

X Series

for interference Suppression
and Across-The-Line, Class X2



Feature

X series is self-healing flat style capacitor, which is wound with polypropylene film dielectric, flame retardant, plastic case and epoxy resin end seal. Following styles belong to this series:

S=Tinned copper clad steel wire radial leads.

P=UL 1015 or 1017 AWG#20~22 solid PVC insulation wire radial leads.

X series is especially designed for radio interference suppression and across-the-line capacitors in:

- (1) Business machine's appliance, such as typewriter, computer display and monitor.
- (2) Household appliance, such as mixer, fan, coffee grinder, audio and TV circuit.
- (3) Thyristor and triac appliance, such as dimmer, power supply.

Specifications

Climate category	In accordance with DIN40040 GPF
Voltage Range	250V.(UL.CSA)/275V.AC,50~60Hz
Capacitance Range	0.0047-1.00uF
Capacitance Tolerance	J(±5%), K(±10%), M(±20%)
Withstand Voltage	1,200V.AC(60Hz)for 60 sec. or 2,100V.DC for 1 sec.
Dissipation Factor	≤ 0.1% at 1 K Hz and 20°C ≤ 0.3% at 10 K Hz and 20°C
Insulation Resistance (between terminals)	≥ 3x10 ⁴ MΩ for C≤0.33uF ≥ 1x10 ⁴ MΩ / uF for C>0.33uf

G(Minimum Limit Temperature)=-40°C

M(Maximum Limit Temperature)=+100°C

F(Humidity Category)=average relative humidity≤75%

95% for 30 days per year continuously

85% for the remaining days occasionally

J=±5%, K=±10%, M=±20%

Chip Type SMD

Miniature Type

General Purpose

High Frequency
Low Impedance

High Voltage
High Reliability

Non-polar Type

Large Size
Snap-in

Large Size
Screw

X Serie X2 Metallized Polypropylene Film Capacitors

All dimension are in mm

High Quality Class X₂

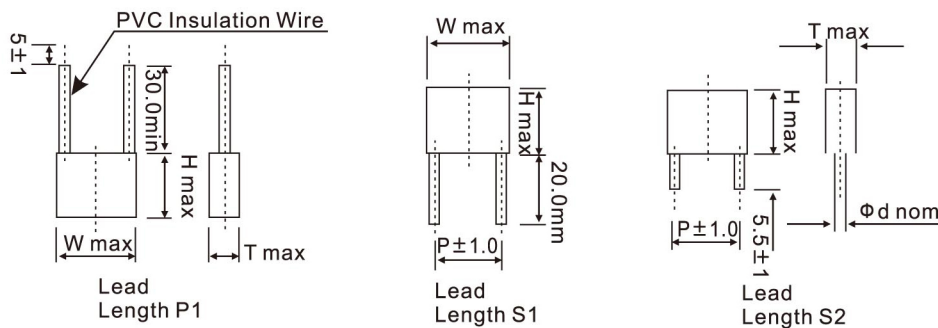
Part number	Rated Cap	Dimension				
		T(max)	H(max)	W(max)	P±0.5	D±0.05
HQX103 275F SNY	0.01uF	5.0	11.0	12.0	10.0	0.6
HQX123 275F SNY	0.012uF	5.0	11.0	12.0	10.0	0.6
HQX153 275F SNY	0.015uF	5.0	11.0	12.0	10.0	0.6
HQX183 275F SNY	0.018uF	5.0	11.0	12.0	10.0	0.6
HQX223 275F SNY	0.022uF	5.0	11.0	12.0	10.0	0.6
HQX273 275F SNY	0.027uF	5.0	11.0	12.0	10.0	0.6
HQX333 275F SNY	0.033uF	5.0	11.0	12.0	10.0	0.6
HQX473 275F SNY	0.047uF	5.0	11.0	12.0	10.0	0.6
HQX563 275F SNY	0.056uF	5.0	11.0	12.0	10.0	0.6
HQX683 275F SNY	0.068uF	5.0	11.0	12.0	10.0	0.6
HQX823 275F SNY	0.082uF	5.0	11.0	12.0	10.0	0.6
HQX104 275F SNY	0.1uF	6.0	12.0	12.0	10.0	0.6/0.8
HQX104 275I SNY	0.1uF	5.0	11.0	17.0	15.0	0.8
HQX154 275F SNY	0.15uF	8.5	16.0	12.0	10.0	0.6
HQX154 275I SNY	0.15uF	6.0	12.0	17.0	15.0	0.8
HQX224 275F SNY	0.22uF	8.5	16.3	12.0	10.0	0.6
HQX224 275I SNY	0.22uF	6.0	14.0	17.0	15.0	0.8
HQX224 275N SNY	0.22uF	6.0	14.5	25.0	22.5	0.8
HQX334 275I SNY	0.33uF	7.5	15.5	17.0	15.0	0.8
HQX334 275N SNY	0.33uF	6.0	14.5	25.0	22.5	0.8
HQX394 275N SNY	0.39uF	8.5	16.5	17.0	15.0	0.8
HQX394 275N SNY	0.47uF	8.5	18.0	17.0	15.0	0.8
HQX474 275I SNY	0.47uF	10.3	16.0	17.0	15.0	0.8
HQX474 275N SNY	0.47uF	7.0	16.5	25.0	22.5	0.8
HQX474 275R SNY	0.47uF	7.5	16.5	30.0	27.5	0.8
HQX564 275I SNY	0.56uF	11.0	19.0	17.0	15.0	0.8
HQX684 275I SNY	0.68uF	11.0	19.0	18.0	15.0	0.8
HQX684 275N SNY	0.68uF	8.5	17.0	25.0	22.5	0.8
HQX684 275R SNY	0.68uF	7.5	16.5	30.0	27.5	0.8
HQX824 275N SNY	0.82uF	10.0	19.0	25.0	22.5	0.8
HQX824 275R SNY	0.82uF	10.5	18.0	30.0	27.5	0.8
HQX105 275N SNY	1.0uF	10.0	19.0	25.0	22.5	0.8
HQX105 275R SNY	1.0uF	10.5	18.0	30.0	27.5	0.8

