GENERAL INFORMATION

TYPICAL PROPERTIES AND APPLICATIONS.

POLYESTER FILM
Typical Properties:

- High dielectric constant.
- Very good ratio box and dip size capacitance.
- Very wide operating temperature range.
- Good stability.
- Excellent self-healing properties.

Typical Applications:

- Blocking and coupling.
- Decoupling.
- Timing.
- Low filtering.
- By-passing.
- Market sector with professional characteristics.

POLYPROPYLENE FILM
Typical Properties:

- Very low dielectric absorption.
- Good behaviour in frequency.
- Very high insulation resistance.
- Very good stability.
- Excellent self-healing properties.

Typical Applications:

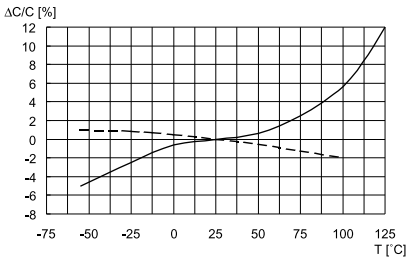
- Pulse applications.
- High current.
- AC Applications.
- SMPS & TV Set.
- Lighting.
- DC-LINK and filtering high Q.
- Timing with high stabililty.
- Industrial.

DIELECTRIC ABSORPTION(DA)
Typical Value 1KHz:

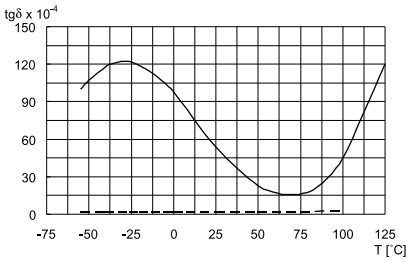
- Polyester: 0.5
- Polypropylene: 0.05

TYPICAL GRAPHS:

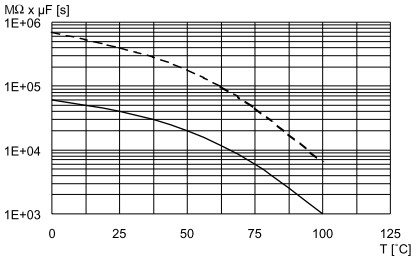
——— Polyester - - - - - - - - Polypropylene



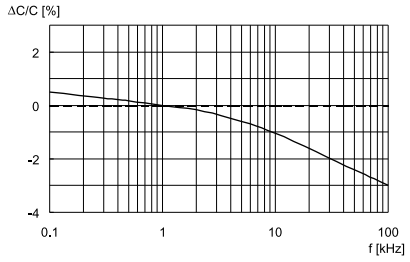
Capacitance change vs. temperature at 1kHz



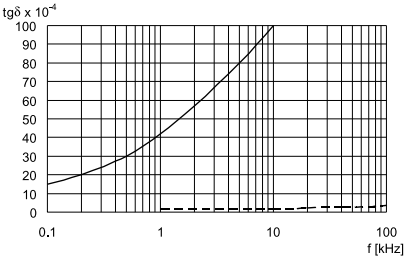
Dissipation factor vs. temperature at 1kHz



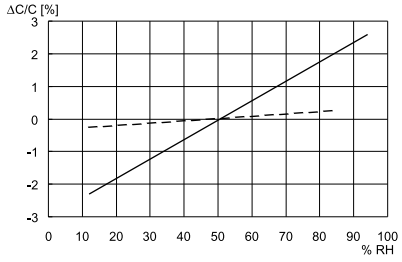
Time constant vs. temperature



Capacitance change vs. frequency (Room temperature)



Dissipation factor vs. frequency (Room temperature)



Capacitance change vs. relative humidity (RH)

Product

PPXD series / Polypropylene(series) Film Capacitors, Resin dipped.
Application:
Specially designed for high frequency. high voltage and high circuit applications such as switching power supplies. Suitable for AC pulses in the horizontal deflection circuit of TV-sets tuning circuit. Sunbber and SCR commutating circuits.

PRODUCT CODE SYSTEM

The part number is for PPXD as follows:

PPXD	☐	☐	☐☐☐☐	☐	☐	☐
1	2	3	4 5 6 7	8	9	10

Digit 1 PPXD Standard Series name.

Digit 2 D.C. rated voltage
Q = 1000Vdc; R =1250Vdc, T = 1600Vdc; U = 2000Vdc.

Digit 3 Pitch: (mm)
I = 15; J = 17.5; K = 20; N = 22.5; M = 25; R = 27.5.

