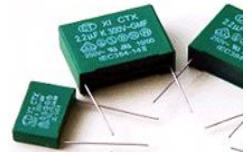


METALLIZED POLYPROPYLENE FILM CAPACITORS - X1 SERIES (DIP)

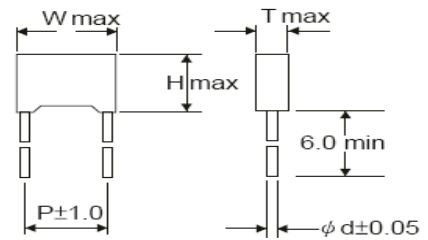
▲ INTRODUCTION:

- 1: HIGH STABILITY
- 2: NON-INDUCTIVE
- 3: MINIA TURW SIZE
- 4: SELF -HEALING CHARACTERISTICS.
- 5: PLASTICS CASE EPOXY RESIN FILLED .
BOX MADE OF SOLVENT RESISTANT MATERIAL.
- 6: EXCELLENT FOR USED IN ANTENNA COUPLING LINE -BY-PASS.AND
ACROSS-THE -LINE.APPLICATION WHERE SIZE IS CRITICAL.



▲ SPECIFICATION:

- 1: OPERATING TEMPERATURE: -40°C ~ 85°C
- 2:CAPACITANCE RANGE :0.001~1.0uF.
- 3:CAPACITANCE TOLERANCE: ±5%(J) ,±10%(K), ±20%(M)
- 4:RATED VOLTAGE:310VAC
- 5:DISSIPATION FACTOR:0.1% MAX AT 1KHz, 20°C
- 6:INSULATION RESISTANCE:>30000M ohm (C ≤ 0.33uF) , > 10000M ohm/ u F(C>0.33u F)



CAP CODE	Capacitance uF	Rated-Voltage VAC	PVC Wire(W±0.75) Dimensions in mm				
			W±0.5	H±0.5	T±0.5	P±0.5	D±0.05
472	0.0047	310	18	10	5	15	0.8
472	0.0047	310	13	12	5	10	0.6
103	0.01	310	18	10	5	15	0.8
103	0.01	310	13	12	5	10	0.6
153	0.015	310	18	10	5	15	0.8
223	0.022	310	17	11	5.5	15	0.8
333	0.033	310	18	10	5	15	0.8
473	0.047	310	18	10	5	15	0.8
473	0.047	310	13	12	5	10	0.6
563	0.056	310	18	10	5	15	0.8
683	0.068	310	18	10	5	15	0.8
823	0.082	310	17	11	5	15	0.8
104	0.1	310	13	12	6	10	0.6
104	0.1	310	17	11	5.5	15	0.8
154	0.15	310	13	12	6	10	0.6
154	0.15	310	18	13.5	6	15	0.8
224	0.22	310	17	15.5	7.5	15	0.8
224	0.22	310	25	14.5	6	22.5	0.8
334	0.33	310	17	16.5	9.5	15	0.8
334	0.33	310	26.5	16.5	7	22.5	0.8
474	0.47	310	17	19	11	15	0.8
474	0.47	310	26.5	17	8.5	22.5	0.8
474	0.47	310	31.5	20	11	27.5	0.8
564	0.56	310	26.5	19	10	22.5	0.8
684	0.68	310	17	21	12	15	0.8
684	0.68	310	26.5	19	10	22.5	0.8
824	0.82	310	31.5	20	11	27.5	0.8
105	1	310	25	23.5	14	22.5	0.8
105	1	310	30	21	11.5	27.5	0.8
125	1.2	310	31.5	25	14	27.5	0.8
125	1.2	310	37	24	13.5	32.5	0.8
155	1.5	310	31.5	25	14	27.5	0.8
155	1.5	310	37	24	13.5	32.5	0.8
225	2.2	310	32	26	18	27.5	0.8
225	2.2	310	37	26.5	16	32.5	0.8
275	2.7	310	37	28.5	18	32.5	0.8
335	3.3	310	37	34	22	32.5	0.8
395	3.9	310	51	27.5	17.5	47.5	0.8
475	4.7	310	51	30.5	20	47.5	0.8
565	5.6	310	51	34	22.5	47.5	0.8
685	6.8	310	51	34	22.5	47.5	0.8
755	7.5	310	51	37	24	47.5	0.8
825	8.2	310	51	37	24	47.5	0.8
106	10	310	51	43.5	29	47.5	0.8

