

# MPX/X2 Metallized Polypropylene Film Interference Suppression Capacitors (Class X2) Data Sheet

## Feature

- Wide capacitance range from 0.001uF to 2.2uF.
- Operating Temperature: -40°C ~ 110°C.
- Storage Temperature: 15°C ~ 35°C.
- Withstanding over-voltage stressing.
- Excellent active and passive flame resistant abilities (UL94V-0).

## Applications

- Widely used in across-the-line, interference suppression circuit.ect.

## Applicable Standard

Approval		Organization	Safety Standards	Certificate No.
USA Canada		UL/CUL	UL60384	E208107
Germany		VDE	EN60384-14	40034679
EU		ENEC	EN60384-14	40034679
Korea		KTL	K60384	SU03031-12001
				SU03031-12002
				SU03031-12003
				SU03031-12004
China		CQC	GB/T 6346.14-2015	CQC08001024360
IEC		IEC-CB	IEC60384-14	CN11932

## Part Number Code

X2	P2	104	K	Q	1	B0	180	120	060	E	S	0
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**Songtian**  
X2

**Capacitance**  
103:10nF  
104:100nF  
105:1.0μF  
225:2.2μF

**Pitch**  
N:10.0mm  
Q:15.0mm  
T:22.5mm  
V:27.5mm

**Width**  
060:6.0mm  
180:18.0mm

**Thickness**  
060:6.0mm  
120:12.0mm

**Inner Management**

**Voltage**  
P2:275VAC  
Q2:305VAC  
Q3:310VAC

**Foot Type**  
1:Long Straight  
2:Inside Kink Lead  
5:Straight Lead Taping  
6:Inner Crimped Tapping

**Height**  
060:6.0mm  
120:12.0mm

**Client Catagoryt**  
S:Yellow  
E:Grey

**Environmental Standard**  
E:RoHS  
F:RoHS+Halogen-Free

**Tolerance**  
K:±10%

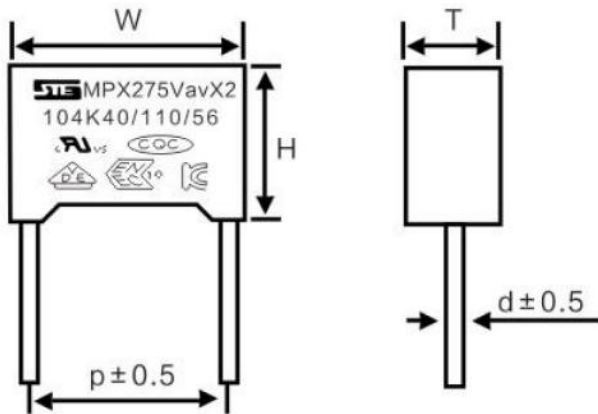
**Lead Length**  
30~39:3.0~3.9mm  
40~49:4.0~4.9mm  
50~59:5.0~5.9mm  
60~69:6.0~6.9mm  
70~79:7.0~7.9mm  
80~89:8.0~8.9mm  
90~99:9.0~9.9mm

**Lead Length**  
A0~A9:11.0~19.0mm  
B0~B9:20.0~29.0mm  
C0~C9:30.0~39.0mm

## Specifications

<b>Climatic Category</b>	40/110/56
<b>Rated Voltage</b>	275VAC、305VAC、310VAC
<b>Dissipation Factor(tanδ)</b>	≤0.1%
<b>Withstand Voltage</b>	Between terminals to case: 2U <sub>R</sub> +1500VAC Minimum of 2000VAC
	Between terminals:4.3U <sub>R</sub> (DC)/5S
<b>Insulation Resistance (I.R.)</b>	C <sub>R</sub> ≤0.33μF, IR≥15000MΩ C <sub>R</sub> >0.33μF, IR≥6000S Note: T[s]=I.R.[MΩ]*CN [μF] 20℃、100V、60S