Digit 4 to 7 Digits 5-6-7 indicate the first three digits of capacitance value and 4th digit indicates the number of zeros that must be added to obtain the rated capacitance in pF.

Digit 8 Mechanical version
4 = 18mm Min ; 5 = 25+5mm; J = 4.3±0.3mm; K = 3.2±0.3mm;
C= 5±0.5mm;

Digit 9 Capacitance tolerance:
H = ±3%, J = ±5%; K = ±10%

Digit 10 Internal use

GENERAL TECHNICAL DATA

Dielectric: Polypropylene film

Plates: Aluminum layer deposited by evaporation under vacuum.

Winding: Non-inductive type

Leads: Tinned wire
C
Protection: Flame-retardant epoxy resin coating (UL94V-0).

Marking: Capacitance, tolerance, DC rated voltage and Series name (for pitch = 7.5mm or higher only).

Related standard: IEC 60384-16

Specification of PPXD Series

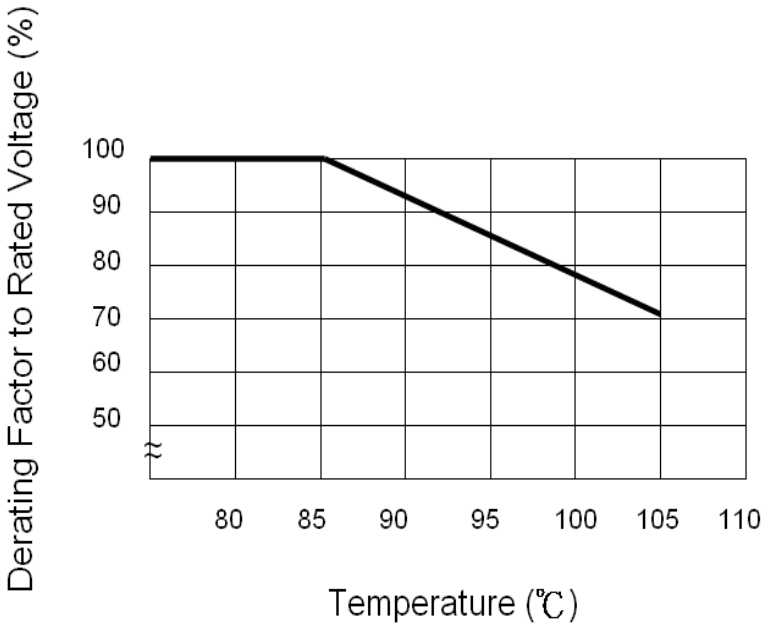
Electrical characteristics

Rated voltage (Vr)	1000V, 1250V, 1600Vdc, 2000Vdc.
Capacitance Range	1000Vdc. 0.001～0.068uf 1250V dc. 0.001～0.033uf 1600Vdc. 0.001～0.022uf 2000Vdc. 0.001～0.015uf
Rated temperature	-40℃ ~ +105℃.
Capacitance tolerance Temperature: +25℃ Frequency: 1KHz.	±3%, ±5%, ±10%,
D.F value Temperature: +25℃	C＞1μF, D.F≦0.001 at 1Khz C≦1μF, D.F≦0.001 at 1Khz and D.F≦0.0025 at 10Khz
Insulation Resistance 100Vdc Temperature: +25℃. Duration: 1 minute.	≧ 30000MΩ for C≦0.33μF. ≧ 10000MΩ for C＞0.33μF.
Dielectric strength	1.6 x Vr applied for 2 sec at +25℃

Temperature derated voltage:

* For temperature between +85℃ and +105℃ decreasing factor of 1.25% at per each 1℃. on the rated voltage Vr (dc & ac). has to applied.

1. When using capacitors at temperatures higher than the normally specified maximum temperature, it is necessary to reduce the working voltage as shown in the figures below.



