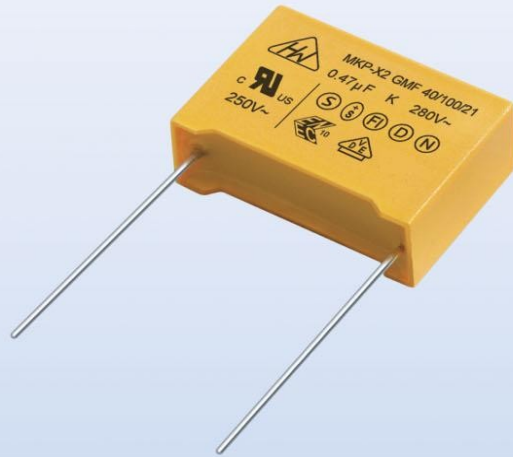




產品名稱 (Description):

METALLIZED POLYPROPYLENE FILM CAPACITOR X2

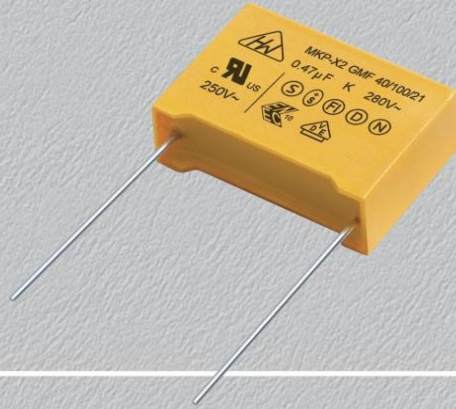


日期 (Date): _____

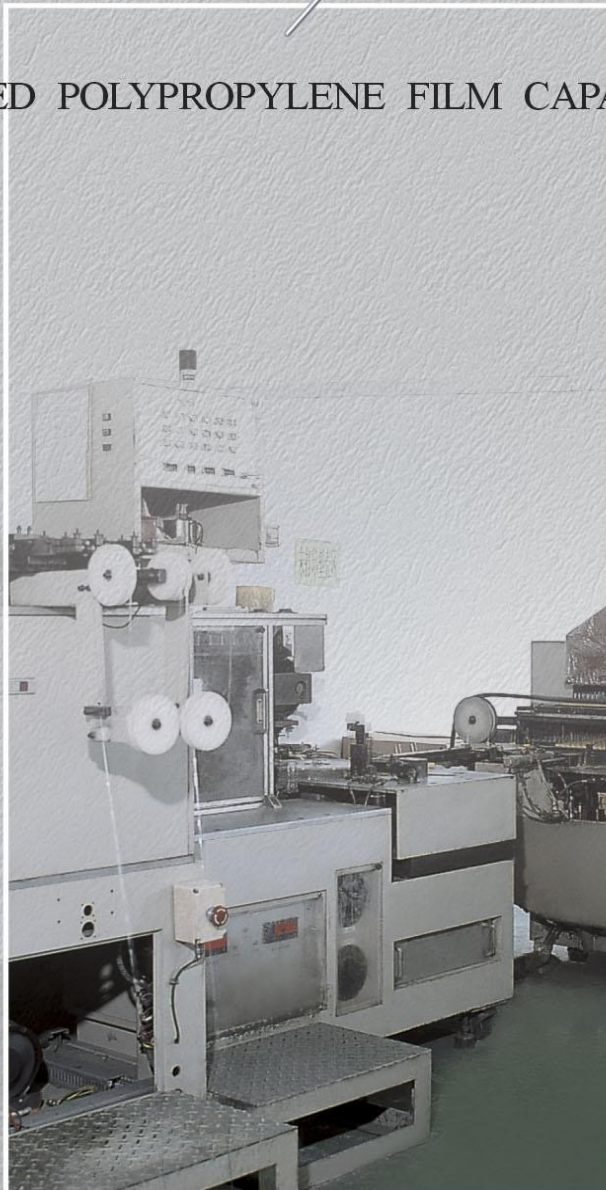
聯絡人 (Person in charge): _____

客戶確認 (Customer Approval)

ISN(檢驗)	CHK(審核)	APP(批准)
ISN(檢驗)	CHK(審核)	APP(批准)



METALLIZED POLYPROPYLENE FILM CAPACITOR X2



HANWAY TECHNOLOGY (H.K.) LTD.