## Dimensions (mm) and Approval



Capacitance (uF)	Rated Voltage	Size (mm)				
		W±0.5	H±0.5	T±0.5	P±1.0	d±0.05
0.001	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6
0.0022	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6
0.0033	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6
0.0039	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6
0.0047	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6
0.01	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6
0.022	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6
0.033	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6

Capacitance (uF)	Rated Voltage	Size (mm)				
		W±0.5	H±0.5	T±0.5	P±1.0	d±0.05
0.047	275VAC	13.0	11.0	5.0	10.0	0.6
	305VAC	13.0	11.0	5.0	10.0	0.6
	310VAC	13.0	11.0	5.0	10.0	0.6
0.068	275VAC	13.0	12.0	6.0	10.0	0.6
	305VAC	13.0	12.0	6.0	10.0	0.6
	310VAC	13.0	12.0	6.0	10.0	0.6
0.082	275VAC	13.0	12.0	6.0	10.0	0.6
	305VAC	13.0	12.0	6.0	10.0	0.6
	310VAC	13.0	12.0	6.0	10.0	0.6
0.1	275VAC	13.0	12.0	6.0	10.0	0.6
	305VAC	13.0	12.0	6.0	10.0	0.6
	310VAC	13.0	12.0	6.0	10.0	0.6
0.15	275VAC	13.0	12.0	6.0	10.0	0.6
0.22	275VAC	13.0	15.0	8.0	10.0	0.6
0.033	275VAC	18.0	11.0	5.0	15.0	0.8
	305VAC	18.0	11.0	5.0	15.0	0.8
	310VAC	18.0	11.0	5.0	15.0	0.8
0.047	275VAC	18.0	11.0	5.0	15.0	0.8
	305VAC	18.0	11.0	5.0	15.0	0.8
	310VAC	18.0	11.0	5.0	15.0	0.8
0.068	275VAC	18.0	11.0	5.0	15.0	0.8
	305VAC	18.0	11.0	5.0	15.0	0.8
	310VAC	18.0	11.0	5.0	15.0	0.8
0.082	275VAC	18.0	12.0	6.0	15.0	0.8
	305VAC	18.0	12.0	6.0	15.0	0.8
	310VAC	18.0	12.0	6.0	15.0	0.8
0.1	275VAC	18.0	12.0	6.0	15.0	0.8
	305VAC	18.0	12.0	6.0	15.0	0.8
	310VAC	18.0	12.0	6.0	15.0	0.8
0.15	275VAC	18.0	12.0	6.0	15.0	0.8
	305VAC	18.0	12.0	6.0	15.0	0.8
	310VAC	18.0	12.0	6.0	15.0	0.8
0.22	275VAC	18.0	14.5	8.5	15.0	0.8
	305VAC	18.0	14.5	8.5	15.0	0.8
	310VAC	18.0	14.5	8.5	15.0	0.8