X Serise X2 Metallized Polypropylene Film Capaciyors

- Approval Data

Country	Specifications	File and Ref.No.
CUL	UL-1414	E183780
VDE/ENEC	EN60384-14	40024534
CQC	GB/T14472-1998	CQC03001003067

- Diagram of Dimensions(unit=mm)



- Pitch and lead Dimensions(mm)

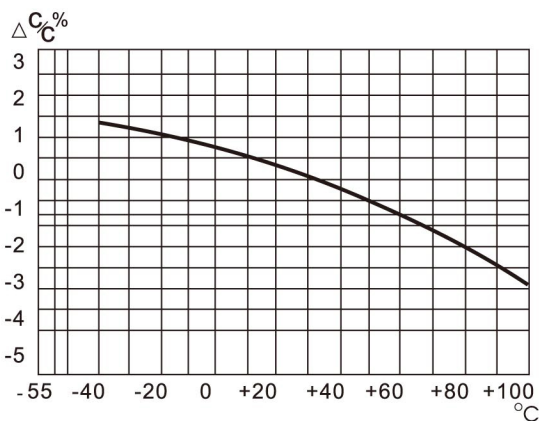
W	12.0	13.0	17.0	18.0	25.0	26.5	30.0	31.5	37.5
P	10.0	10.0	15.0	15.0	22.5	22.5	27.5	27.5	32.5
ΦD	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Wire Size:
AWG#22 for=18.0mm
AWG#20 for \geq 26.5mm

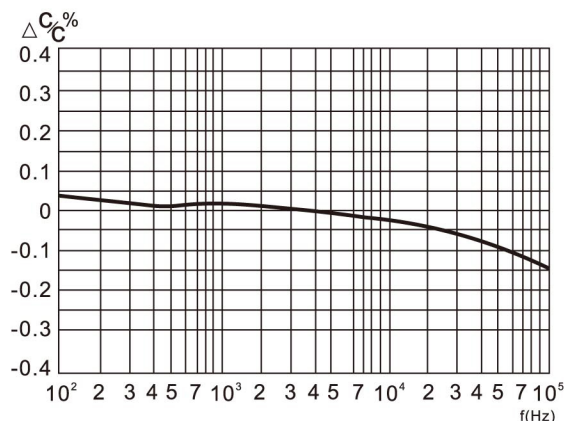
Chip Type SMD
Miniature Type
General Purpose
High Frequency Low Impedance
High Voltage High Reliability
Non-polar Type
Large Size Snap-in
Large Size Screw
X Metallized Polypropylene Film Capacitors