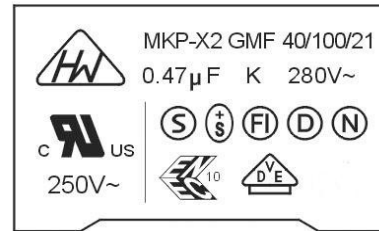
MKP SERIES — X2 CLASS

MARKING :

HANWAY X2 LOGO



Dissipation factor	0.10%
Tolerance	K=±10%
Rated voltage	280VAC
Capacitor class	X2
Type	MKP
Climatic category	GMF 40/100/21
Approvals brands	



Approvals :

COUNTRY	SPECIFICATIONS	CERTIFICATE NO.	RATED VOLTAGE
UL=U.S.A	UL1414	E311996	250VAC
SEMKO = Sweden	EN60384-14	707227	280VAC
NEV = Switzerland	IEC60384-14	07.0380	280VAC
FIMKO = Finland	EN60384-14	23345	280VAC
DEMKO = Denmark	EN60384-14	314262-01	280VAC
NEMKO = Norway	EN60384-14	P07207930	280VAC
VDE = Germany	EN60384-14, IEC60384-14	40020967	280VAC

■ General electrical characteristics

Capacitance range	0.01~2.2 μ F
Rated voltage	280VAC, 50/60HZ
Permissible continuous dc voltage	630VDC
Capacitance tolerance	$\pm 10\%$, $\pm 20\%$
Dissipation factor	1 KHz $\leq 0.1\%$ 10 KHz $\leq 0.35\%$
Insulation resistance	$\geq 15000M\Omega$, C $\leq 0.33 \mu$ F $\geq 5000M\Omega \cdot \mu$ F, C $\geq 0.33 \mu$ F Measured at 100 ± 10 VDC, 60S at 20°C
Temperature range	-40°C to +100°C
Dc test voltage	1700V, 3S
Climatic category	40/100/21(GMF)

■ Approved electrical characteristics according to EN132400-12, IEC384, part2 :

Voltage between terminals	1185VDC, 1min
Voltage between terminals and case	2050VDC, 1min
Maximum peak voltage	$2500V/\sqrt{CR} > 1 \mu$ F

■ MKP-X2 TYPE



■ METALLIZED POLYPROPYLENE FILM CAPACITOR

NO.	TEST ITEM		PERFORMANCE	TEST CONDITIONS
1	Operating Temperature		-40°C to 100°C	
2	Rated Voltage		280VAC	
3	Withstand Voltage	Between Terminals	No abnormality	1185VDC for 1min or 500VAC for 2S (50/60 HZ)
		Between Terminals & Enclosure		2050VAC (50/60 HZ) for 1min
4	Insulation Resistance		$\geq 15000M \Omega$, $C \leq 0.33 \mu F$ $\geq 5000M \Omega \cdot \mu F$, $C \geq 0.33 \mu F$	Charge time: $60 \pm 5S$; Discharge time: $60 \pm 5S$; Charge voltage: 100VDC; Test temp: at 25°C
5	Capacitance		Within specified tolerance	At 1KHz; Measure R.V as 5Vrms or below; Test temp: at 25°C
6	Capacitance tolerance		K: $\pm 10\%$; M: $\pm 20\%$	Measure at 1KHz; Test temp: at 25°C
	Dissipation factor		$\leq 0.1\%$	
7	Terminal Strength	Pull Strength	No cutting or Slack of terminals	Wire diameter: 0.6&0.8mm Load: 1kg; time: 10S; Wire diameter: 1.0mm Load: 2kg; time: 20S
		Bending Strength		Wire diameter: 0.6&0.8mm Load: 0.5kg, 90° × 4 times; Wire diameter: 1.0mm Load: 1kg, 90° × 4 times;
8	Vibration Proof		No abnormality of the appearance	Frequency range 10-55-10Hz Amplitude: 1.5mm, 2Hrs Per direction 3 times.
9	Solderability		At least 95% of the circumference of the lead wire. Around load surface dipped into with new solder.	Solder temp: $235 \pm 5^\circ C$; Immersion time: $2 \pm 0.5S$

