

## X2 Metallized Polypropylene Film Capacitor

Interference Suppression Capacitors (Class X2 275VAC 305VAC 310VAC )

THB Version (Temperature Humidity Bias )

### FEATURES

- Non-inductive, (UL940V-0) plastic case sealed with epoxy resin.
- Provides interference suppression with VDE, ENEC and UL approvals.
- Meet RoHS, Reach; and Halogen free requirement is available on request

### SPECIFICATIONS

Operating Temperature	-40°C ~ +110°C
Voltage Rating	275VAC, 305VAC, 310VAC
Capacitance Range	0.001 ~ 2.2μF
Capacitance Tolerance	±10% standard,
Package	Standard Package Bulk, Ammo Taped Package available on request
Insulation Resistance	$C_R \leq 0.33 \mu\text{F}$ , I.R $\geq 15,000\text{M}\Omega$ $C_R > 0.33 \mu\text{F}$ , I.R $\geq 6,000\text{S} (\text{M}\Omega/\mu\text{F})$
Dissipation Factor	$\text{tg}\delta \leq 0.0010$ 1KHz
Testing Voltage	4.3U <sub>R</sub> DC /5s
Lead Length	Standard 20.0+/-1mm, long leads and cut leads on request.
THB Test (Damp Heat-Test with Loading)	Temperature: <b>85±2°C</b> ; Humidity: <b>85±2%RH</b> Voltage: 240VAC at 50HZ ; Duration: 500 hours Capacitance change ( $\Delta C/C$ ): $\leq 10\%$ Insulation Resistance: $\geq 50\%$ of initial value Dissipation factor change ( $\Delta \text{tg } \delta$ ) : $\leq 0.3 (C_R \leq 1.0\mu\text{F})$ $\leq 0.5 (C_R > 1.0\mu\text{F})$

### SAFETY APPROVALS

Country	Safety Organization	Standard No.	Capacitance Range	Rated Voltage
USA Canada	UL/CUL	UL60384	0.001uF-2.2uF	250VAC 275VAC 305VAC 310VAC
Germany	VDE	EN60384-14	0.001uF-2.2uF	275VAC 305VAC 310VAC
EU	ENEC	EN60384-14	0.001uF-2.2uF	
Korea	KTL	K60384	<0.1uF	
			0.1uF-0.33uF	
			0.33uF-1uF	
			1uF-2.2uF	
China	CQC	GB/T14472	0.001uF-2.2uF	275VAC
IEC	IEC-CB	IEC60384-14	0.001uF-2.2uF	275VAC

Dimensions Table for 275V AC (Unit : mm)

**A type**

uF	L±1	T±1	H±1	P±1.0	d Ø±0.05	Size Code
0.0022	13	5	11	10	0.6	0100
0.0027	13	5	11	10	0.6	0100
0.0033	13	5	11	10	0.6	0100
0.0039	13	5	11	10	0.6	0100
0.0047	13	5	11	10	0.6	0100
0.0056	13	5	11	10	0.6	0100
0.0068	13	5	11	10	0.6	0100
0.0082	13	5	11	10	0.6	0100
0.01	13	5	11	10	0.6	0100
0.012	13	5	11	10	0.6	0100
0.015	13	5	11	10	0.6	0100
0.018	13	5	11	10	0.6	0100
0.022	13	5	11	10	0.6	0100
0.022	18	5	11	15	0.8	0150
0.027	13	5	11	10	0.6	0100
0.033	13	5	11	10	0.6	0100
0.039	13	5	11	10	0.6	0100
0.047	18	5	11	15	0.8	0150
0.056	18	5	11	15	0.8	0150
0.068	18	5	11	15	0.8	0150
0.082	18	6	12	15	0.8	0150
0.1	18	6	12	15	0.8	0150
0.12	18	7.5	13.5	15	0.8	0150
0.15	13	6	12	10	0.6	0100
0.15	18	7.5	13.5	15	0.8	0150
0.15 *	18	6	12	15	0.8	S150*
0.15	26.5	7	16.5	22.5	0.8	0225
0.18	26.5	7	16.5	22.5	0.8	0225
0.22	26.5	7	16.5	22.5	0.8	0225
0.27	26.5	7	16.5	22.5	0.8	0225
0.33	26.5	7	16.5	22.5	0.8	0225
0.39	26.5	8.5	17	22.5	0.8	0225
0.47	26.5	10	19	22.5	0.8	0225
0.47	31.5	10.8	19.5	27.5	0.8	0275
0.56	31.5	10.8	19.5	27.5	0.8	0275
0.68	31.5	10.8	19.5	27.5	0.8	0275
0.82	31.5	10.8	19.5	27.5	0.8	0275
1	31.5	13	22	27.5	0.8	0275
1.5	31.5	13	22	27.5	0.8	0275
2.2	31.5	13	22	27.5	0.8	0275