▲ SPECIFICATION

ACROSS-THE-LINE AND INTERFERENCE SUPPRESSION CAPACITORS CLASS X1 --- CTX

1. REFERENCE STANDARDS: UL 1414, CSA C22.2

USED FOR ACROSS-THE LINE CAPACITORS, ANTENNA-COUPLING AND LINE-BY-PASS COMPONENTS.

VDE 0565-1

SEV IEC 384-14 Second Edition (1993) including AM.1 (1995)

[Safety tests] / EN 132 400 (1994) [Safety tests]

SEMKO IEC 384-14 Second Edition (1993) including AM.1 (1995)

[Safety tests] / EN 132 400 (1994) [Safety tests]

DEMKO IEC 384-14 Second Edition (1993) including AM.1 (1995)

[Safety tests] / EN 132 400 (1994) [Safety tests]

NEMKO IEC 384-14 Second Edition (1993) including AM.1 (1995)

[Safety tests] / EN 132 400 (1994) [Safety tests]

FIMKO IEC 384-14 Second Edition (1993) including AM.1 (1995)

[Safety tests] / EN 132 400 (1994) [Safety tests]

CQC GB/T14472-1998

USED FOR RADIO INTERFERENCE SUPPRESSION CAPACITORS.

2. RATED VOLTAGE : 250/300 VAC, 50 ~ 60 Hz

3. CAPACITANCE RANGE : 0.0047 μ F ~ 10 μ F

4. CAPACITANCE TOLERANCE : J ($\pm 5\%$), K ($\pm 10\%$), M ($\pm 20\%$)

5. DIELECTRIC : METALLIZED POLYPROPYLENE FILM

6. DISSIPATION FACTOR TAN δ : LESS THAN 0.1% AT 1K Hz/20 $^{\circ}$ C

VOLTAGE 1.0 VAC (CAPACITANCE : 1K Hz/20 $^{\circ}$ C, VOLTAGE 1.0 VAC)

7. INSULATION RESISTANCE : BETWEEN TERMINALS

(1) LESS THAN OR EQUAL TO 0.33 μ F $\geq 3 \times 10^4$ M Ω

(2) GREATER THAN 0.33 μ F $\geq 1 \times 10^4$ M Ω / μ F

MEASURED AT 100 \pm 15 VDC, 60 Sec./20 $^{\circ}$ C

8. WITHSTAND VOLTAGE :

a) BETWEEN TERMINALS....1500 VAC 60 Hz OR 2200VDC FOR 1 Sec.

b) BETWEEN TERMINALS AND CASE....2200 VAC 60 Hz FOR 60 Sec.

9. CLIMATIC CATEGORY : IN ACCORDANCE WITH DIN 40040 GMF

G (MINIMUM LIMIT TEMPERATURE) = - 40 $^{\circ}$ C

M (MAXIMUM LIMIT TEMPERATURE) = + 100 $^{\circ}$ C

F (HUMIDITY CATEGORY) = AVERAGE RELATIVE HUMIDITY $\leq 75\%$

95% FOR 30 DAYS PER YEAR CONTINUOUSLY

85% FOR THE REMAINING DAYS OCCASIONALLY

10. DRY HEAT RESISTANCE :

IN ACCORDANCE WITH DIN 40046 SHEET 1 OR IEC 68-2-2 TEST BA. CONDITIONS

TEST TEMPERATURE : 100 \pm 2 $^{\circ}$ C

TEST DURATION : 16 HOURS

TEST CRITERIA :

(1) APPEARANCE : NO VISIBLE DAMAGE AND NO LEAKAGE

(2) WITHSTAND VOLTAGE : 0.66 x RATED WITHSTAND VOLTAGE 60 Sec.

