

Date 日期	Version 版本	Mark 标记	Page 页码	Description 描述	Drafter 制定者	Approver 审批者
2024-05-06	A	/	/	First release 首次发行	Doris Chang	/

1. Application

This specification applied to capacitor for type MPB(Metallized Polypropylene Film Capacitor (Box))
Reference Standard GB/T 10190 (IEC 60384-16)

2. Feature&Application

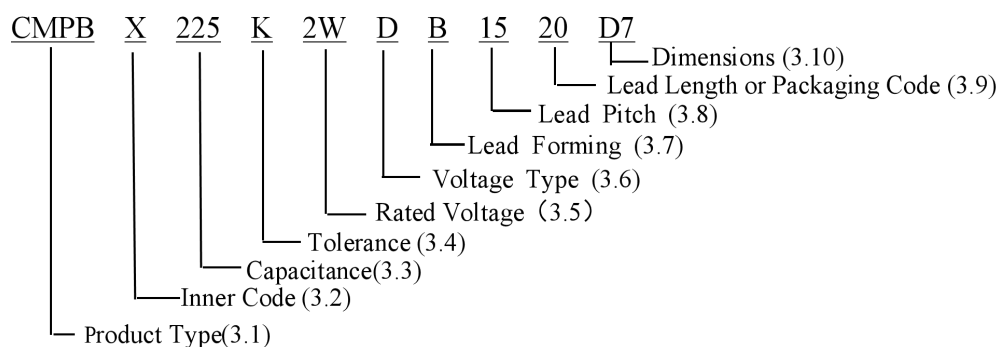
2-1 Feature

- Metallizedpolypropylene film
- Low loss at high frequency
- Small inherent temperature rise
- Outer Coating: Flame retarding plastic case and epoxy filled

2-2 Recommended Application

- Typical for S-correction in TV-set
- Switching power supply circuits
- Electronic ballast circuits
- Video tape recorder

3. Part Number System



3-1 tape:

Code	CMEF	CMPP	CMEB	CMPB	CMP3
Type	MEF	MPP	MEB	MPB	MP3

3-2 Inner Code

3-3 Capacitance:

Code	102	103	104	105	106
Capacitance	0.001μF	0.01μF	0.1μF	1μF	10μF

3-4 Tolerance:

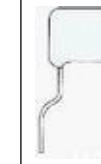
Code	G	H	J	K
Tolerance	±2%	±3%	±5%	±10%

3-5 Rated Voltage:

Code	2A	2E	2G	2W	2J
Voltage	100	250	400	450	630

3-6 Voltage Tyoe: D→DC; A→AC

3-7 Lead forming:

Code	B	K	R	U	W	S	T
Lead Forming							Taping

3-8 Lead Pitch:

Code	08	10	15	20	22	27	31	AX
Pitch(mm)	7.5mm	10mm	15mm	20mm	22mm	27mm	31mm	Axial Lead 

3-9 Lead length or Packaging Code:

Code	35	04	45	10	15	20
Bulk and Cut Length(mm)	3.5mm	4mm	4.5mm	10mm	15mm	17mm Min.

Code	T1	T5	T7
Taping	Straight foot Taping P3=12.7mm (For pitch=5.0/7.5mm)	Straight foot Taping P3=25.4mm(For pitch=10/15mm)	Straight foot Taping P0=12.7mm(For pitch=22.5/27.5mm)

3-10 Dimensions Code

Code	D7		
Dimensions(mm)	W	H	T
	18±1	19±1	11±1

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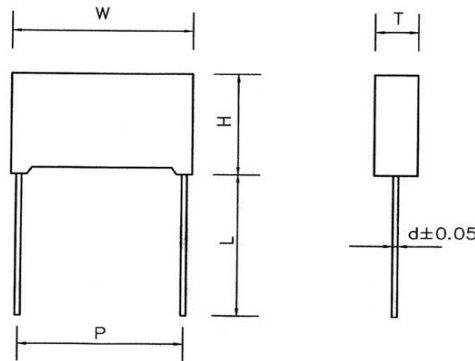
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4. Specification

Reference Standard	GB/T 10190 (IEC 60384-16)
Climatic Category	40/105/56
Rated Temperature Range	-40°C~ 105°C (+85°C to +105°C decreasing factor 1.25% per °C for Rated Voltage)
Rated Voltage	100~1000VDC
Capacitance Range	0.01~3.3μF
Capacitance Tolerance	±10%(K)
Voltage Proof	Terminal to Terminal:(at20±5°C) 1.6U _R (5s) (cut off current 10mA)
Dissipation Factor	0.1%(Max.) at 1KHz,20°C
Insulation Resistance	Terminal to Terminal: (at20°C± 5°C), at 100VDC x 1minute ≥ 30000MΩ for C≤0.33μF , ≥ 10000S for C>0.33μF

