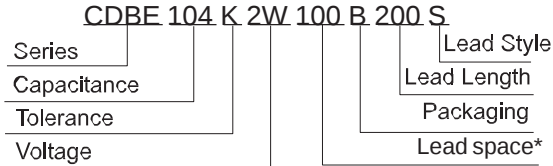


CDBE SERIES: Power Factor Correction Applications**INTRODUCTION**

CDBE Series are constructed specifically for Power Factor Correction (PFC) applications. Film was selected and metalization applied specifically for PFC application requirements.

PART NUMBER EXAMPLE

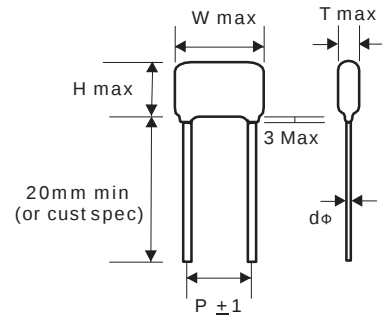
*Lead space is straight lead non-formed original lead space.

SPECIFICATIONS

Items	Performance				
Operating Voltage Range	450Vdc, 630Vdc				
Rated Temperature	-40 °C ~ +85°C				
Usable Upper Category Temperature	+110°C (Derating ratio of rated voltage over +85 °C ~ +110°C: 1.5% per °C of Rated Voltage)				
Capacitance Range	0.022 μF ~ 2.2 μF				
Capacitance Tolerance	+3% (H), +5% (J), +10% (K)				
Dissipation Factor	0.1% (max.) at 1KHz 1.2% (max.) at 10KHz				
Insulation Resistance Terminal to Terminal	Voltage Charge: 100Vdc x 1min (at 20°C ± 5°C) ≥ 9,000MΩ for C ≤ 0.33μF > 3,000MΩ x μF for C > 0.33μF				
Withstand Voltage	Terminal to Terminal: (at 20 °C + 5°C)				
	1.6 x V _R applied for 2sec. (cut off current 10mA)				
	Slow-up voltage speed: 100V/sec				
Rated Voltage	V _R	10mm	15mm	22.5mm	27.5mm
Pulse Slope					
dv/dt (V/μs)	450Vdc	220	160	100	
	630Vdc	350	250	160	115

FEATURES

- ◆ Self-healing property
- ◆ Excellent dv/dt
- ◆ RoHS Compliance
- ◆ Ultra-miniature Size
- ◆ Ideal for Power Factor correction applications

**PERFORMANCE**

Item	Test Methods	Requirements
Resistance to Soldering Heat IEC 60068-2-20	Solder Bath: 260°C ± 5°C Immersion Time: 10sec ± 1sec	Capacitance Change ΔC/C : ≤1% DF Change tanδ: 0.1% at 1KHz IR: > limit value
Resistance to Vibration IEC 60068-2-6	Frequency Range: 10Hz to 55Hz Amplitude: 1.5mm Duration: 6 hours	There shall be no Visible Damage, No Intermittent Contact, No Open or Short Circuit
Damp Heat, Steady State IEC 60068-2-3	Temperature: 40°C ± 2°C Relative Humidity: 90% to 95% Duration: 1,000 hours	Capacitance Change ΔC/C : ≤3% DF Change tanδ: 0.1% at 1KHz IR: > 50% limit value
Electrical Endurance IEC 60384-16	Temperature: 85°C + 2°C Voltage Applied: 1.25 x V _R (DC) Duration: 1,000 hours	Capacitance Change ΔC/C : ≤3% DF Change tanδ: 0.1% at 1KHz IR: > 50% limit value