(3) CAPACITANCE CHANGE : $\leq \pm 5\%$ OF THE INITIAL VALUE

(4) INSULATION RESISTANCE : $\geq 50\%$ OF INITIAL SPECIFIED VALUE

11. COLD RESISTANCE :

IN ACCORDANCE WITH DIN 40046 SHEET 1 OR IEC 68-2-1 TEST BA. CONDITIONS

TEST TEMPERATURE : -40 \pm 2 $^{\circ}$ C

TEST DURATION : 2 HOURS

TEST CRITERIA :

(1) APPEARANCE : NO VISIBLE DAMAGE

(2) WITHSTAND VOLTAGE : 0.66 x RATED WITHSTAND VOLTAGE 60 Sec.

(3) CAPACITANCE CHANGE : $\leq \pm 5\%$ OF THE INITIAL VALUE

12. HUMIDITY TEST CONDITIONS :

TEST TEMPERATURE : 40 °C ± 2 °C

RELATIVE HUMIDITY : 90 – 95 %

TEST DURATION : 500 HOURS

TEST CRITERIA :

- (1) WITHSTAND VOLTAGE : 0.66 x RATED WITHSTAND VOLTAGE 60 Sec.
- (2) CAPACITANCE DRIFT : ≤ ± 5 % OF THE INITIAL VALUE
- (3) DISSIPATION FACTOR : ≤ 200 % OF INITIAL SPECIFIED VALUE
- (4) INSULATION RESISTANCE : ≥ 50 % OF INITIAL SPECIFIED VALUE

13. LIFE TEST CONDITIONS :

TEST TEMPERATURE : 100 °C ± 3 °C

TEST VOLTAGE : 440 VAC AND 1,000 VAC/60 HZ FOR A PERIOD OF 0.1 Sec. ONCE EACH HOUR

TEST DURATION : 1,008 HOURS

TEST CRITERIA :

- (1) APPEARANCE : NO VISIBLE DAMAGE AND NO LEAKAGE
- (2) WITHSTAND VOLTAGE : 0.66 x RATED WITHSTAND VOLTAGE 60 Sec.
- (3) CAPACITANCE DRIFT : ≤ ± 3 % OF THE INITIAL VALUE
- (4) DISSIPATION FACTOR : ≤ 0.6 x 10 (0.06 %) OF INCREASED VALUE
- (5) INSULATION RESISTANCE : ≥ 50 % OF SPECIFIED VALUE

14. SOLDERABILITY CONDITIONS :

SOLDER BATH TEMPERATURE & MATERIAL :

230 ± 5 °C, 60 % OF TIN (Sn) + 40 % OF LEAD (Pb)

SOLDER BATH TEMPERATURE & MATERIAL :

270 ± 5 °C, 99.96 % OF TIN (Sn) + 0.04 % OF SILVER (Ag)

SOLDER TIME : 3 ± 0.5 Sec. TEST CRITERIA : 75% OF THE SURFACE TINNING

15. SOLDERING HEAT RESISTANCE :

IN ACCORDANCE WITH DIN 40046 SHEET 18 OR IEC 68-2-20 TEST TA.1 & TB.1 CONDITIONS

SOLDER BATH TEMPERATURE : 260 ± 5 °C

SOLDER TIME : 5 ± 1 Sec.

CAPACITANCE BODY MAY LIE ON PRINTING CIRCUIT BOARD

TEST CRITERIA :

- (1) APPEARANCE : NO DAMAGE AND GOOD TINNING
- (2) CAPACITANCE CHANGE : ≤ ± 3 % OF THE INITIAL VALUE

16. VIBRATION RESISTANCE :

IN ACCORDANCE WITH DIN 40046 SHEET 8 OR IEC 68-2-6 TEST FC CONDITIONS

FREQUENCY RANGE : 10 - 55 HZ

DISPLACEMENT AMPLITUDE : 0.75 mm

CONFORMING TO MAX. : 10 g

TEST DURATION : 6 HOURS

TEST CRITERIA :

- (1) APPEARANCE : NO VISIBLE DAMAGE
- (2) CAPACITANCE CHANGE : ≤ ± 2 % OF THE INITIAL VALUE

17. TENSILE STRENGTH OF TERMINALS

IN ACCORDANCE WITH DIN 40046 SHEET 19 OR IEC 68-2-21 TEST UA.1 CONDITIONS

TERMINAL HOLDING TIMES

DIA. (mm) Sec.