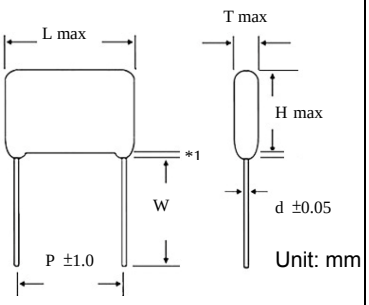
Test Item and performance

Test item	Test condition	Performance
Damp heat, steady state	Temperature: +40℃ Humidity: 93% Duration:	|△C/C| ≦ 3% D.F increase ≦ 0.0005 at 1Khz I.R ≦ 50% of initial value
Dry heat test	Temperature: +85℃ Duration: 16Hrs Removal from chamber for test less 4hrs for temperature recovery	|△C/C| ≦ 3% C＞1μF, D.F change≦0.0005 at 1Khz C≦1μF, D.F change≦0.0008 at 10Khz I.R ≦ 50% of initial value
Cold test	Temperature: -40℃ Duration: 2Hrs Removal from chamber for test less 4hrs for temperature recovery	|△C/C| ≦ 3% C＞1μF, D.F change≦0.0005 at 1Khz C≦1μF, D.F change≦0.0008 at 10Khz I.R ≦ 50% of initial value
Solder ability	Soldering temperature: 230±5℃. Duration: 2±0.5 seconds Dipping/removing speed: 25mm/ sec	Leads shall be covered with solder more than 95%.
Soldering heat resistance	Soldering temperature: 260±5℃. Duration: 10 ± 1 seconds	|△C/C| ≦ 3% C＞1μF, D.F change≦0.0005 at 1Khz C≦1μF, D.F change≦0.0008 at 10Khz I.R ≦ 50% of initial value
Vibration resistance	It should be no short circuits or open circuits in the element and state of the connection shall be stable. It should be no anomalies in appearance after test.	The frequency shall be varied uniformly from 10Hz to 55Hz at 0.75mm amplitude and back to 10Hz in approximately 1 min intervals. The test shall be applied 2 Hrs per each direction, total 6 Hrs.
Termination strength	Without mechanical damage. as break of terminal damage.	The capacitors shall be fixed and unless otherwise specified. a tensile force of 10N shall be gradually applied to the axial of leads. Then maintained for 30±5 seconds.
Load life test (Endurance)	Temperature: +85℃ Test voltage: 1.25x Vr Duration: 500Hrs Removal from chamber for test less 4hrs for temperature recovery	|△C/C| ≦ 3% C＞1μF, D.F change≦0.0005 at 1Khz C≦1μF, D.F change≦0.0008 at 10Khz I.R ≦ 50% of initial value
Long term stability	Temperature: -40℃ ~ +85℃ Humidity≦70% for yearly average Duration≦12 months	|△C/C| ≦ 2%

Specification of PPXD Series

Dimension

Part Number	Cap(μF)	1000Vdc/400vac					
		L	H	T	P	d	dv/dt
MEAQI1100___	0.001	19.0	11.0	5.5	15.0	0.8	26000
MEAQI1120___	0.0012	19.0	11.5	6.0	15.0	0.8	26000
MEAQI1150___	0.0015	19.0	12.0	6.5	15.0	0.8	26000
MEAQI1180___	0.0018	19.0	12.5	7.0	15.0	0.8	26000
MEAQI1220___	0.0022	19.0	13.0	7.0	15.0	0.8	26000
MEAQI1270___	0.0027	19.0	13.5	7.5	15.0	0.8	26000
MEAQI1330___	0.0033	19.0	14.0	8.0	15.0	0.8	26000
MEAQI1390___	0.0039	19.0	14.5	8.5	15.0	0.8	26000
MEAQI1470___	0.0047	19.0	15.5	9.0	15.0	0.8	26000
MEAQK1560___	0.0056	25.0	13.5	8.0	20.0	0.8	11500
MEAQK1680___	0.0068	25.0	14.0	8.0	20.0	0.8	11500
MEAQK1820___	0.0082	25.0	16.0	8.0	20.0	0.8	11500
MEAQK2100___	0.01	25.0	16.5	8.5	20.0	0.8	11500
MEAQK2120___	0.012	25.0	17.0	8.5	20.0	0.8	11500
MEAQM2150___	0.015	31.0	17.0	9.0	25.5	0.8	10500
MEAQM2180___	0.018	31.0	18.5	9.5	25.5	0.8	10500
MEAQM2220___	0.022	31.0	20.0	9.5	25.5	0.8	10500
MEAQM2270___	0.027	31.0	21.0	10.0	25.5	0.8	10500
MEAQM2330___	0.033	31.0	21.5	11.0	25.5	0.8	10500
MEAQM2390___	0.039	31.0	22.0	12.0	25.5	0.8	10500
MEAQM2470___	0.047	31.0	23.0	13.0	25.5	0.8	10500
MEAQR2560___	0.056	32.0	24.5	14.0	27.5	0.8	10500
MEAQR2680___	0.068	32.0	26.0	15.5	27.5	0.8	10500
Part Number	Cap(μF)	1250Vdc/450vac					
		L	H	T	P	d	dv/dt
MEARI1100___	0.001	19.0	11.0	5.5	15.0	0.8	28500
MEARI1120___	0.0012	19.0	11.5	6.0	15.0	0.8	28500
MEARI1150___	0.0015	19.0	12.0	6.5	15.0	0.8	28500
MEARI1180___	0.0018	19.0	12.5	7.0	15.0	0.8	28500
MEARI1220___	0.0022	19.0	13.0	7.0	15.0	0.8	28500
MEARI1270___	0.0027	19.0	13.5	7.5	15.0	0.8	28500
MEARI1330___	0.0033	19.0	14.0	8.0	15.0	0.8	28500
MEARI1390___	0.0039	19.0	14.5	8.5	15.0	0.8	28500
MEARI1470___	0.0047	19.0	15.5	9.0	15.0	0.8	28500
MEARK1560___	0.0056	25.0	13.5	8.0	20.0	0.8	11500
MEARK1680___	0.0068	25.0	14.0	8.0	20.0	0.8	11500
MEARK1820___	0.0082	25.0	16.0	8.0	20.0	0.8	11500
MEARK2100___	0.01	25.0	16.5	8.5	20.0	0.8	11500
MEARK2120___	0.012	25.0	17.0	8.5	20.0	0.8	11500
MEARM2150___	0.015	31.0	17.0	9.0	25.5	0.8	10500
MEARM2180___	0.018	31.0	18.5	9.5	25.5	0.8	10500
MEARM2220___	0.022	31.0	20.0	9.5	25.5	0.8	10500
MEARM2270___	0.027	31.0	21.0	10.0	25.5	0.8	10500
MEARM2330___	0.033	31.0	21.5	11.0	25.5	0.8	10500