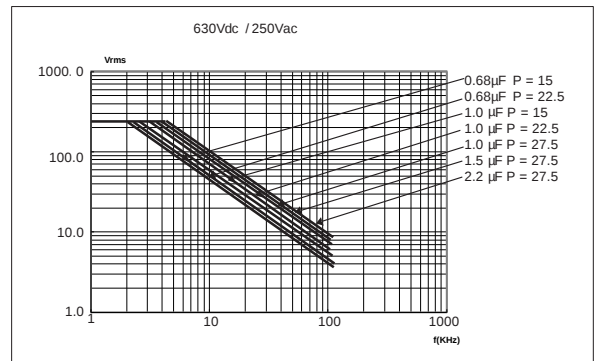
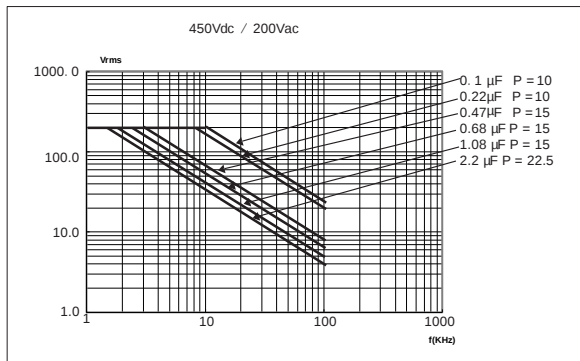
CDBE SERIES: Power Factor Correction Applications

DIMENSIONS (mm)

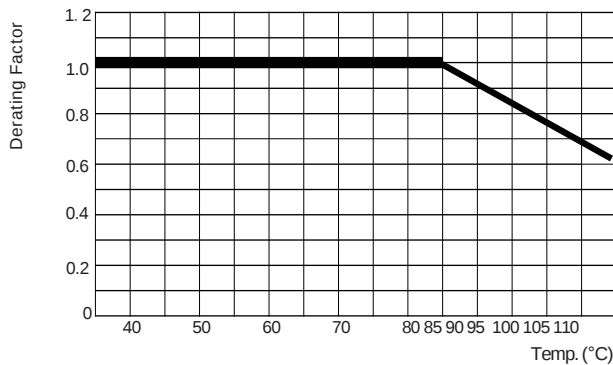
R.V.		450Vdc (2W)				
(μF)	Code	W	H	T	P	dφ
0.047	473	13.0	8.0	4.5	10	0.6
0.1	104	13.0	12.0	6.5	10	0.6
0.12	124	13.0	13.0	7.0	10	0.6
0.15	154	13.0	13.5	8.0	10	0.6
0.22	224	13.0	14.0	6.5	10	0.6
		18.0	12.0	7.0	15	0.8
0.33	334	18.0	14.0	7.0	15	0.8
		13.0	16.5	7.0	10	0.6
0.47	474	18.0	14.5	5.5	15	0.8
		18.0	15.5	6.5	15	0.8
0.56	564	18.0	15.5	6.5	15	0.8
0.68	684	13.0	20.5	9.5	10	0.6
		18.0	16.0	7.0	15	0.8
1.0	105	18.0	17.5	8.5	15	0.8
1.5	155	18.0	19.0	10.5	15	0.8
		18.0	24.5	11.0	15	0.8
2.20	225	25.5	21.5	13.5	22.5	0.8

R.V.		630Vdc (2J)				
(μF)	Code	W	H	T	P	dφ
0.022	223	13.0	11	5	10	0.6
0.047	473	13.0	11	5.5	10	0.6
0.068	683	13.0	12	6	10	0.6
0.10	104	13.0	14	7	10	0.6
		18.0	11	6	15	0.6
0.22	224	18.0	14	7	15	0.8
0.33	334	18.0	14	7	15	0.9
0.47	474	18.0	18	12	15	0.8
		18.0	22	13	15	0.8
0.68	684	26.0	21.5	12	22.5	0.8
		18.0	24	18.5	15	0.8
		26.0	22	13	22.5	0.8
1.00	105	31.0	20	11	27.5	0.8
		31.0	22.5	13	27.5	0.8
1.5	155	31.0	22.5	13	27.5	0.8
2.2	225	31.0	27.5	15	27.5	0.8

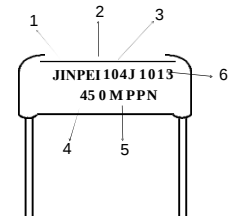
RATED VOLTAGE (Vrms) VS. FREQUENCY



MAX. DC & AC VOLTAGE VS TEMPERATURE



MARKING



1. Name or Symbol
2. Nominal Capacitance in μF
3. Capacitance Tolerance
4. DC, Rating, Voltage
5. Type Name
6. Date Code
 - Year: 11→ 2011, 12→ 2012, 13→ 2013
 - Week On: 01~53

