

PRODUCT CODE SYSTEM

1. PRODUCT NUMBER

For example : The part number comprising 18 digits, is formed as follows :

P X 1 0 5 K 3 I F 2 9 L 2 7 0 D 9 R

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Digit 1 ~ 2		Type Code					Digit 11,17		Type Series Code								
Digit 3 ~ 5			Capacitance Value Code					Digit 12		Lead Form Code							
Digit 6		Capacitance Tolerance Code					Digit 13 ~ 15			Lead Length Code							
Digit 7 ~ 8			Rated Voltage Code					Digit 16		Lead Length Tolerance Code							
Digit 9 ~ 10			Case No. or Pitch Code					Digit 18		RoHS or HF Compliance Type Code							

1.1 Digit 1 ~ 2 : Type Code

TYPE	MPX	MPF	MPH	MPB	MPA	MPT	MZP	PPS	PPN	MPK	MPR	DPC	DPS
CODE	PX	PF	PH	PB	PA	PT	ZP	DF	NF	PK	PR	DC	DS

TYPE	MEF	MTF	MEH	MEC	MEA	MET	MSC	MSF	MEX	MEY	MEK	MER
CODE	AF	TF	AH	AC	AA	AT	SC	SF	AX	AY	AK	AR

1.2 Digit 3 ~ 5 : Capacitor Expressed in 3-Digit Code

The first 2 digits indicate significant figures and the third digit specifies the number of zero to follow. This gives the capacitance in picofarads.

For examples :

$$102 = 10 \times 10^2 \text{ pF} = 1,000 \text{ pF} = 1.0 \text{ nF} = 0.001 \mu\text{F}$$

$$105 = 10 \times 10^5 \text{ pF} = 1,000,000 \text{ pF} = 1000 \text{ nF} = 1 \mu\text{F}$$

1.3 Digit 6 : Capacitor Tolerance

TOLERANCE	±1%	±2%	±2.5%	±5%	±10%	±20%
CODE	F	G	H	J	K	M

1.4 Digit 7 ~ 8 : Rated Voltage

VR (DC)	50	63	100	160	250	400	450	500	630	800	1000	1250	1600	2000	2500	3000
CODE	1H	1J	2A	2C	2E	2G	2Y	2H	2J	2K	3A	3B	3C	3D	3E	3K
VR (AC)	125	150	160	220	250	275	300	310	350	400	440	450	500	600	700	900
CODE	2L	2S	2U	2P	2I	3I	3W	2W	2F	2R	4A	2T	2M	2Z	7A	3G

1.5 Digit 9 ~ 10 : Pitch Expressed by Case No. or 2 Digits

Box Type

PITCH	7.5	10	12.5	15	20	22.5	27.5	37.5
Case No.	B1-B3	C1-C5	G3-G5	D1-D8	S3-S4	E1-E8	F0-F4	J1-J4

Power Coating Type

PITCH	10	15	20	22.5	27.5
CODE	10	15	20	22	27

1.6 Digit 11 and 17 : Type Series Code

Use A ~ Z, 1 ~ 9, #

1.7 Digit 12 : Lead Form

Box Type

CODE	L	H
LEAD TYPE		

Power Coating Type

CODE	L	H	K	N	M
LEAD TYPE					

1.8 Digit 13 ~ 15 : Lead Length (Straight) : Expressed in 3-Letter Code

Example : Code 270 = 270 / 10 = 27 (mm).

1.9 Digit 16 : Tolerance of lead Length (Straight) : Expressed in 1-Letter

TOLERANCE	±0.3 mm	±0.5 mm	+0.5/-0 mm	±1 mm	±2 mm	±0.4 mm
CODE	A	B	C	D	E	F

1.10 Digit 18 :

“H” Halogen-Free Compliance, “R” RoHS Compliance



金屬化聚丙烯膜電容器

METALLIZED POLYPROPYLENE FILM CAPACITOR (EMI SUPPRESSION CLASS-X2)

General technical information

Depending on the way they are connected two principal classes of capacitors have been defined for fixed capacitors for electromagnetic interference suppression and connection to the supply mains, Class X and Y.

Class " X " Capacitors

X Capacitors which are connected between the line phases are effective against symmetrical interference (differential mode). A type is suitable for use in situations where failure of the capacitor would not lead to danger of electrical shock.

