GENERAL INFORMATION

TYPICAL PROPERTIES AND APPLICATIONS

POLYESTER FILM

Typical properties:

- very wide operating temperature range
- high dielectric constant
- Excellent self-healing properties
- very good ratio box size/capacitance
- good stability

Typical Applications

- blocking and coupling
- by-passing
- decoupling
- low filtering
- timing
- market sector with professional characteristics

POLYPROPYLENE FILM

Typical properties:

- very low dissipation factor
- very low dielectric absorption
- very high insulation resistance
- good behaviour in frequency
- Excellent self-healing properties.
- very good stability

Typical Applications

- pulse applications
- high current
- A.C. applications
- timing with high stability
- SMPS and TV set
- lighting
- industrial
- filtering high Q

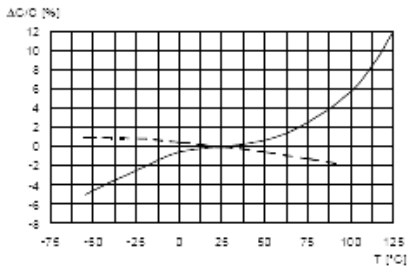
DIELECTRIC ABSORPTION (DA)

Typical value:

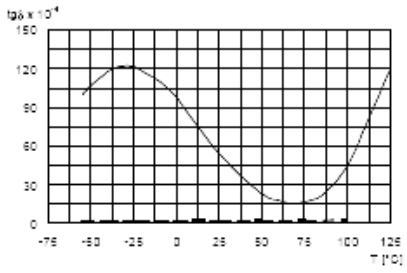
Polyester : 0.5
Polypropylene: 0.05

TYPICAL GRAPHS:

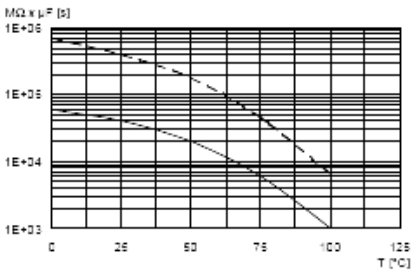
——— Polyester — — — — — Polypropylene



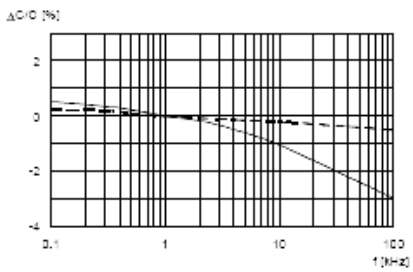
Capacitance change vs. temperature at 1kHz



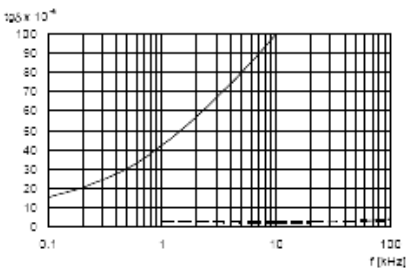
Dissipation factor vs. temperature at 1kHz



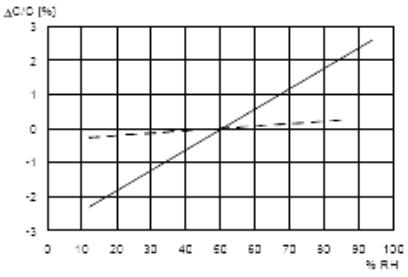
Time constant vs. temperature



Capacitance change vs. frequency (Room temperature)



Dissipation factor vs. frequency (Room temperature)



Capacitance change vs. relative humidity (RH)

Product

MEX series / Metalized Polyester Film Capacitors, Resin dipped.

PRODUCT CODE SYSTEM

The part number is for MEX as follows:

MEX									
1	2	3	4	5	6	7	8	9	10

Digit 1 Series name.