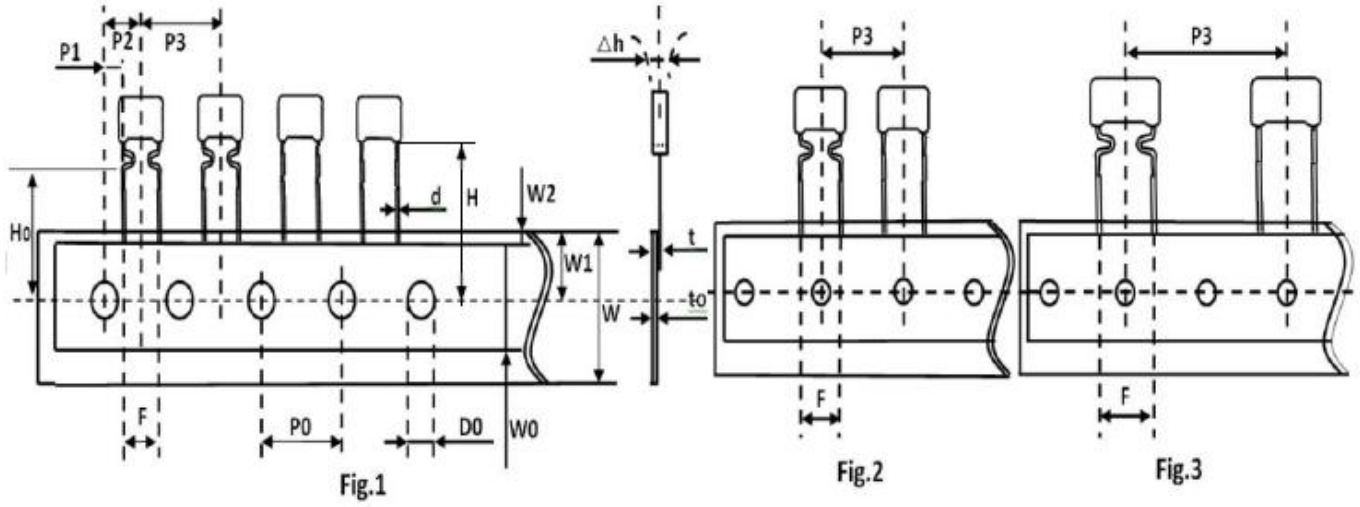
Capacitance (uF)	Rated Voltage	Size (mm)				
		W±0.5	H±0.5	T±0.5	P±1.0	d±0.05
0.33	275VAC	18.0	14.5	8.5	15.0	0.8
	305VAC	18.0	16.0	10.0	15.0	0.8
	310VAC	18.0	16.0	10.0	15.0	0.8
0.47	275VAC	18.0	16.0	10.0	15.0	0.8
	305VAC	18.0	16.0	10.0	15.0	0.8
	310VAC	18.0	16.0	10.0	15.0	0.8
0.56	275VAC	18.0	16.0	10.0	15.0	0.8
	305VAC	18.0	16.0	10.0	15.0	0.8
	310VAC	18.0	16.0	10.0	15.0	0.8
0.68	275VAC	18.0	19.0	11.0	15.0	0.8
	305VAC	18.0	19.0	11.0	15.0	0.8
	310VAC	18.0	19.0	11.0	15.0	0.8
0.22	275VAC	26.5	16.5	7.0	22.5	0.8
	305VAC	26.5	16.5	7.0	22.5	0.8
	310VAC	26.5	16.5	7.0	22.5	0.8
0.27	275VAC	26.5	16.5	7.0	22.5	0.8
	305VAC	26.5	16.5	7.0	22.5	0.8
	310VAC	26.5	16.5	7.0	22.5	0.8
0.33	275VAC	26.5	17.0	8.5	22.5	0.8
	305VAC	26.5	17.0	8.5	22.5	0.8
	310VAC	26.5	17.0	8.5	22.5	0.8
0.47	275VAC	26.5	19.0	10.0	22.5	0.8
	305VAC	26.5	19.0	10.0	22.5	0.8
	310VAC	26.5	19.0	10.0	22.5	0.8
0.56	275VAC	26.5	19.0	10.0	22.5	0.8
	305VAC	26.5	19.0	10.0	22.5	0.8
	310VAC	26.5	19.0	10.0	22.5	0.8
0.68	275VAC	26.5	17.0	8.5	22.5	0.8
	305VAC	26.5	17.0	8.5	22.5	0.8
	310VAC	26.5	17.0	8.5	22.5	0.8
0.82	275VAC	26.5	19.0	10.0	22.5	0.8
	305VAC	26.5	19.0	10.0	22.5	0.8
	310VAC	26.5	19.0	10.0	22.5	0.8
1.0	275VAC	26.5	17.0	8.5	22.5	0.8
	305VAC	26.5	20.0	11.0	22.5	0.8
	310VAC	26.5	20.0	11.0	22.5	0.8