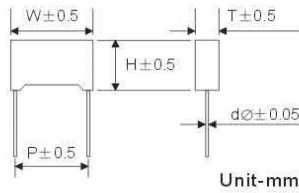
■ METALLIZED POLYPROPYLENE FILM CAPACITOR

NO.	TEST ITEM	PERFORMANCE	TEST CONDITIONS	
10	Resistance to soldering heat	Appearance	-40°C to 100°C	
		Withstand voltage	No abnormality	
		Dissipation factor	≤0.12% at 1 KHz	
		Insulation resistance	≥15000M Ω , C≤0.33 μ F ≥5000M Ω · μ F , C≥0.33 μ F	
			Sold temp: 260±5°C; Immersion time: 10±0.5S	
11	Cold Resistance	Capacitance Variation	Within +3/-0% of the value before test	Test temp: -40±2°C; Duration: 48±2Hrs
12	Dry Heat	Insulation resistance	≥3000M Ω , C≤0.33 μ F ≥1000M Ω · μ F , C≥0.33 μ F	Test temp: +100±2°C; Duration: 48±2Hrs
		Capacitance Variation	Within +0/-3% of the value before test	
13	Humidity Resistance	Appearance	No abnormality	Humidity of 90~95%R.H.; Temperature: 40±2°C; Duration: 500±24Hrs; Withstand voltage: 1000VAC, 1 min
		Withstand voltage	No abnormality	
		Insulation resistance	≥7500M Ω , C≤0.33 μ F ≥2500M Ω · μ F , C≥0.33 μ F	
		Capacitance Variation	Within ±5% of the value before test	
		Dissipation factor	≤0.12% at 1 KHz	
14	High Temperature Loading Test	Appearance	No abnormality	Temperature: 40±2°C; Duration: 500±24Hrs; Applied voltage: 280VAC (50/60HZ Rated Voltage)
		Withstand voltage	No abnormality	
		Insulation resistance	≥7500M Ω , C≤0.33 μ F ≥2500M Ω · μ F , C≥0.33 μ F	
		Capacitance Variation	Within ±5% of the value before test	
		Dissipation factor	≤0.12% at 1 KHz	

HANWAY TECHNOLOGY (H.K.) LTD.

MKP SERIES — X2 CLASS

Diagrams & Dimension Allowances



MARKING (Example)