Digit 2 D.C. rated voltage
I = 250V M = 400V X = 450V P = 630V

Digit 3 Pitch: (mm)
C = 5 D = 7.5 F = 10 I = 15 J = 17.5 N = 22.5

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 = 20±2mm ; 5 = 25+5mm; J = 4.3±0.3mm; K = 3.2±0.3mm;

Digit 9 Capacitance tolerance:
J = ±5%; K = ±10%; M = ±20%

Digit 10 Internal use

GENERAL TECHNICAL DATA

Dielectric: Polyester film

Plates: Aluminum layer deposited by evaporation under vacuum.

Winding: Non-inductive type

Leads: Tinned wire

Protection: Flame-retardant epoxy resin coating (UL94V-0).

Marking: Capacitance, tolerance, DC rated voltage and Series name

Related standard: IEC 60384-2

Specification of MEX Series

Electrical characteristics

Rated voltage (Vr)	250Vdc, 400Vdc, 450Vdc, 630Vdc,
Rated temperature	-40℃ ~ +85℃. (+105℃)
Capacitance tolerance Temperature: +25℃ Frequency: 1KHz.	±5%, ±10%, ±20%,
D.F value Temperature: +25℃	C＞1μF, D.F≦0.01 at 1Khz C≦1μF, D.F≦0.01 at 1Khz and D.F≦0.015 at 10Khz
Insulation Resistance 100Vdc Temperature: +25℃. Duration: 1 minute.	≧ 15000MΩ for C≦0.33μF. ≧ 5000MΩ for C＞0.33μF.
Dielectric strength	1.6 x Vr applied for 2 sec at +25℃

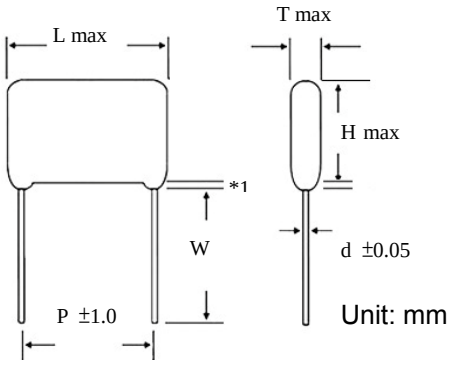
Test Item and performance

Test item	Test condition	Performance
Damp heat, steady state	Temperature: +40℃ Humidity: 93% Duration:	|△C/C| ≦ 5% D.F increase ≦ 0.005 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| ≦ 5% C＞1μF, D.F change≦0.005 at 1Khz C≦1μF, D.F change≦0.008 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| ≦ 5% C＞1μF, D.F change≦0.005 at 1Khz C≦1μF, D.F change≦0.008 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≦0.005 at 1Khz C≦1μF, D.F change≦0.008 at 10Khz I.R ≦ 50% of initial value
Load life test (Endurance)	Temperature: +85℃ Test voltage: 1.10x Vr (500Vdc) Duration: 500Hrs Removal from chamber for test less 4hrs for temperature recovery	|△C/C| ≦ 5% C＞1μF, D.F change≦0.003 at 1Khz C≦1μF, D.F change≦0.005 at 10Khz I.R ≦ 50% of initial value
Long term stability	Temperature: -40℃ ~ +85℃ Humidity≦70% for yearly average Duration≦12 months	|△C/C| ≦ 3%