5. Dimensions



P/N	Rated voltage	Capacitance (μF)	Size (mm)				
			W±0.5	H±0.5	T±0.5	P±1	Φd±0.08
CMPBX104K2ADB1020C2	100VDC	0.10	13.0	11.0	5.0	10.0	0.60
CMPBX124K2ADB1020C2	100VDC	0.12	13.0	11.0	5.0	10.0	0.60
CMPBX154K2ADB1020C2	100VDC	0.15	13.0	11.0	5.0	10.0	0.60
CMPBX184K2ADB1020C2	100VDC	0.18	13.0	11.0	5.0	10.0	0.60
CMPBX224K2ADB1020C2	100VDC	0.22	13.0	11.0	5.0	10.0	0.60

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CMPBX123K1KDB1020C2	1000VDC	0.012	13.0	11.0	5.0	10.0	0.60
CMPBX153K1KDB1020C2	1000VDC	0.015	13.0	11.0	5.0	10.0	0.60
CMPBX183K1KDB1020C2	1000VDC	0.018	13.0	11.0	5.0	10.0	0.60
CMPBX223K1KDB1020C2	1000VDC	0.022	13.0	11.0	5.0	10.0	0.60
CMPBX273K1KDB1020C3	1000VDC	0.027	13.0	12.0	6.0	10.0	0.60
CMPBX333K1KDB1520D1	1000VDC	0.033	18.0	11.0	5.0	15.0	0.60
CMPBX393K1KDB1520D1	1000VDC	0.039	18.0	11.0	5.0	15.0	0.60
CMPBX473K1KDB1520D1	1000VDC	0.047	18.0	11.0	5.0	15.0	0.60
CMPBX563K1KDB1520D1	1000VDC	0.056	18.0	11.0	5.0	15.0	0.60
CMPBX683K1KDB1520D2	1000VDC	0.068	18.0	12.0	6.0	15.0	0.80
CMPBX823K1KDB1520D2	1000VDC	0.082	18.0	12.0	6.0	15.0	0.80
CMPBX104K1KDB1520D18	1000VDC	0.10	18.0	13.0	7.0	15.0	0.80
CMPBX124K1KDB1520D18	1000VDC	0.12	18.0	13.0	7.0	15.0	0.80
CMPBX154K1KDB1520D3	1000VDC	0.15	18.0	13.5	7.5	15.0	0.80
CMPBX184K1KDB1520D4	1000VDC	0.18	18.0	14.5	8.5	15.0	0.80
CMPBX224K1KDB1520D5	1000VDC	0.22	18.0	15.5	9.5	15.0	0.80
CMPBX274K1KDB2220E2	1000VDC	0.27	26.5	16.5	7.0	22.5	0.80
CMPBX334K1KDB2220E3	1000VDC	0.33	26.5	17.0	8.5	22.5	0.80
CMPBX394K1KDB2220E3	1000VDC	0.39	26.5	17.0	8.5	22.5	0.80
CMPBX474K1KDB2220E4	1000VDC	0.47	26.5	19.0	10.0	22.5	0.80
CMPBX564K1KDB2220E5	1000VDC	0.56	26.5	20.0	11.0	22.5	0.80
CMPBX684K1KDB2220E6	1000VDC	0.68	26.5	22.0	12.0	22.5	0.80
CMPBX824K1KDB2220E7	1000VDC	0.82	26.5	23.0	13.0	22.5	0.80
CMPBX105K1KDB2720F2	1000VDC	1.00	31.0	22.0	13.0	27.5	0.80

- 1) Specification are subject to change without notice should a safety or technical concern arise regarding the product , please be sure to contact our sales offices
- 2) The sizes in the above table are all general specifications. If you need other specifications, please contact us
- 3) All Part numbers are provided in bulk.