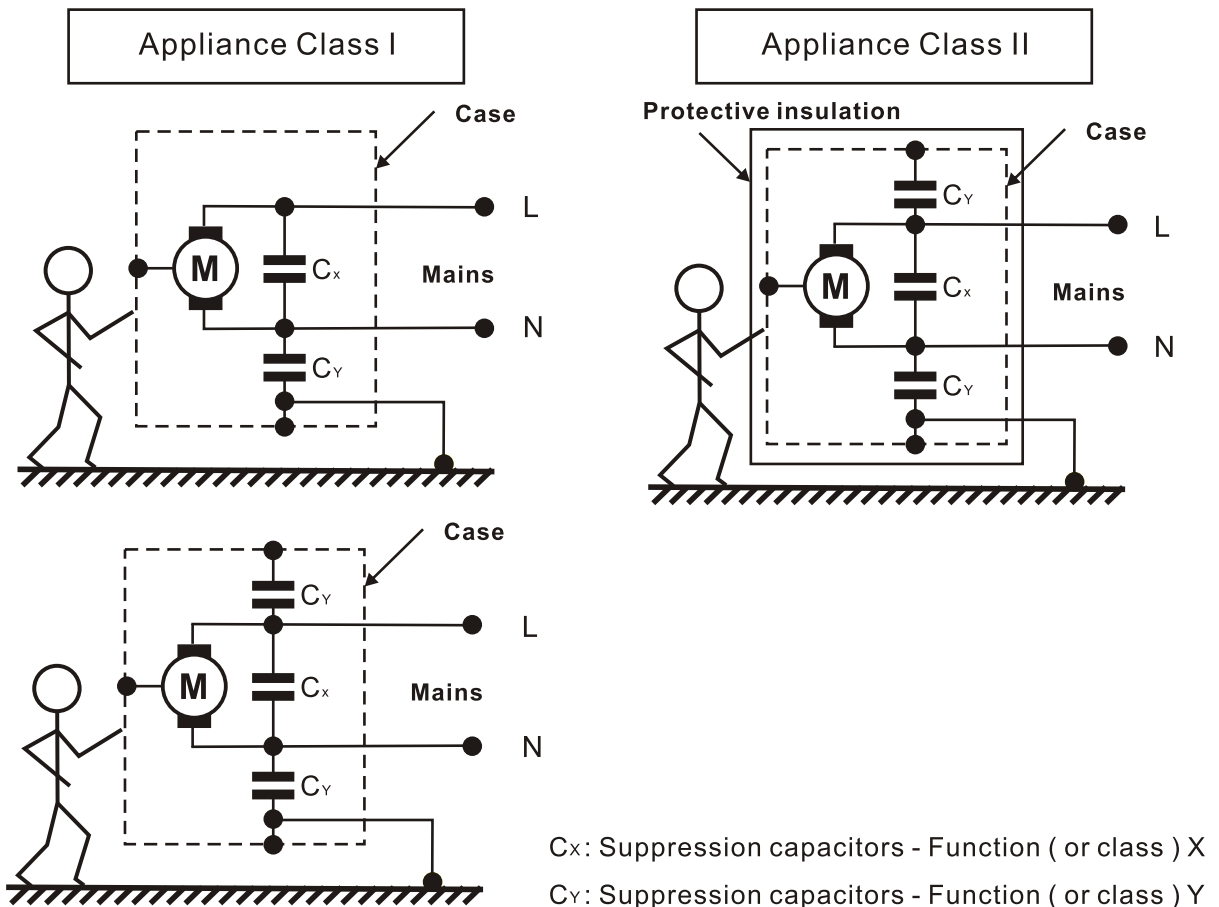
Class X capacitor are divided into three subclasses X1, X2, X3.

Class " Y " Capacitors

Y capacitors which are connected between a phase and neutral (zero potential) are effective against asymmetrical interference (common mode).

A type is suitable for use in situations where failure of the capacitor could lead to danger of electric shock.

Class Y capacitor are divided into four subclasses Y1, Y2, Y3, Y4.



The example above show protection and suppression of a mains by using X and Y capacitors.



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METALLIZED POLYPROPYLENE FILM CAPACITOR (EMI SUPPRESSION CLASS-X2)

INTRODUCTION:

MPX Capacitors are constructed non-inductively wound with metallized polypropylene film as dielectric and electrode, CP wire and encapsulated in plastic case with epoxy sealed. They have excellent features of self-healing and good flame retardant according to UL 94-V0

TYPICAL APPLICATIONS:

Interference suppressors and across-the-line capacitor applications. Suitable for used in situations where failure of the capacitor will not lead to danger of electric shock.

FEATURES:

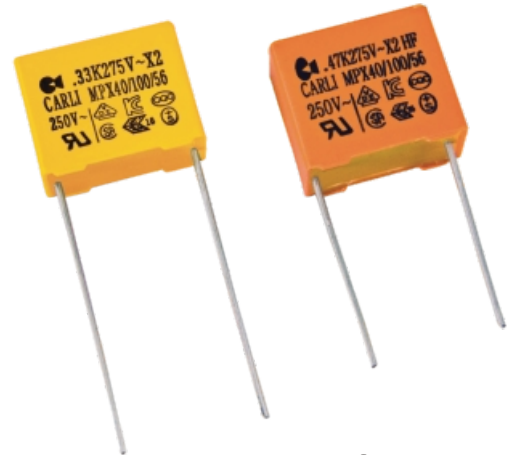
- Non-induction construction.
- Self-healing property.
- Flame-retardant plastic case and epoxy resin sealed.
(compliance with UL 94V-0)
- High moisture-resistance.
- Good solderability.