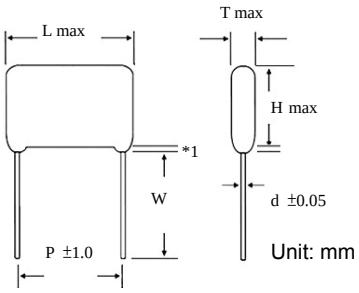
*1 : Max value 1.5mm

W : Please refer to the mechanical version in the product code system.

Specification of PPXD Series

Dimension

Part Number	Cap(μF)	1600Vdc/450vac					
		L	H	T	P	d	dv/dt
MEATK1100___	0.001	25.0	11.5	6.5	20.0	0.8	11500
MEATK1120___	0.0012	25.0	11.5	6.5	20.0	0.8	11500
MEATK1150___	0.0015	25.0	12.5	7.0	20.0	0.8	11500
MEATK1180___	0.0018	25.0	13.5	7.5	20.0	0.8	11500
MEATK1220___	0.0022	25.0	15.0	8.0	20.0	0.8	11500
MEATK1270___	0.0027	25.0	16.0	8.5	20.0	0.8	11500
MEATK1330___	0.0033	25.0	17.0	9.5	20.0	0.8	11500
MEATK1390___	0.0039	25.0	18.5	10.0	20.0	0.8	11500
MEATK1470___	0.0047	25.0	20.0	10.5	20.0	0.8	11500
MEATM1560___	0.0056	31.0	20.0	10.0	25.5	0.8	10500
MEATM1680___	0.0068	31.0	21.0	10.5	25.5	0.8	10500
MEATM1820___	0.0082	31.0	22.0	11.0	25.5	0.8	10500
MEATM2100___	0.01	31.0	23.0	12.0	25.5	0.8	10500
MEATM2120___	0.012	31.0	24.0	13.5	25.5	0.8	10500
MEATM2150___	0.015	31.0	26.0	16.0	25.5	0.8	10500
MEATM2180___	0.018	31.0	28.0	18.0	25.5	0.8	10500
MEATM2220___	0.022	31.0	30.0	20.0	25.5	0.8	10500
Part Number	Cap(μF)	2000Vdc/500vac					
		L	H	T	P	d	dv/dt
MEAUK1100___	0.001	25.0	12.5	7.0	20.0	0.8	11500
MEAUK1120___	0.0012	25.0	13.0	7.5	20.0	0.8	11500
MEAUK1150___	0.0015	25.0	14.0	8.0	20.0	0.8	11500
MEAUK1180___	0.0018	25.0	16.0	8.5	20.0	0.8	11500
MEAUK1220___	0.0022	25.0	17.0	9.0	20.0	0.8	11500
MEAUK1270___	0.0027	25.0	18.0	10.0	20.0	0.8	11500
MEAUK1330___	0.0033	25.0	20.0	10.5	20.0	0.8	11500
MEAUK1390___	0.0039	25.0	21.0	11.0	20.0	0.8	11500
MEAUM1470___	0.0047	31.0	20.0	10.5	25.5	0.8	10500
MEAUM1560___	0.0056	31.0	21.0	11.5	25.5	0.8	10500
MEAUM1680___	0.0068	31.0	22.0	12.0	25.5	0.8	10500
MEAUM1820___	0.0082	31.0	23.0	13.0	25.5	0.8	10500
MEAUM2100___	0.01	31.0	24.0	14.0	25.5	0.8	10500
MEAUM2120___	0.012	31.0	25.5	15.5	25.5	0.8	10500
MEAUM2150___	0.015	31.0	28.0	17.0	25.5	0.8	10500



