

Overview

The MPX2 Series is constructed of metallized polypropylene film encapsulated with self-extinguishing resin in a box of material meeting the requirements of UL 94 V-0.

Typical Applications

Widely used in high frequency , DC , AC and pulse circuits.

Construction

- Dielectric : Polypropylene film
- Electrodes : Metal vapor coating(Zn-Al synthetic)
- Case : Flame-retardant PBT(UL94V-0)
- Epoxy Resin coating(UL94V-0)
- Lead : Tinned copper clad steel wire



1.Specifications

Climatic Category/Passive Flammability Class	40/110/21/C
Operating Temperature Range	-40°C~110°C
Rated Voltage	275VAC (50~60 HZ) 310VAC UL Only
Capacitance Range	0.001 uF (102)~1uF(105)
Capacitance Tolerance	±5%(J),±10%(K),±20%(M)
Insulation Resistance	$C_R \leq 0.33\mu F$ IR $\geq 15,000M\Omega$ $C_R > 0.33\mu F$ IR $\geq 5,000 M\Omega$
Dissipation Factor	0.1%Max,at 1KHz and 25°C

2.Approvals File No

Related Standard		Certificate No	Approved Monogram
UL	UL 60384-14	E147776 (N)	(USA)
VDE	IEC60384-14(ed.3)	40018798	(Germany)
ENEC	IEC60384-14(ed.3)	40018798	(EU)
CQC	GB/T6346.14-2015	CQC17001166233	(China)
FIMKO	EN132400 : 1994 / IEC384-14(II)	306129-6236	(Europeans)
KTL	K60384-14	SU03034-7001 SU03034-7002 SU03034-7003 SU03034-7004	(South Korea)

3.Part No

<A>Series

Code	P1	P2	EB	EC	PC	EF	EM
Series	MPX1	MPX2	MEB	MEC	MPC	MEF	MEM
Code	PP	EN	PN	PS	EI		
Series	MPP	PEN	PPN	PPS	PEI		

 Capacitance

Code	4R7	1R0	220	471	332	472	103	104
Capacitance	4.7PF	1PF	22PF	470PF	3300PF	4700PF	10000PF	100000PF

<C> Rated Voltage

Code	A	B	C	D	E	F	G	H	J	K	L	M
0									6.3			
1	10		16		25		40	50	63	80	12	42
2	100	125	160	200	250	300	400	500	630	800	120	420
3	1000	1250	1600	2000	2500	3000	4000	5000	6300	8000	1200	4200
Code	N	P	Q	R	S	T	U	V	W	X	Y	Z
0				35								
1		240	300	330	440			700		900	18	
2		275	305	350	450			760			180	
3		280	310		480			750			1800	

Explanation: Letter and then number indicate AC , but number and then Letter indicate DC , for example ,2A indicate 100 VDC , A2 indicate 100VAC.

<D> Tolerance

Code	C	D	F	J	K	M	Z	P
Tolerance:	±0.25PF	±0.5PF	±1.0PF	±5%	±10%	±20%	-20/+80%	-0/+100%

<E> Lead forming

Code	1(normal) / 3(Short)	4	8	6	S
Lead Forming					Customer Special Require

<F> Lead Space (mm)

Code	A	B	C	D	E	F	G	H	J	K
Lead Space	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7
Code	L	M	N	P	Q	R	S	T	U	V
Lead Space	7.5	8	8.5	9	9.5	10	12.5	15	17.5	20
Code	W	X	Y	Z	2	3				
Lead Space	22.5	25	27.5	30	31.5	32				

<G> Lead length (mm)

Code	25	30	35	40	45	50	55	60	65	70
Lead length	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7
Code	75	80	85	90	95	A0~A9	B0~B9	CC		
Lead length	7.5	8	8.5	9	9.5	10~19	20~29	Other		

<H> <I> <J> Dimensions (mm):<H>Width ; <I>Height ; <J>Thickness

Code	05	06	01~09
Dimensions	5	6	1~9
Code	11	22	10~99
Dimensions	11	22	10~99

#Round this number to the nearest integer .