Capacitance (uF)	Rated Voltage	Size (mm)				
		W±0.5	H±0.5	T±0.5	P±1.0	d±0.05
1.2	275VAC	26.5	19.0	10.0	22.5	0.8
	305VAC	26.5	22.0	12.5	22.5	0.8
	310VAC	26.5	22.0	12.5	22.5	0.8
1.5	275VAC	26.5	20.0	11.0	22.5	0.8
	305VAC	26.5	22.0	12.5	22.5	0.8
	310VAC	26.5	22.0	12.5	22.5	0.8
0.68	275VAC	32.0	20.0	11.0	27.5	0.8
	305VAC	32.0	20.0	11.0	27.5	0.8
	310VAC	32.0	20.0	11.0	27.5	0.8
0.82	275VAC	32.0	20.0	11.0	27.5	0.8
	305VAC	32.0	20.0	11.0	27.5	0.8
	310VAC	32.0	20.0	11.0	27.5	0.8
1.0	275VAC	32.0	20.0	11.0	27.5	0.8
	305VAC	32.0	20.0	11.0	27.5	0.8
	310VAC	32.0	20.0	11.0	27.5	0.8
1.2	275VAC	32.0	20.0	11.0	27.5	0.8
	305VAC	32.0	20.0	11.0	27.5	0.8
	310VAC	32.0	20.0	11.0	27.5	0.8
1.5	275VAC	32.0	22.0	13.0	27.5	0.8
	305VAC	32.0	22.0	13.0	27.5	0.8
	310VAC	32.0	22.0	13.0	27.5	0.8
2.0	275VAC	32.0	22.0	13.0	27.5	0.8
	305VAC	32.0	25.0	14.0	27.5	0.8
	310VAC	32.0	25.0	14.0	27.5	0.8
2.2	275VAC	32.0	22.0	13.0	27.5	0.8
	305VAC	32.0	25.0	14.0	27.5	0.8
	310VAC	32.0	25.0	14.0	27.5	0.8

## Lead Configuration

Lead Style	Drawing	Lead Length L (mm)	Coating Lead Length H1(mm)
Long Straight		① $[2.5 \leq L < 6.0] \pm 0.5$ ; ② $[6.0 \leq L \leq 10] \pm 1.0$	/
Inner Crimped		① $[2.5 \leq L < 6.0] \pm 0.5$ ; ② $[6.0 \leq L \leq 10] \pm 1.0$	Pitch $P > 10\text{mm}$ : $H1 < 6.0\text{mm}$ Pitch $P \leq 10\text{mm}$ : $H1 < 5.0\text{mm}$

## Taping And Dimensions (mm)



Symbol	Fig.1	Fig.2	Fig.2	Fig.3	Fig.3	Tolerance
	P=5.0	P=7.5	P=10	P=15	P=20/22.5	
P3	12.7	12.7	12.7	25.4	30.0	±1.0
P2	6.35	/	/	/	/	±1.3
P0	12.7	12.7	12.7	12.7	15.0	±0.3
P1	3.85	/	/	/	/	±0.7
F	5.0	7.5	10.0	15.0	20.0/22.5	±1.0
H	20.0	20.0	20.0	20.0	20.0	±1.0
H0	16.5	16.5	16.5	16.5	16.5	±0.5
Δh	0	0	0	0	0	±2.0
W	18.0	18.0	18.0	18.0	18.0	+1.0/-0.5
W0	12.0	12.0	12.0	12.0	12.0	±1.0
W1	9.0	9.0	9.0	9.0	9.0	±0.5
W2	3.0	3.0	3.0	3.0	3.0	Max
D0	4.0	4.0	4.0	4.0	4.0	±0.3
d	0.5	0.6	0.6	0.8	0.8	±0.05
t	1.0	1.1	1.1	1.4	1.4	±0.2
t0	0.38	0.38	0.38	0.47	0.47	±0.04



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