Specification of MEX Series

Dimension

		250Vdc					400Vdc				
Code	Cap (μF)	L	H	T	P	d	L	H	T	P	d
102	0.001	7.3	6.5	3.7	5	0.6	9.8	5.5	3.5	7.5	0.6
122	0.0012	7.3	6.5	3.7	5	0.6	9.8	5.5	3.5	7.5	0.6
152	0.0015	7.3	6.5	3.7	5	0.6	9.8	5.5	3.5	7.5	0.6
182	0.0018	7.3	6.5	3.7	5	0.6	9.8	5.5	3.5	7.5	0.6
222	0.0022	7.3	6.5	3.7	5	0.6	9.8	5.5	3.5	7.5	0.6
272	0.0027	7.3	6.5	3.7	5	0.6	9.8	5.5	3.5	7.5	0.6
332	0.0033	7.3	6.5	3.7	5	0.6	9.8	6	4.2	7.5	0.6
392	0.0039	7.3	6.5	3.7	5	0.6	9.8	6	4.2	7.5	0.6
472	0.0047	7.3	6.5	3.7	5	0.6	9.8	6	4.2	7.5	0.6
562	0.0056	7.3	6.5	3.7	5	0.6	9.8	6.5	4.2	7.5	0.6
682	0.0068	7.3	6.5	3.7	5	0.6	9.8	6.5	4.4	7.5	0.6
822	0.0082	7.3	6.5	3.7	5	0.6	9.8	6.8	4.4	7.5	0.6
103	0.01	7.3	6.5	3.7	5	0.6	9.8	6.8	3.5	7.5	0.6
123	0.012	7.3	6.5	3.7	5	0.6	9.8	6.8	3.5	7.5	0.6
153	0.015	7.3	6.5	3.7	5	0.6	9.8	6.8	4	7.5	0.6
183	0.018	7.3	6.5	3.7	5	0.6	9.8	6.8	4	7.5	0.6
223	0.022	7.3	6.5	3.7	5	0.6	9.8	6.8	4	7.5	0.6
273	0.027	7.3	6.5	3.7	5	0.6	9.8	6.8	4.2	7.5	0.6
333	0.033	7.3	6.5	3.7	5	0.6	9.8	6.8	4.2	7.5	0.6
393	0.039	7.3	6.8	4	5	0.6	9.8	7	4.2	7.5	0.6
473	0.047	7.3	7	4	5	0.6	9.8	7.2	4.2	7.5	0.6
563	0.056	7.3	7.2	4.3	5	0.6	9.8	8	4.2	7.5	0.6
683	0.068	7.3	7.5	4.6	5	0.6	9.8	8.3	4.4	7.5	0.6
823	0.082	7.3	8	5	5	0.6	9.8	8.6	4.8	7.5	0.6
104	0.1	7.3	8.5	5.5	5	0.6	9.8	10.8	4.5	7.5	0.6
124	0.12	7.3	10.2	5	5	0.6	12.5	10.5	4.2	10	0.6
154	0.15	7.3	11.5	6	5	0.6	12.5	10.7	4.6	10	0.6
184	0.18	9.8	11	4.6	7.5	0.6	12.5	10	5.5	10	0.6
224	0.22	9.8	11.3	5	7.5	0.6	12.5	10.5	5.8	10	0.6
274	0.27	9.8	12	5.5	7.5	0.6	12.5	13.5	5.2	10	0.6
334	0.33	9.8	12.5	6	7.5	0.6	12.5	14.3	5.8	10	0.6
394	0.39	12.5	14	4.3	10	0.6	12.5	14.5	6.3	10	0.6
474	0.47	12.5	14.4	4.8	10	0.6	12.5	15.5	7	10	0.6
564	0.56	12.5	14.8	5.2	10	0.6	17.8	14.3	6	15	0.6
684	0.68	12.5	15.2	5.8	10	0.6	17.8	14.8	6.5	15	0.8
824	0.82	15	15.4	5.5	12.5	0.6	17.8	15.5	7	15	0.8
105	1	15	16	6.2	12.5	0.6	17.8	16.3	7.5	15	0.8
125	1.2	15	16.5	6.8	12.5	0.6	17.8	17	8.5	15	0.8
155	1.5	15	17.5	7.8	12.5	0.6	25.5	16	7.8	22.5	0.8
185	1.8	20.3	16.8	6.6	17.5	0.8	25.5	17	8.3	22.5	0.8
225	2.2	20.3	17.8	7.3	17.5	0.8	25.5	18.8	8.8	22.5	0.8
275	2.7	20.3	18.6	8.3	17.5	0.8	25.5	19.8	10	22.5	0.8
335	3.3	20.3	21	9	17.5	0.8	25.5	21	11	22.5	0.8
395	3.9	20.3	21.8	9.8	17.5	0.8	25.5	22	12	22.5	0.8
475	4.7	20.3	23.8	10.7	17.5	0.8	25.5	23.6	12.5	22.5	0.8
565	5.6	25.5	22.3	10.8	22.5	0.8					
685	6.8	25.5	23.5	12	22.5	0.8					
825	8.2	25.5	25	13.3	22.5	0.8					
106	10	25.5	27.5	13.8	22.5	0.8					