*1 : Max value 1.5mm

W : Please refer to the mechanical version in the product code system.

Specification of PPXD Series

Soldering suggestions

1. Max soldering temperature:

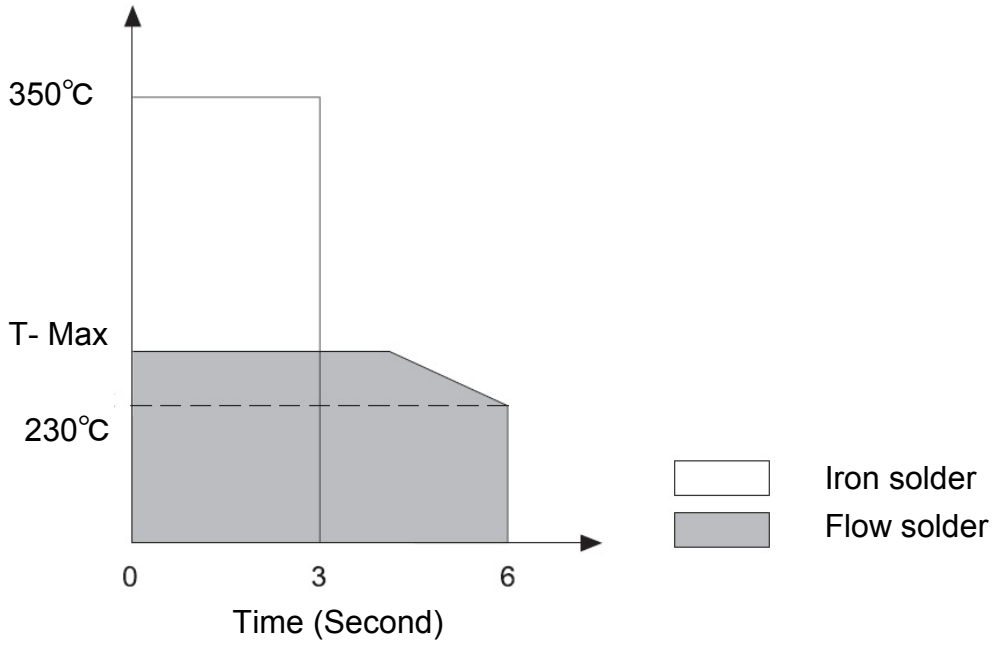
Max temperature (T-Max) for MKT (Pitch ≧ 7.5mm): 265±5℃ for 4 seconds.

Max temperature (T-Max) for MKT (Pitch 5mm): 260℃ for 4 seconds.

Max temperature (T-Max) for MKP: 260℃ for 4 seconds.

Temperature

Pre-Heating	Temperature	Time
	110℃	1 Min
	100℃	1 Min for KP & MKP≦P:7.5mm



2. Additional condition:

If two time soldering are needed, please apply a recovery time until the temperature on the surface of capacitor is below 50℃.

Avoid applying the reflow soldering with both leaded parts and SMD parts.

Storage suggestions:

In order to keep the electrical characteristic of capacitor in line with the specification, please store the capacitors in the following condition:

Storage duration: ≦ 12 months from the date which showed on the label.

Temperature: -40℃ to 80℃.

Humidity: ≦ 70%.

Specification of PPXD Series

Marking:

The marking on each capacitor should contain Capacitance, Tolerance and Rated voltage.

Packing:

For Bulk type, small inner cardboard box / PVC bag with desiccants and label packed in one standard export carton.