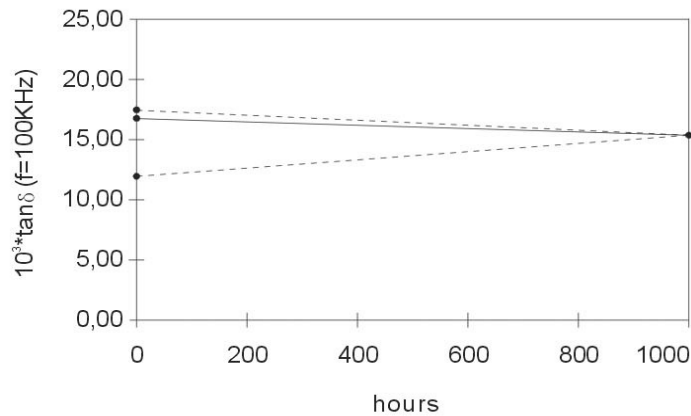
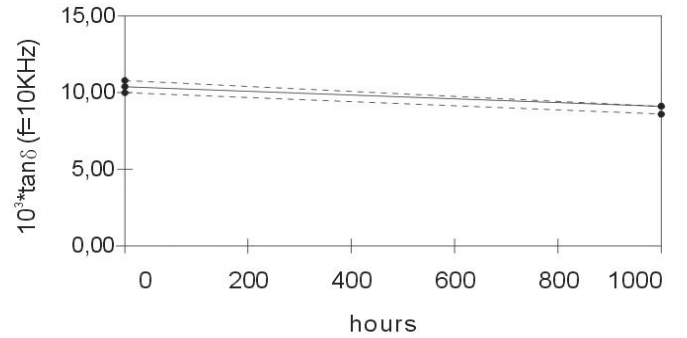
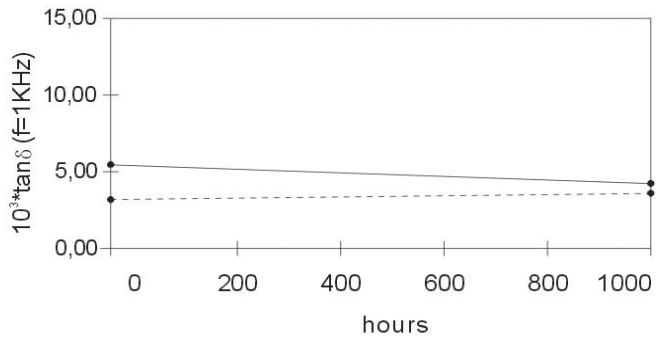
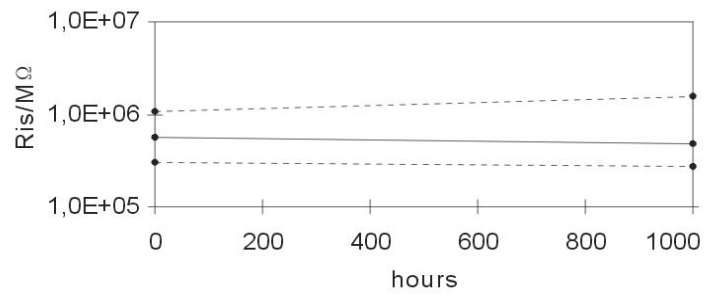
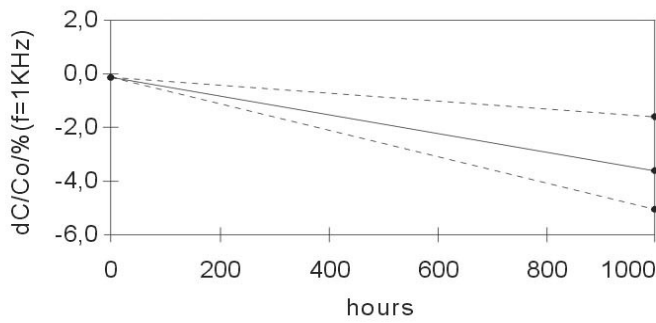


