□
	10000	0.15	9	14.1	90X196	ECG2GPK103MF196□□
450 (500) 2W	220	0.15	415	1.1	36X53	ECG2WPK221MA053□□
	330	0.15	277	1.5	36X100	ECG2WPK331MA100□□
	470	0.15	195	2.1	51X83	ECG2WPK471MC083□□
	680	0.15	135	2.7	51X96	ECG2WPK681MC096□□
	1000	0.15	90	4.2	51X100	ECG2WPK102MC100□□
	1500	0.15	54	5.7	51X130	ECG2WPK152MC130□□
	2200	0.15	33	7.3	64X115	ECG2WPK222MD115□□
	3300	0.15	22	10.1	77X130	ECG2WPK332ME130□□
	4700	0.15	15	12.6	77X155	ECG2WPK472ME155□□
	5600	0.15	11	15.8	90X157	ECG2WPK562MF157□□

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.