#The CODE is only for coding, Dimensions details see item 5.

<K> Packing Style

Code	B	T
Packing Style	Bulk	Taping

<L> Internal control: JEC internal control code

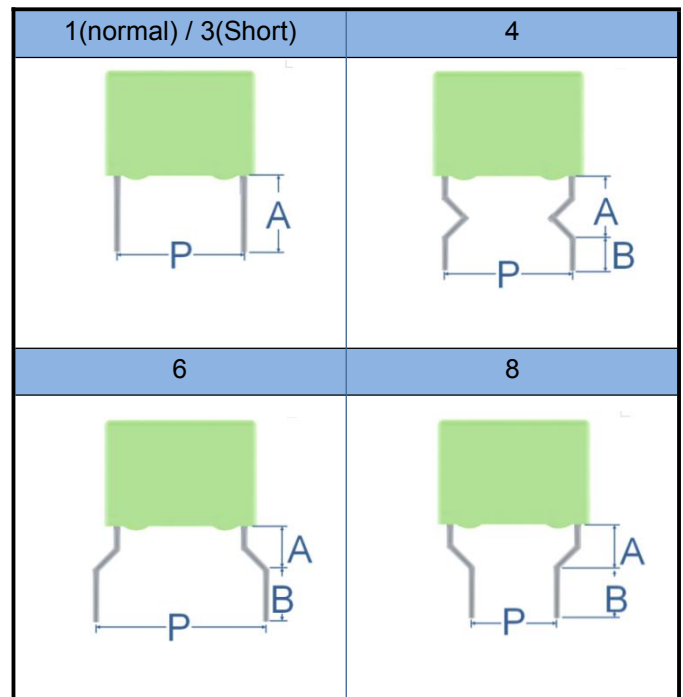
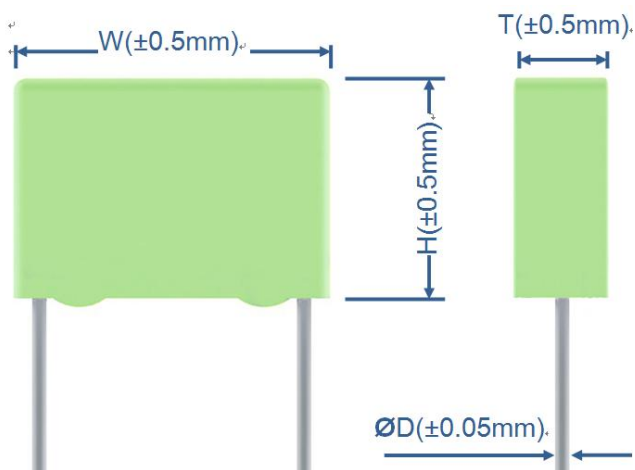
4.Specifications Test Data (IEC60384-14)