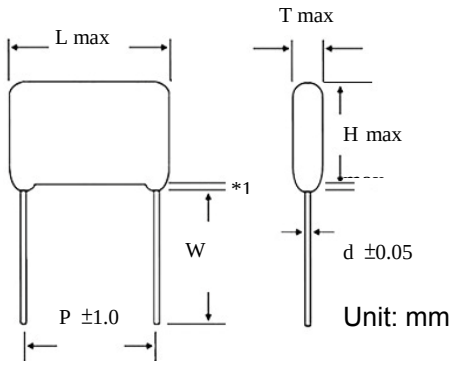


*1 : Max value 1.5mm

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

Specification of MEX Series

		450Vdc					630Vdc				
Code	Cap (μF)	L	H	T	P	d	L	H	T	P	d
102	0.001						9.8	5.5	3.5	7.5	0.6
122	0.0012						9.8	5.5	3.5	7.5	0.6
152	0.0015						9.8	5.5	3.5	7.5	0.6
182	0.0018						9.8	5.5	3.5	7.5	0.6
222	0.0022						9.8	5.5	3.5	7.5	0.6
272	0.0027						9.8	5.5	3.5	7.5	0.6
332	0.0033						9.8	6	4.2	7.5	0.6
392	0.0039						9.8	6	4.2	7.5	0.6
472	0.0047						9.8	6	4.2	7.5	0.6
562	0.0056						9.8	6.5	4.2	7.5	0.6
682	0.0068						9.8	6.5	4.4	7.5	0.6
822	0.0082						9.8	6.8	4.4	7.5	0.6
103	0.01						9.8	7.7	4.2	7.5	0.6
123	0.012						9.8	7.7	4.2	7.5	0.6
153	0.015						9.8	8	4.2	7.5	0.6
183	0.018						9.8	8.3	4.4	7.5	0.6
223	0.022						9.8	8.3	5	7.5	0.6
273	0.027						9.8	8.7	5.5	7.5	0.6
333	0.033						9.8	11.3	5	7.5	0.6
393	0.039						9.8	11.5	5.3	7.5	0.6
473	0.047						9.8	11	6.3	7.5	0.6
563	0.056						12.5	10	5.5	10	0.6
683	0.068						12.5	10.5	5.8	10	0.6
823	0.082						12.5	10.8	6	10	0.6
104	0.1	9.8	10.8	4.5	7.5	0.6	12.5	13.8	5.8	10	0.6
104	0.1	12.5	9.5	5	10	0.6					
124	0.12	12.5	10.5	4.2	10	0.6	12.5	14.3	6.3	10	0.6
154	0.15	12.5	10.7	4.6	10	0.6	12.5	13.8	7.7	10	0.6
184	0.18	12.5	10	5.5	10	0.6	12.5	15	8.3	10	0.6
224	0.22	12.5	10.5	5.8	10	0.6	12.5	15.8	9	10	0.6
274	0.27	12.5	13.5	5.2	10	0.6	17.8	14.3	7.5	15	0.8
334	0.33	12.5	14.3	5.8	10	0.6	17.8	14.8	8	15	0.8
394	0.39	12.5	14.5	6.3	10	0.6	17.8	16.5	8	15	0.8
474	0.47	12.5	15.5	7	10	0.6	17.8	17.3	9	15	0.8
474	0.47	17.8	13.5	6	15	0.6					
564	0.56	17.8	14.3	6	15	0.6	17.8	19.3	9.5	15	0.8
684	0.68	12.5	17	8.5	10	0.6	17.8	20.3	10.5	15	0.8
684	0.68	17.8	14.8	6.5	15	0.8					
824	0.82	13	18.5	8.5	10	0.8	25.5	19.8	8.5	22.5	0.8
824	0.82	17.8	15.5	7	15	0.8					
105	1.0	13	19	9	10	0.8					
105	1.0	17.8	16.3	7.5	15	0.8	25.5	20.8	9.5	22.5	0.8
125	1.2	17.8	17	8.5	15	0.8	25.5	21.8	10.5	22.5	0.8
155	1.5	25.5	16	7.8	22.5	0.8	25.5	23	11.8	22.5	0.8
185	1.8	25.5	17	8.3	22.5	0.8	25.5	24.3	13.5	22.5	0.8
225	2.2	17.8	20.5	12.3	15	0.8					
225	2.2	25.5	18.8	8.8	22.5	0.8	25.5	26.8	14.3	22.5	0.8