**B type**

uF	L±1	T±1	H±1	P±1.0	d Ø±0.05	Size Code
0.01	18	5	11	15	0.8	0150
0.033	18	5	11	15	0.8	0150
0.047	13	5	11	10	0.6	0100
0.056	13	6	12	10	0.6	0100
0.068	13	6	12	10	0.6	0100
0.082	13	6	12	10	0.6	0100
0.1	13	6	12	10	0.6	0100
0.18	18	7.5	13.5	15	0.8	0150
0.22	18	8.5	14.5	15	0.8	0150
0.22 *	18	6	12	15	0.8	S150*
0.27	18	10	15.8	15	0.8	0150
0.33	18	10	15.8	15	0.8	0150
0.33 *	18	8.5	14.5	15	0.8	S150*
0.39	18	10	16	15	0.8	0150
0.47	18	11	19	15	0.8	0150
0.47 *	18	8.5	14.5	15	0.8	S150*
0.56	26.5	10	19	22.5	0.8	0225
0.68	26.5	10	19	22.5	0.8	0225
0.68	18	11	19	15	0.8	0150
0.82	26.5	10	19	22.5	0.8	0225
1	26.5	10	19	22.5	0.8	0225
1.5	26.5	11	20	22.5	0.8	0225

Remark: "\*" mean smaller box size item, size code different.

Dimensions Table for 305V AC (Unit : mm)

**A type**

CAP	L±0.5	T±0.5	H±0.5	P±1.0	d Ø±0.05	Size Code
0.0022	13	5	11	10	0.6	0100
0.0027	13	5	11	10	0.6	0100
0.0033	13	5	11	10	0.6	0100
0.0039	13	5	11	10	0.6	0100
0.0047	13	5	11	10	0.6	0100
0.0056	13	5	11	10	0.6	0100
0.0068	13	5	11	10	0.6	0100
0.0082	13	5	11	10	0.6	0100
0.01	13	5	11	10	0.6	0100
0.012	13	5	11	10	0.6	0100
0.015	13	5	11	10	0.6	0100
0.018	13	5	11	10	0.6	0100
0.022	13	5	11	10	0.6	0100
0.022	18	5	11	15	0.8	0150
0.027	13	5	11	10	0.6	0100
0.033	13	5	11	10	0.6	0100
0.039	13	5	11	10	0.6	0100
0.047	18	5	11	15	0.8	0150
0.056	18	5	11	15	0.8	0150
0.068	18	5	11	15	0.8	0150
0.082	18	6	12	15	0.8	0150
0.1	18	6	12	15	0.8	0150
0.12	18	7.5	13.5	15	0.8	0150
0.15	18	7.5	13.5	15	0.8	0150
0.15*	18	6	12	15	0.8	S150*
0.15	26.5	7	16.5	22.5	0.8	0225
0.18	26.5	7	16.5	22.5	0.8	0225
0.22	26.5	7	16.5	22.5	0.8	0225
0.27	26.5	7	16.5	22.5	0.8	0225
0.33	26.5	7	16.5	22.5	0.8	0225
0.39	26.5	8.5	17	22.5	0.8	0225
0.47	26.5	8.5	17	22.5	0.8	S225*
0.47	31.5	10.8	19.5	27.5	0.8	0275
0.56	31.5	10.8	19.5	27.5	0.8	0275
0.68	31.5	10.8	19.5	27.5	0.8	0275
0.82	31.5	10.8	19.5	27.5	0.8	0275
1	31.5	13	22	27.5	0.8	0275
1.5	31.5	13	22	27.5	0.8	0275
2.2	31	14	25	27.5	0.8	0275