X Serie X2 Metallized Polypropylene Film Capacitors

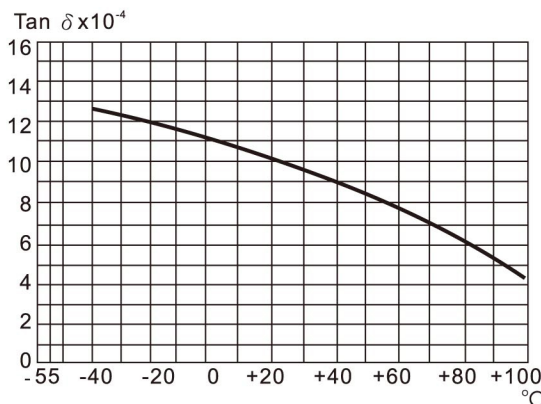
• Temperature and Frequency Characteristic



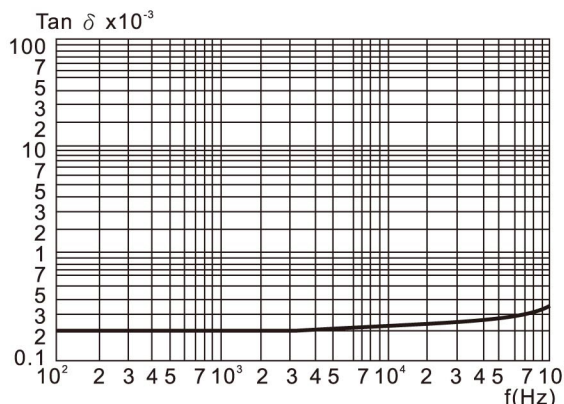
Capacitance Change versus temperature $\Delta C/C\%$
容量變化率與溫度的關係 (在1KHz時)



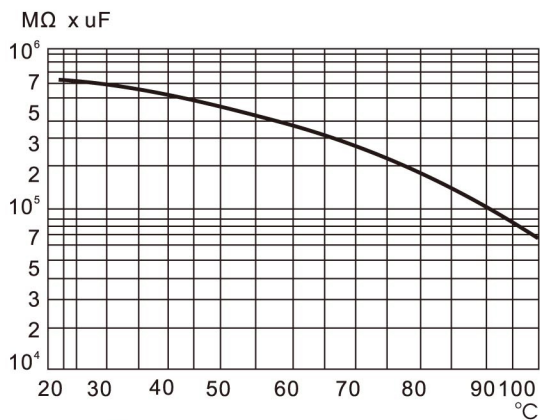
Capacitance Change versus frequency $\Delta C/C\%$
容量變化率與頻率的關係 (室內溫度)



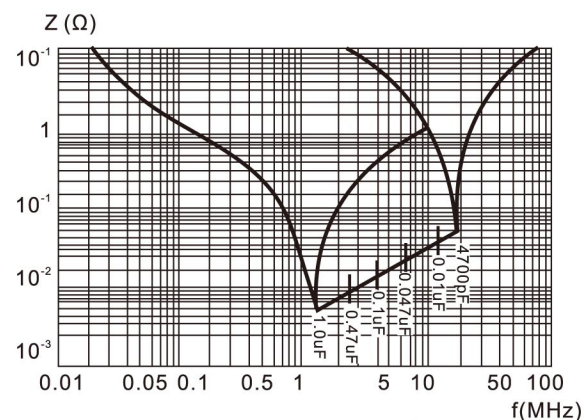
Dissipation factor versus temperature $\tan \delta$ measured at 1 KHz
損耗角正切值 $Tg \delta$ 溫度的關係 (在1KHz時)



Dissipation factor versus frequency $\tan \delta$
損耗角正切值 $Tg \delta$ 溫度的關係 (室內溫度)



Time constant versus temperature
絕緣電阻與溫度的關係



Impedance(z) as a function of frequency(f) at $T=20^{\circ}\text{C}$ (Average) 阻抗與頻率的關係
Measurement with lead length 6mm