*1 : Max value 1.5mm

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

Rated Cap	500Vdc						Part Number
	L max	H max	T max	P	F	φd	
5.0uF	29.0	25.5	15.3	26.0	NA	1.0	MEXXW4500---

Specification of MEX Series

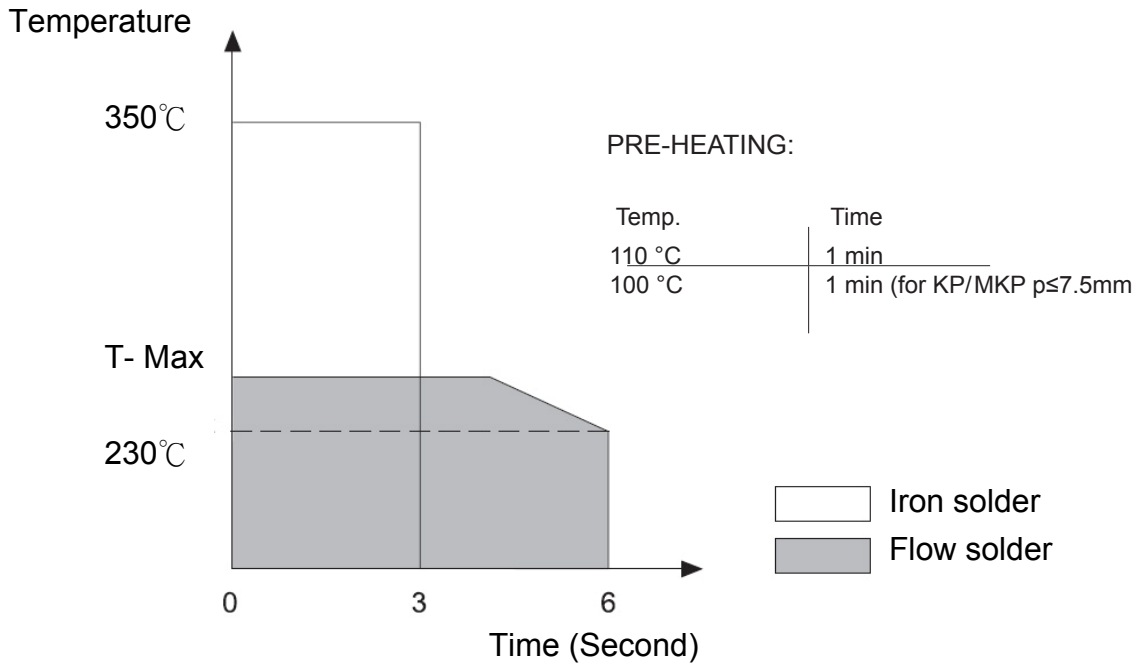
Soldering suggestions

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.



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 MEX 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.