No	Test items	Performance	Test Method
1	Withstand voltage (Between Terminals)	Shall be no abnormality	1200VDC Test Of 60sec.
	Between terminal and Enclosure	Shall be no abnormality	UR×200%+1500VAC,60sec.
2	Insulation resistance (Between Terminals)	$C_R \leq 0.33\mu F$ IR $\geq 15,000M\Omega$ $C_R > 0.33\mu F$ IR $\geq 5,000 (M\Omega. \mu F)$	Measured at $100\pm 15VDC$, For 60sec / $25^\circ C$
3	Capacitance	Within the tolerance specified	1KHz, 1Vrms Max. at $25^\circ C$
4	Dissipation Factor	0.001 (0.1%) Max.	1KHz, 1Vrms Max. at $25^\circ C$
5	Tense Strength of Terminal	No wire breakage and No Damage of Capacitor	1. Load Force : 1.0 Kg 2. Holding Time : 10 ± 1 sec
6	Bending Strength of Terminal	No wire breakage and No Damage of Capacitor	1. Load Force : 0.5 Kg 2. Bending Time : $4 \times 90^\circ$ in 5sec
7	Solder-ability	75% Of The Surface Tinning	a. Solder temperature: $270\pm 5^\circ C$ b. Solder time: 2 ± 0.5 sec
8	Heat Shock test	(1) Appearance : No Visible Damage (2) Withstand Voltage : Normal (3) Capacitance Change : $\leq \pm 3\%$ of The Initial Value	The terminal of capacitor shall be immersed in the melting solder. a. Solder temperature: $230\pm 5^\circ C$ b. Solder time: 3 ± 0.5 sec c. Test Voltage: 150% of The Rate Voltage For 1min.
9	Cold Resistance	(1) Appearance : No Visible Damage (2) Capacitance Change : $\leq 0\sim -10\%$ of The Initial Value	a. Test Temperature: $-40^\circ C$ b. Test Times: 2Hrs
10	Dry Heat Resistance	(1) Appearance : No Visible Damage (2) Withstand Voltage : Normal (3) Capacitance Change : $\leq +5\sim -2\%$ Of The Initial Value (4) Insulation Resistance: $\geq 50\%$ of the rated value	a. TEST TEMPERATURE: $110^\circ C \pm 2^\circ C$ b. Test Times: 2Hrs

No	Test items	Performance	Test Method
11	Humidity Resistance	(1) Appearance : No Visible Damage (2) Withstand Voltage : Normal (3) Capacitance Change : $\leq \pm 10\%$ of The Initial Value (4) Insulation Resistance: $\geq 50\%$ of the rated value (5) DF ($\tan\delta$) ≤ 0.001	a. TEST TEMPERATURE: $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ b. RELATIVE HUMIDITY: 90 ~ 95% c. Test Times: 240 \pm 8 HRS
12	Heat Resistance (Charge & Discharge)	(1) Appearance : No Visible Damage (2) DF ($\tan\delta$) ≤ 0.001 (3) Capacitance Change : $\pm 10\%$ of The Initial Value (4) Insulation Resistance: $\geq 50\%$ of the rated value	a. Test Voltage : Rated Voltage Charge for 2 sec. Discharge for 2 sec. Repeated For 1,000 \pm 100cycles b. Test Temperature: $110^{\circ}\text{C} \pm 2^{\circ}\text{C}$
13	Heat Resistance (Continuous)	(1) Appearance : No Visible Damage (2) DF ($\tan\delta$) ≤ 0.001 (3) Capacitance Change : $\pm 7\%$ of The Initial Value (4) Insulation Resistance: $\geq 50\%$ of the rated value	a. Test Voltage : 125% of The Rated Voltage for 1000Vrms for 0.1s every one hour during test. b. Test Temperature: $110^{\circ}\text{C} \pm 2^{\circ}\text{C}$ c. Test Times: 1000 \pm 24Hrs

5. Dimensions

Lead Style:

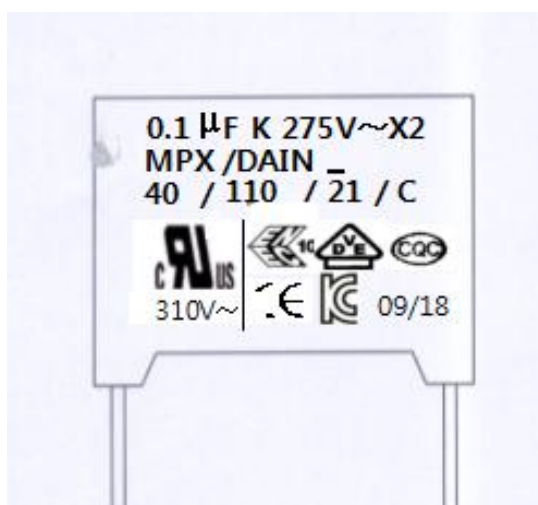


Capacitor Body Size (Unit: mm)