≤ 0.5 10

> 0.5 TO < 1 10

> 0.8 20

TEST CRITERIA : NO WIRE BREAKAGE AND NO DAMAGE OF CAPACITOR

18. BENDING OF TERMINALS

IN ACCORDANCE WITH DIN 40046 SHEET 19 OR IEC 68-2-21 TEST UB. CONDITIONS

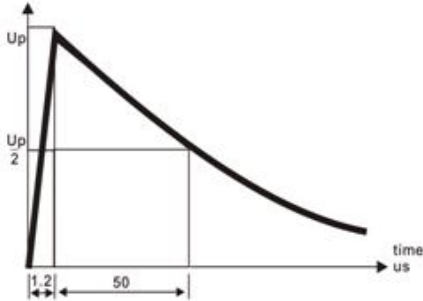
LOAD FORCE : 0.5 KG (5N)

BENDING TIME : TWO CONSECUTIVE BENDS (4 x 90 °C)

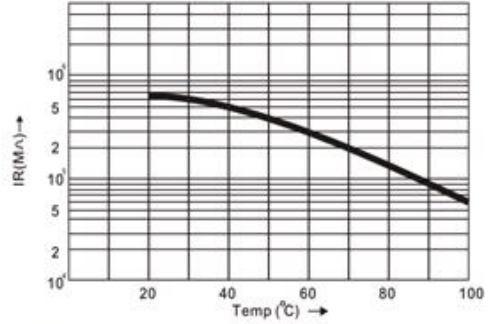
TEST CRITERIA : NO WIRE BREAKAGE AND DAMAGE OF CAPACITOR

Surge Voltage Test

According to VDE 0565-1 and IEC 384-14:
 $U_p = 4KV$ for $C \leq 1.0\mu F$
 $U_p = 4KV [e^{(1.0-C)}]$ for $C > 1.0\mu F$
 According to SEV 1055:
 $U_p = 3KV$

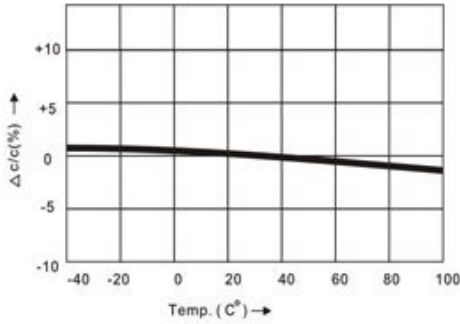


Insulation Resistance vs. Temperature(Typical Values)

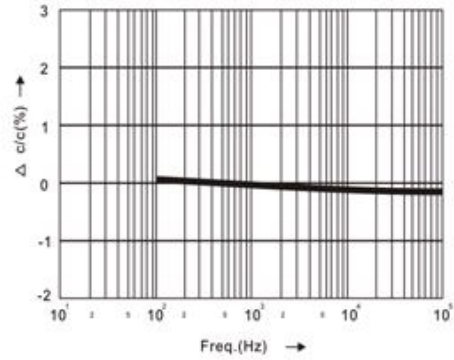


Temperature and Frequency Characteristics

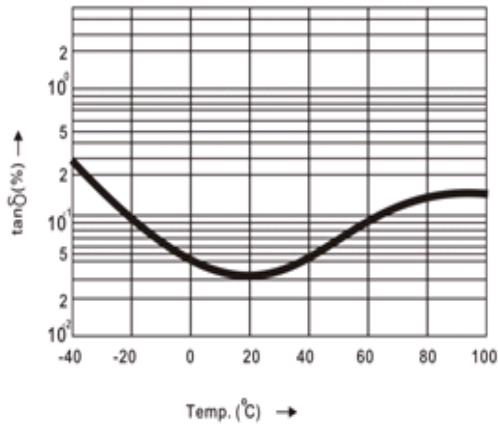
Capacitance Change vs. Temperature(Typical Values)



Capacitance Change vs. Frequency(Typical Values)



Dissipation Factor vs. Temperature at 10 KHz (Typical Values)



Dissipation Factor vs. Frequency(Typical Values)