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6. Reliability Testing

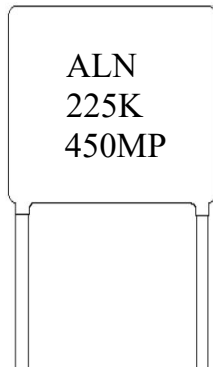
No	Test items	Performance	Test Method
6-1	Withstand voltage (Between Terminals)	Shall be no abnormality	160% Of Rated Voltage, 5sec.
	Between terminal and Enclosure	Shall be no abnormality	UR×160 %, 1-5sec.
6-2	Capacitance	Within the tolerance specified	1KHz, 1Vrms Max. at 25°C
6-3	Tense Strength of Terminal	No wire breakage and No Damage of Capacitor Capacitance Change : $\leq \pm 5\%$	1. Load Force : 1.0 Kg 2. Holding Time : 10 ± 1sec
6-4	Bending Strength of Terminal	No wire breakage and No Damage of Capacitor	1. Load Force : 0.5 Kg 2. Bending Time : 4 x 90° in 5sec
6-5	Solder-ability	1. Appearance : No Visible Damage 2. Covering an area of > solder 95% 3. Capacitance Change : $\leq \pm 5\%$	Soldering preheating 1.Preheating temperature of T < 120 °C 2.Preheating time capacitor t < 5 min Single wave soldering 1.Solder temperature: 235±5°C 2.Solder time: 2±0.5sec
6-6	Heat Shock test	Appearance : No Visible Damage Withstand Voltage : Normal Capacitance Change : $\leq \pm 5\%$ of the initial value	The terminal of capacitor shall be immersed in the melting solder. a. Solder temperature: 270±5°C b. Solder time: 3±0.5sec c. Test Voltage: 100% of The Rate Voltage For 1min.
6-7	Cold Resistance	Appearance : No Visible Damage Capacitance Change : $\leq \pm 5\%$ of the initial value	a. Test Temperature: -40°C b. Test Times: 2Hrs
6-8	Dry Heat Resistance	Appearance : No Visible Damage Withstand Voltage : Normal Capacitance Change : $\leq \pm 5\%$ of the initial value	a. Test Temperature: 85°C ± 2°C b. Test Times: 2Hrs

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No	Test items	Performance	Test Method
6-9	Humidity Resistance	Appearance : No Visible Damage Withstand Voltage : Normal Capacitance Change : $\leq \pm 10\%$ of the initial value Insulation Resistance: $\geq 50\%$ of the rated value DF ($\tan\delta$) $\leq 0.1\%$	a. Test Temperature: $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ b. Relative Humidity: 90 ~ 95% c. Test Times: 500 HRS
6-10	Charge & Discharge	Appearance : No Visible Damage Capacitance Change : $\pm 10\%$ of the initial value Insulation Resistance: $\geq 50\%$ of the rated value DF ($\tan\delta$) $\leq 0.1\%$	a. Test Voltage : Rated Voltage Charge for 2sec. Discharge for 2 sec. Repeated for 1000 ± 100 cycles b. Test Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$
6-11	Load Life Test	Appearance : No Visible Damage Capacitance Change : $\pm 10\%$ of the initial value Insulation Resistance: $\geq 50\%$ of the rated value DF ($\tan\delta$) $\leq 0.1\%$	a. Test Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ b. Test Times: 1000 ± 24 Hrs c. Test Voltage: 125% of The Rated Voltage
6-12	Temperature Cycle Test	Appearance : No Visible Damage Capacitance Change : $\pm 5\%$ of the initial value Insulation Resistance: $\geq 50\%$ of the rated value DF ($\tan\delta$) $\leq 0.1\%$	$-40 \pm 3^{\circ}\text{C}$ for 30 minutes to $85 \pm 2^{\circ}\text{C}$ for 30 minutes, cycled five times in sequence

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7. Marking



ALN	Aillen
225	CAPACITANCE
K	CAPACITANCE TOLERANCE
450	RATED VOLTAGE
MP	METALLIZED POLYPROPYLENE FILM

8. Storage conditions and duration

Packaged capacitors should be kept in clean, ventilated, dry coffers, not near the heat source, not subject to direct sunlight, is strictly prohibited and chemical reagents, acid and harmful gas storage together.

Capacitor at a temperature within the range 20 ~ 25 °C, humidity less than 50% of the state of storage for one year.