SYMBOL	MFD	W	H	T	P	d∅	CASE NO.
MKP 103	.01	13	9	4	10	0.6	C1
MKP153	.015	13	9	4	10	0.6	C1
MKP 223	.022	13	9	4	10	0.6	C1
MKP 223	.022	13	11	5	10	0.6	C2
MKP 333	.033	13	11	5	10	0.6	C2
MKP 473	.047	13	11	5	10	0.6	C2
MKP 683	.068	13	12	6	10	0.6	C3
MKP 104	.1	13	12	6	10	0.6	C3
MKP 124	.12	13	12	6	10	0.6	C3
MKP 224	.22	13	14	8	10	0.6	C4
MKP 223	.022	18	11.5	5	15	0.8	D1
MKP 333	.033	18	11.5	5	15	0.8	D1
MKP 473	.047	18	11.5	5	15	0.8	D1
MKP 683	.068	18	11.5	5	15	0.8	D1
MKP 104	.1	18	11.5	5	15	0.8	D1
MKP 104	.1	18	12	6	15	0.8	D2
MKP 154	.15	18	12	6	15	0.8	D2
MKP 154	.15	18	14.5	8.5	15	0.8	D4
MKP 224	.22	18	13.5	7.5	15	0.8	D3
MKP 224	.22	18	14.5	8.5	15	0.8	D4
MKP 224	.22	18	16	10	15	0.8	D5
MKP 334	.33	18	14.5	8.5	15	0.8	D4
MKP 334	.33	18	16	10	15	0.8	D5
MKP 474	.47	18	16	10	15	0.8	D5
MKP 474	.47	18	18.5	11	15	0.8	D6
MKP 684	.68	18	18.5	11	15	0.8	D6
MKP 224	.22	26.5	15	6	22.5	0.8	E1
MKP 224	.22	26.5	17	7	22.5	0.8	E2
MKP 334	.33	26.5	17	7	22.5	0.8	E2
MKP 334	.33	26.5	17	8.5	22.5	0.8	E3
MKP 474	.47	26.5	17	8.5	22.5	0.8	E3
MKP 474	.47	26.5	19	10	22.5	0.8	E4
MKP 684	.68	26.5	19	10	22.5	0.8	E4
MKP 824	.82	26.5	20	11	22.5	0.8	E5
MKP 105	1.0	26.5	20	11	22.5	0.8	E5
MKP 105	1.0	26.5	21.5	12.5	22.5	0.8	E6
MKP 474	.47	32	20	11	27.5	0.8	F1
MKP 564	.56	32	20	11	27.5	0.8	F1
MKP 684	.68	32	20	11	27.5	0.8	F1
MKP 824	.82	32	22	13	27.5	0.8	F2
MKP 105	1.0	32	17.2	10	27.5	0.8	F0
MKP 105	1.0	32	20	11	27.5	0.8	F1
MKP 105	1.0	32	22	13	27.5	0.8	F2
MKP 125	1.2	32	20	11	27.5	0.8	F1
MKP 155	1.5	32	25	15	27.5	0.8	F3
MKP 185	1.8	32	25	15	27.5	0.8	F3
MKP 205	2.0	32	30	18	27.5	0.8	F4
MKP 225	2.2	32	20	14	27.5	0.8	F5