CAP	RV(VAC)	W±0.5	H±0.5	T±0.5	D±0.05	Lead Style	A ±0.5	B ±0.5	P±0.5
105K	275VAC	26.5	19	10	0.8	1	20		22.5

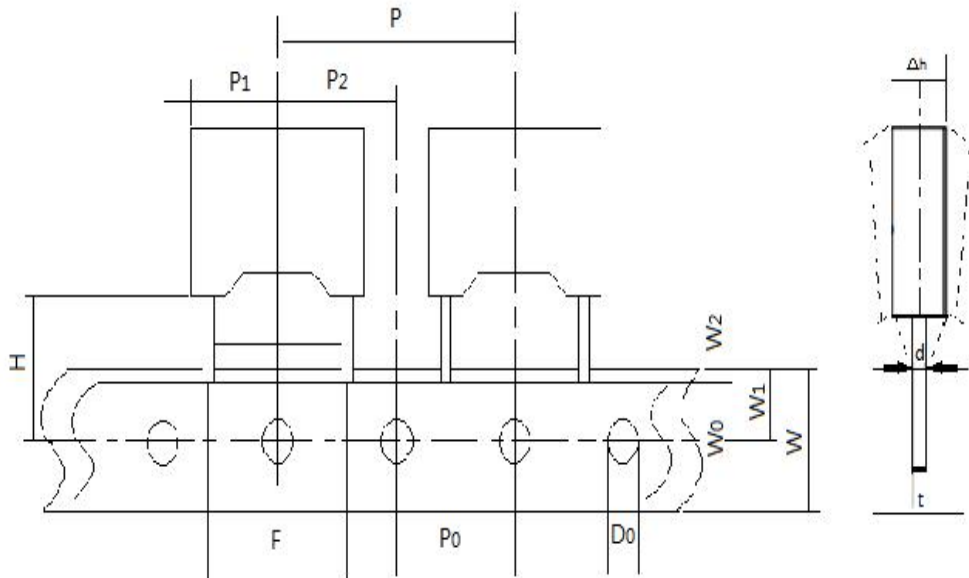
Taping/Customer Require Refer To Next Page

6. Marking



DAIN	DAIN CO. LOGO
MPX	BOX-TYPE METALLIZED POLYPROPYLENE FILM
275V~	RATED VOLTAGE(AC)
X2	TAPE
0.1µF	CAPACITANCE
K	CAPACITANCE TOLERANCE
40/110/21/C	Working Lowest Temperature (- 40°C) Working highest Temperature(+110°C) Working Times (21days) Passive Flammability Class(C)
09/18	Manufacturing Date Cod
Approval Marks	

7. Lead Taping and Packing of Radial Component Robot Insertion Machines



Description	Symbol	Dimensions(mm)	
		Pitch =10mm	Tol.
Lead wire diameter	d	0.6	±0.5mm
Taping Pitch	P	25.4	±1
Feed hole pitch	P0	12.7	±0.2
Centering of the lead wire	P1	5.2	±0.7
Centering of the body	P2	12.7	±1.3
Lead spacing	F	10	±1
Component alignment	Δh	0	±2
Height of component from tape center	H	23	min
Carrier tape width	W	18	+1 -0.5
Hold down tape width	W0	13	min
Hold position	W1	9	±0.5
Hold down tape position	W2	3	max
Feed hold diameter	D0	4	±0.2
Tape thickness	t	0.7	±0.2

8. Storage conditions and duration

Packaged capacitors should be kept in clean, ventilated, dry coffers, not near the heat source, not subject to direct sunlight, is strictly prohibited and chemical reagents, acid and harmful gas storage together.

Capacitor at a temperature within the range 20 ~ 25 °C, humidity less than 50% of the state of storage for one year.