9. Packing for tinned-wire capacitors

9-1 Outline Drawing

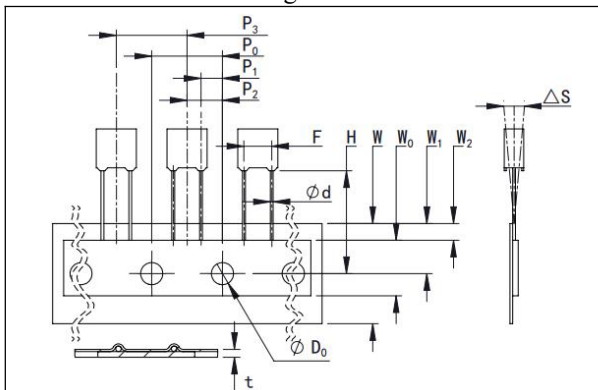


Fig.1

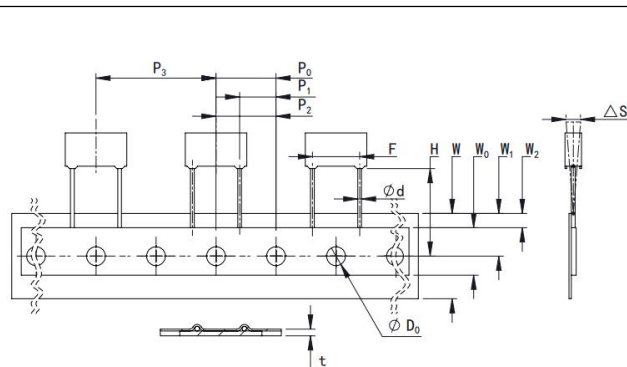
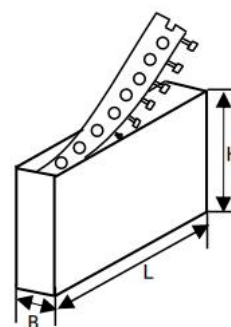


Fig.2

9-2 Taping & Box Dimensions(mm)

Mark	Taping Dimensions(mm)				
	P=5.0	P=7.5	P=10.0	P=15.0	Tolerate
Type	Fig.1	Fig.1	Fig. 2	Fig. 2	/
P3	12.7	12.7	25.4	25.4	±1.0
P0	12.7	12.7	12.7	12.7	±0.3
P1	3.85	2.6	7.7	5.2	±0.7
P2	6.35	6.35	12.7	12.7	±1.3
F	5	7.5	10	15	+0.6/-0.1
ΔS	0	0	0	0	±2.0
H	18.5	18.5	18.5	18.5	±0.5
H0	16	16	16	16	±0.5
W	18	18	18	18	+1/-0.5
W0	8min	10min	10min	10min	/
W1	9	9	9	9	±0.5
W2	3max	3max	3max	3max	/
D0	4	4	4	4	±0.2
t	0.7	0.7	0.7	0.7	±0.2

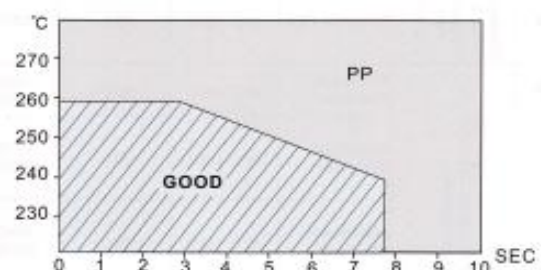
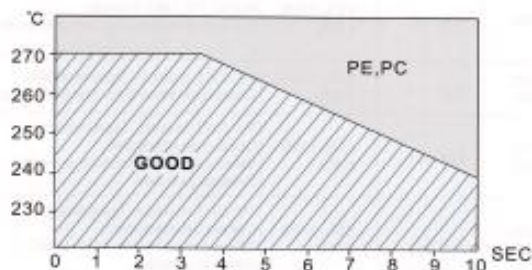
Note: If you need other taping, please contact us.



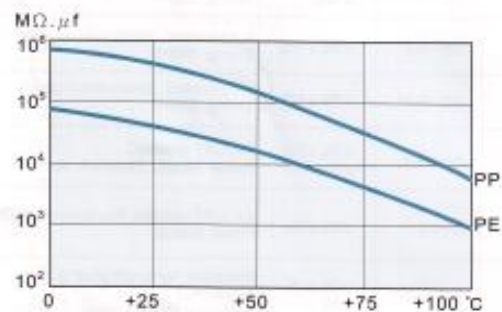
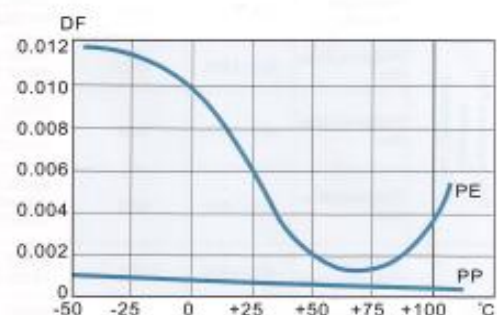
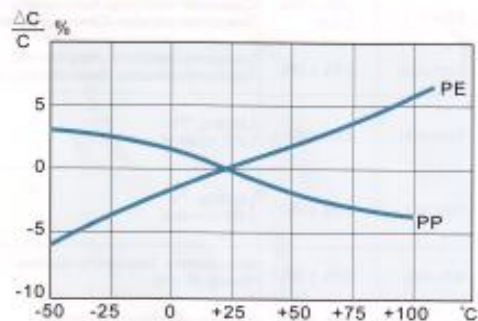
L=335±3mm
B=55/50±3mm
H=265/350±3mm

10. Typical graphs

Soldering Temperature VS Time



Temperature Characteristics



PP: 聚丙烯薄膜 (Polypropylene Film)
PE: 聚酯薄膜 (Polyester Film)

Frequency Characteristics