MKP SERIES — X2 CLASS

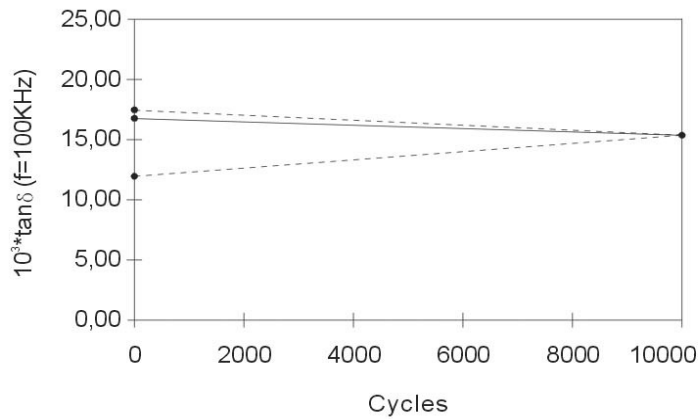
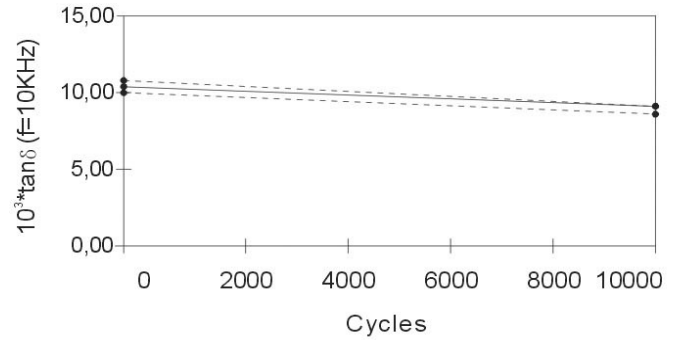
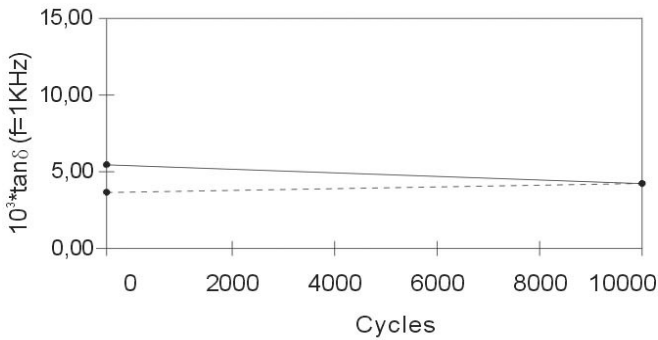
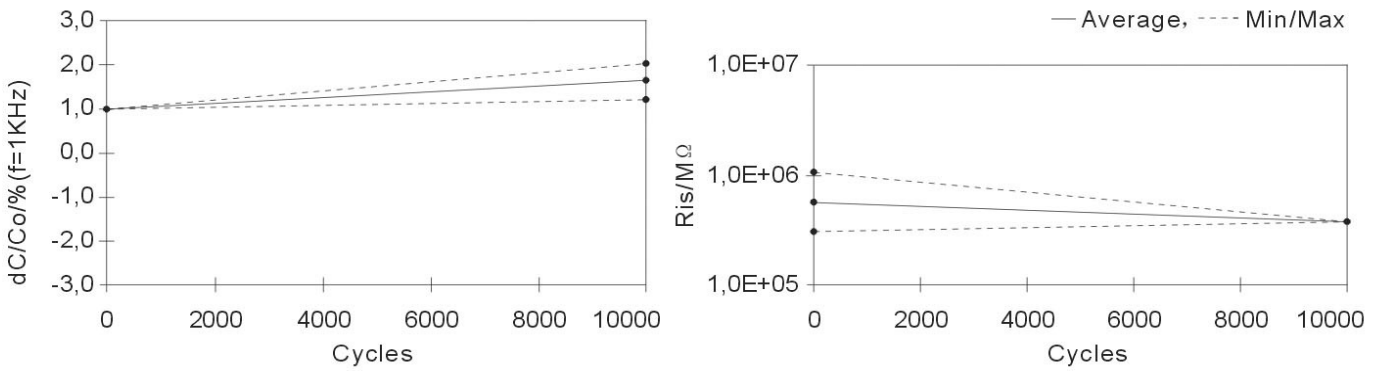
1.Endurance: 100°C, 1.25*Vr
 each hour: V=1000*Vrms, 0.1S
 Cn=220nF, Vr=280VAC