**B type**

CAP	L±0.5	T±0.5	H±0.5	P±1.0	d Ø±0.05	Size Code
0.01	18	5	11	15	0.8	0150
0.033	18	5	11	15	0.8	0150
0.047	13	5	11	10	0.6	0100
0.056	13	6	12	10	0.6	0100
0.068	13	6	12	10	0.6	0100
0.082	13	6	12	10	0.6	0100
0.1	13	6	12	10	0.6	0100
0.18	18	7.5	13.5	15	0.8	0150
0.22	18	8.5	14.5	15	0.8	0150
0.25	18	8.5	14.5	15	0.8	0150
0.27	18	10	15.8	15	0.8	0150
0.33	18	10	15.8	15	0.8	0150
0.33	18	8.5	14.5	15	0.8	0150
0.39	18	10	16	15	0.8	0150
0.39	18	11	19	15	0.8	0150
0.47	18	11	19	15	0.8	0150
0.56	26.5	10	19	22.5	0.8	0225
0.68	26.5	10	19	22.5	0.8	0225
0.82	26.5	10	19	22.5	0.8	0225
1	26.5	11	20	22.5	0.8	0225
1.5	26.5	13	22	22.5	0.8	0225

Remark: "\*" mean smaller box size item, size code different.

Dimensions Table for 310V AC (Unit : mm)

**A type**

uF	L±1	T±1	H±1	P±1.0	d ∅±0.05	Size Code
0.0022	13	5	11	10	0.6	0100
0.0027	13	5	11	10	0.6	0100
0.0033	13	5	11	10	0.6	0100
0.0039	13	5	11	10	0.6	0100
0.0047	13	5	11	10	0.6	0100
0.0056	13	5	11	10	0.6	0100
0.0068	13	5	11	10	0.6	0100
0.0082	13	5	11	10	0.6	0100
0.01	13	5	11	10	0.6	0100
0.012	13	5	11	10	0.6	0100
0.015	13	5	11	10	0.6	0100
0.018	13	5	11	10	0.6	0100
0.022	13	5	11	10	0.6	0100
0.022	18	5	11	15	0.8	0150
0.027	13	5	11	10	0.6	0100
0.033	13	5	11	10	0.6	0100
0.039	13	5	11	10	0.6	0100
0.047	18	5	11	15	0.8	0150
0.056	18	5	11	15	0.8	0150
0.068	18	5	11	15	0.8	0150
0.082	18	6	12	15	0.8	0150
0.1	18	6	12	15	0.8	0150
0.12	18	7.5	13.5	15	0.8	0150
0.15	18	7.5	13.5	15	0.8	0150
0.15*	18	6	12	15	0.8	S150*
0.15	26.5	7	16.5	22.5	0.8	0225
0.18	26.5	7	16.5	22.5	0.8	0225
0.2	18	8.5	14.5	15	0.8	0150
0.22	26.5	7	16.5	22.5	0.8	0225
0.27	26.5	7	16.5	22.5	0.8	0225
0.33	26.5	7	16.5	22.5	0.8	0225
0.39	26.5	8.5	17	22.5	0.8	0225
0.47	26.5	10	19	22.5	0.8	0225
0.47	31.5	10.8	19.5	27.5	0.8	0275
0.56	31.5	10.8	19.5	27.5	0.8	0275
0.68	31.5	10.8	19.5	27.5	0.8	0275
0.82	31.5	10.8	19.5	27.5	0.8	0275
1	31.5	13	22	27.5	0.8	0275
1.5	31.5	13	22	27.5	0.8	0275
2.2	31	14	25	27.5	0.8	0275