CDBE SERIES: Power Factor Correction Applications

MAXIMUM CURRENT, AMPS (rms)

450Vdc / 200Vac

CAP (μF)	p	15.75 KHz	35 KHz	45 KHz	65 KHz	80 KHz	100 KHz
0.047	10	0.54	0.70	0.77	0.87	0.93	1.00
0.068	10	0.65	0.84	0.91	1.01	1.08	1.16
0.1	10	0.81	1.00	1.08	1.20	1.26	1.33
0.12	10	1.10	1.35	1.45	1.60	1.68	1.78
0.15	10	1.25	1.58	1.72	1.85	2.02	2.15
0.22	10	1.33	1.66	1.80	1.91	2.10	2.22
	15	2.48	2.95	3.11	3.36	3.50	3.70
0.33	10	1.42	1.75	1.88	2.07	2.18	2.32
	15	2.60	3.08	3.25	3.52	3.70	3.88
0.47	10	2.20	2.62	2.80	3.03	3.18	3.35
	15	2.30	2.65	2.76	2.95	3.06	3.20
0.56	15	2.90	3.40	3.58	3.85	4.00	4.20
0.68	10	2.50	2.92	3.07	3.30	3.44	3.58
	15	2.70	3.20	3.40	3.70	3.85	4.05
1.0	15	3.35	4.10	4.30	4.65	4.88	5.15
	15	6.08	6.70	6.95	7.25	7.44	7.65
1.5	22.5	3.93	4.60	4.80	5.15	5.35	5.60
	15	5.90	6.51	6.70	7.05	7.23	7.42
2.2	22.5	5.40	5.75	5.85	6.00	6.10	6.20

MAXIMUM CURRENT, AMPS (rms)

630Vdc / 250Vac

CAP (μF)	p	15.75 KHz	35 KHz	45 KHz	65 KHz	80 KHz	100 KHz	125 KHz	100 KHz
0.01	7.5	0.212	0.300	0.340	0.400	0.440	0.480	0.540	0.580
	10	0.245	0.350	0.395	0.460	0.510	0.560	0.620	0.680
0.015	10	0.275	0.390	0.440	0.520	0.570	0.630	0.700	0.750
0.022	15	0.485	0.610	0.650	0.720	0.760	0.810	0.860	0.910
0.033	10	0.575	0.710	0.770	0.850	0.900	0.950	1.010	1.060
0.047	10	0.570	0.790	0.880	1.010	1.100	1.200	1.300	1.400
0.068	10	0.960	1.250	1.350	1.500	1.600	1.700	1.800	1.900
	15	0.860	1.100	1.200	1.330	1.420	1.520	1.650	1.750
0.10	10	0.970	1.250	1.350	1.550	1.650	1.750	1.900	2.000
	15	1.280	1.600	1.700	1.880	1.980	2.100	2.250	2.350
0.33	15	2.600	3.300	3.600	4.050	4.300	4.650	5.000	5.250
0.47	15	2.750	3.500	3.800	4.250	4.550	4.880	5.250	5.550
0.68	15	3.800	4.700	5.100	5.650	5.950	6.350	6.750	7.080
	22.5	3.100	3.400	3.500	3.700	3.800	3.900	4.000	4.150
1.0	15	5.000	5.530	5.700	5.950	6.100	6.300	6.500	6.650
	22.5	4.400	4.900	5.100	5.350	5.500	5.600	5.750	5.900
1.5	27.5	3.450	3.600	3.650	3.700	3.750	3.800	3.830	3.850
	1.5	27.5	4.900	5.100	5.150	5.250	5.350	5.380	5.450
2.2	27.5	6.110	6.350	6.480	6.530	6.620	6.700	6.800	6.900

PACKAGING CODE

Metho d	Bulk	Ammo	Reel
Code	B	A	R

LEAD LENGTH FROM SEATING PLANE

mm	5	10	15	20	25
Code	050	100	150	200	250

TAPE CODE (Lead spacing of tape, if taped)

Spacing	10mm	15mm
Packing	A	A
Code	RT3	RT4

LEAD STYLE CODE EXAMPLE