— Average, - - - Min/Max



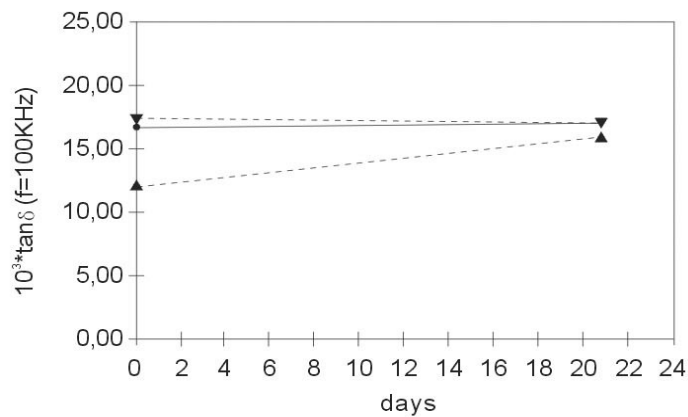
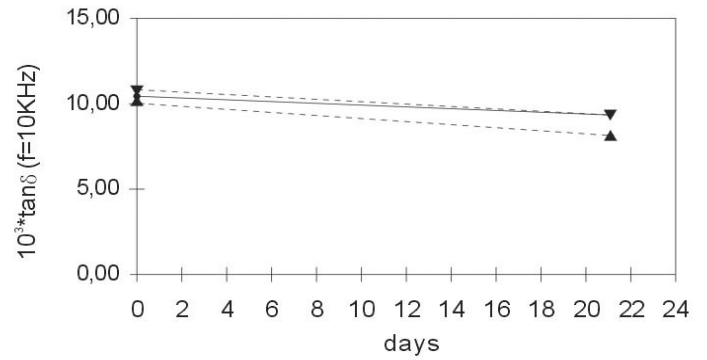
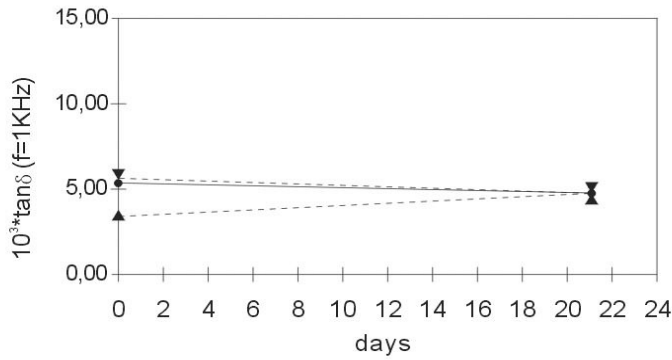
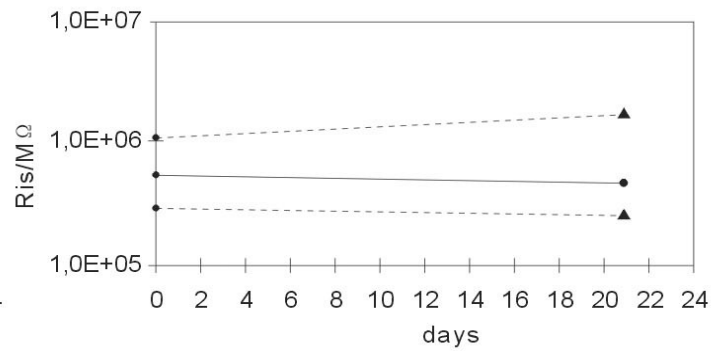
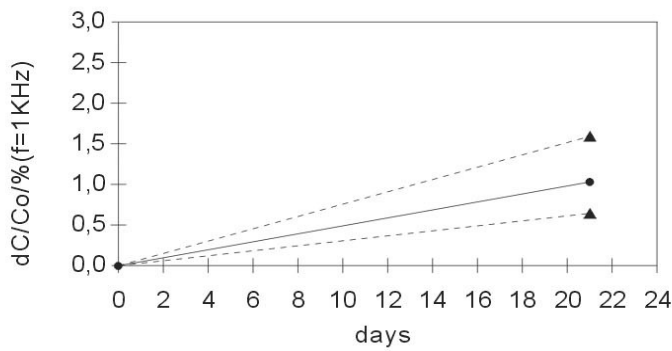
MKP SERIES — X2 CLASS

Charge / discharge(10, 000cycles)



Damp heat test steady state
 40°C, 93% R. H., 21days

— Average, ---- Min/Max



HANWAY TECHNOLOGY (H.K.) LTD.

MKP SERIES — X2 CLASS

Part numbering form:

X2104K280C3

X2 104 K 280 C3
(1-2) (3-5) (6) (7-9) (10-11)

(1-2) Series name	(3-5) Rated capacitance	(6) Capacitance tolerance	(7-9) Rated voltage	(10-11) Case NO.
X2	104 104 = 0.10 μ F	K K = \pm 10% J = \pm 5%	280 280VAC	C3

(1-2)

Series name: MKP-X2
METALLIZED POLYPROPYLENE FILM CAPACITOR

(3-5)

Rated capacitance:

102 = 0.001 μ F

103 = 0.01 μ F

104 = 0.1 μ F

105 = 1.0 μ F

(6)

Capacitance tolerance:
J \pm 5% K \pm 10%

(7-9)

Rated voltage:
280 = 280VAC

(10-11)

Case NO. :
Case size @ P.5



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