**B type**

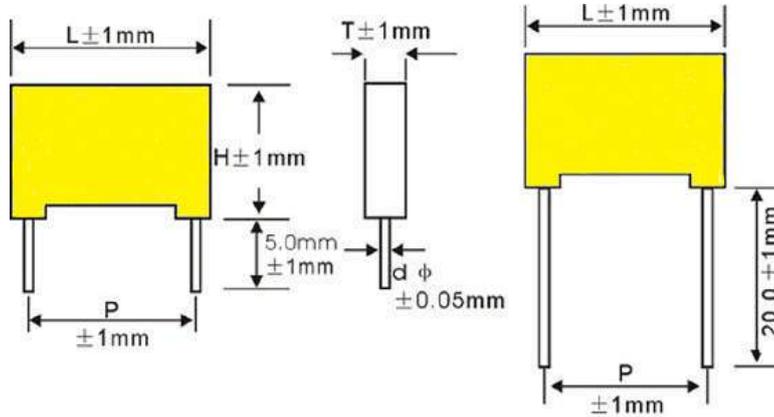
uF	L±1	T±1	H±1	P±1.0	d ∅±0.05	Size Code
0.01	18	5	11	15	0.8	0150
0.033	18	5	11	15	0.8	0150
0.047	13	5	11	10	0.6	0100
0.056	13	6	12	10	0.6	0100
0.068	13	6	12	10	0.6	0100
0.082	13	6	12	10	0.6	0100
0.1	13	6	12	10	0.6	0100
0.18	18	7.5	13.5	15	0.8	0150
0.22	18	8.5	14.5	15	0.8	0150
0.27	18	10	15.8	15	0.8	0150
0.33	18	10	16	15	0.8	0150
0.33*	18	8.5	14.5	15	0.8	S150*
0.39	18	10	16	15	0.8	0150
0.39	18	11	19	15	0.8	0150
0.47	18	10	16	15	0.8	0150
0.56	26.5	10	19	22.5	0.8	0225
0.68	26.5	10	19	22.5	0.8	0225
0.82	26.5	10	19	22.5	0.8	0225
1	26.5	11	20	22.5	0.8	0225
1.5	26.5	13	22	22.5	0.8	0225

Remark: "\*" mean smaller box size item, size code different.

## X2 Metallized Polypropylene Film Capacitor

Interference Suppression Capacitors (Class X2, 275VAC, 305VAC)

DRAWING:



Standard Lead Length: 20.0mm ± 1mm  
 Cut Leads or Long Leads Available on Request

### How to order:

<u>X2</u>	<u>F</u>	<u>474</u>	<u>K</u>	<u>A305</u>	<u>S225</u>	<u>B</u>	<u>000</u>	<u>T</u>
<u>Type</u>	<u>Material Code</u>	<u>Capacitance Code</u>	<u>Tolerance</u>	<u>Rated Voltage</u>	<u>Size Code</u>	<u>Package Code</u>	<u>Suffix Indicate Requirement</u>	<u>Special THB</u>
X2	<b>F: Plastic Film Cap</b> For X2	<b>pF Code: 1st two digits</b> represent significant figures 3rd digit represents multiplier (number of zeros to follow) 104 = 0.1uF 103 = 0.01uF	<b>K: +/-10%</b>	<b>For AC Voltage:</b> A275: 275VAC A300: 300VAC A305: 305VAC A310: 310VAC	<b>Pitch Size for Standard Box</b> 0100: pitch size 10mm 0150: pitch size 15mm 0200: pitch size 20mm 0225: pitch size 22.5mm 0275: pitch size 27.5mm	<b>B: Bulk</b> <b>A: Ammo Taped</b>	<b>000: Indicating Standard</b> If for cut leads or long leg 000: mean standard LL 035: cut leads to 3.5mm 040: cut leads to 4mm 250: 25mm long leads	
					<b>For smaller box size, different size code</b> S150: pitch 15mm, but in smaller box size Pls refer to "size code" from dimensions table			