SPECIFICATIONS:

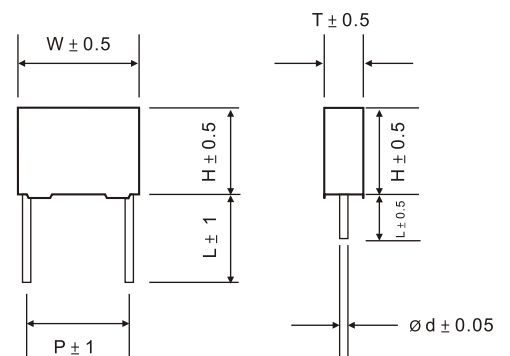
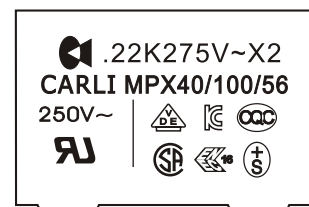
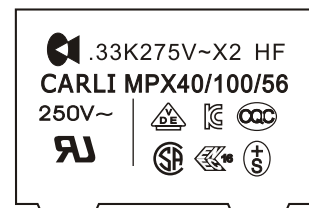
1. Operating temperature : $-40^{\circ}\text{C} \sim +100^{\circ}\text{C} / +110^{\circ}\text{C}$
2. Capacitor range : $.01 \sim 10 \mu\text{F}$
3. Capacitor tolerance : $K = \pm 10\%$, $M = \pm 20\%$
4. Rated voltage : $250 \text{ VAC} / 275 \text{ VAC} / 310 \text{ VAC}$
5. Dissipation factor : $0.1\% \text{ MAX.}$ when measured at $1\text{KHz}, 25^{\circ}\text{C}$
6. Insulation resistance (IR) : $100 \pm 15 \text{ VDC}$ for 1 minute
 - i) If $C \leq .33 \mu\text{F}$, $\text{IR} \geq 15,000\text{M}\Omega$
 - ii) If $C > .33 \mu\text{F}$, $\text{IR} \geq 5,000\text{M}\Omega \cdot \mu\text{F}$.
7. Voltage proof between terminals : $4.3 \times \text{RV (DC)}$ for 60s between terminal and case : 2050 VAC for 60s, no breakdown or visible damage
8. Marking : as model

TEST METHOD AND PERFORMANCE

- Damp heat, steady state :
- Temperature : $+40^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 - Relative humidity (RH) : $90\% \text{ to } 95\%$
 - Test duration : 1344 hrs
- Performance :
- Capacitance change $|\Delta C/C| : \leq \pm 5\%$
 - $1 \text{ KHz DF} \leq 0.2 \%$
 - Insulation resistance : $\geq 50\%$ of the initial limit



MARKING (Example)



- Endurance :
- Temperature : $+100^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 - Test duration : 1000 hrs
 - Voltage applied : 1.25 VR
- Performance :
- Capacitance change $|\Delta C/C| : \leq \pm 10\%$
 - $1 \text{ KHz DF} \leq 0.5 \%$
 - Insulation resistance : $\geq 50\%$ of the initial limit



金屬化聚丙烯膜電容器

METALLIZED POLYPROPYLENE FILM CAPACITOR (EMI SUPPRESSION CLASS-X2)

Rated Voltage : 250 VAC / 275 VAC / 310 VAC

Unit:mm

Symbol	Cap. (μ F)	W \pm 0.5	H \pm 0.5	T \pm 0.5	P \pm 1	\varnothing d	C.C
MPX103	0.01	10.5	9	4	7.5	0.6	B1
MPX103	0.01	13	9	4	10	0.6	C1
MPX103	0.01	13	11	5	10	0.6	C2
MPX153	0.015	10.5	9	4	7.5	0.6	B1
MPX153	0.015	13	9	4	10	0.6	C1
MPX153	0.015	13	11	5	10	0.6	C2
MPX223	0.022	10.5	9	4	7.5	0.6	B1
MPX223	0.022	13	9	4	10	0.6	C1
MPX223	0.022	13	11	5	10	0.6	C2
MPX223	0.022	18	11	5	15	0.6	D1
MPX333	0.033	10.5	10	4	7.5	0.6	B2
MPX333	0.033	13	11	5	10	0.6	C2
MPX333	0.033	13	12	6	10	0.6	C3
MPX333	0.033	18	11	5	15	0.6	D1
MPX473	0.047	10.5	11	5	7.5	0.6	B3
MPX473	0.047	13	11	5	10	0.6	C2
MPX473	0.047	13	12	6	10	0.6	C3
MPX473	0.047	18	11	5	15	0.6	D1
MPX683	0.068	10.5	12	6	7.5	0.6	B4
MPX683	0.068	13	11	5	10	0.6	C2
MPX683	0.068	13	12	6	10	0.6	C3
MPX683	0.068	18	11	5	15	0.6	D1
MPX104	0.1	10.5	13.5	7	7.5	0.6	B5
MPX104	0.1	13	12	6	10	0.6	C3
MPX104	0.1	13	16	8	10	0.6	C5
MPX104	0.1	18	11	5	15	0.6	D1
MPX104	0.1	18	12	6	15	0.8	D2
MPX104	0.1	18	13.5	7.5	15	0.8	D3
MPX104	0.1	26.5	15	6	22.5	0.8	E1
MPX154	0.15	13	12.5	7	10	0.6	C4
MPX154	0.15	14	11.5	7	12.5	0.6	G3