

1. Application

This specification applied to capacitor for type MEF(Metallized Polyester Film Capacitor)

Flame retardant Epoxy resin coating (UL 94 V-0)

Reference Standard GB 7332 (IEC 60384-2)

2. Feature:

Metallized polyester film, flame retardation epoxy

coating provides safety resin

Wide capacitance range, small size and light weight

Long life due to self-healing effect

Suitable for blocking, by-pass and coupling of DC and signals to VHF range

Widely used in filter and low pulse circuits

3. Part Number System

$\frac{\square\square\square\square}{1}$ (tape) (Internal use)
 $\frac{\square}{2}$ (capacitance)
 $\frac{\square\square\square}{3}$ (tolerance)
 $\frac{\square}{4}$ (rated voltage)
 $\frac{\square\square}{5}$ (Voltage)
 $\frac{\square}{6}$ (lead forming)
 $\frac{\square\square}{7}$ (lead pitch)
 $\frac{\square\square}{8}$ (lead length)

3-1 tape :

Code	CMEF	CMPP
Tape	MEF	MPP

3-2 Internal use

3-3 Capacitance :

Code	102	103	104	105	106
Capacitance	0.001 μ F	0.01 μ F	0.1 μ F	1 μ F	10 μ F

3-4 Tolerance :

Code	G	H	J	K	M
Tolerance	$\pm 2\%$	$\pm 3\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$

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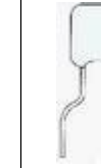
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3-5 Rated Voltage :

Code	1H	1J	2A	2E	2G	2W	2J
Voltage	50	63	100	250	400	450	630

3-6 Voltage : D→DC A→AC

3-7 Lead forming :

Code	B	K	R	U	W	T
Lead Forming						Taping

3-8 Lead Pitch :

Code	07	10	15	20	27	31
Pitch(mm)	7.5mm	10mm	15mm	20mm	27.5mm	31mm

3-9 Lead length :

Code	04	08	10	13	23	24	40
Length(mm)	4mm	8mm	10mm	13mm	23mm	24mm	40mm

4. Specifications

Rated Temperature Range	85℃					
Rated Temperature Range	-55℃~ 105℃ (+85℃ to +105℃ decreasing factor 1.25% per ℃ for VR(DC))					
Rated Voltage	50/63/100V、250V、400V、630V					
Capacitance Range	0.010μF ~ 10.0μF					
Capacitance Tolerance	±2%(G)、±5%(J)、±10%(K)					
Voltage Proof	Terminal to Terminal:(at20±5℃) 1.6U _R (5s) (cut off current 10mA)					
Dissipation Factor	≤1.0% (20℃,1kHz)					
Insulation Resistance	U _R ≤100VDC:≥15000MΩ,C _R ≤0.33μF ; ≥5000s,,C _R >0.33μF (20℃,10V,1min) U _R > 100VDC: > 30000MΩ,,C _R ≤0.33μF ; ≥10000s,,C _R >0.33μF (20℃,100V,1min)					
Maximum Pulse Slope dv/dt (V/μs)	V.R	P=7.5mm	P=10mm	P=15mm	P=20mm	P=27.5mm
	50/63VDC	20				
	100VDC	35	30	20	10	5
	250VDC		110	45	20	15
	400VDC		160	65	30	25
	630VDC		200	90	35	30

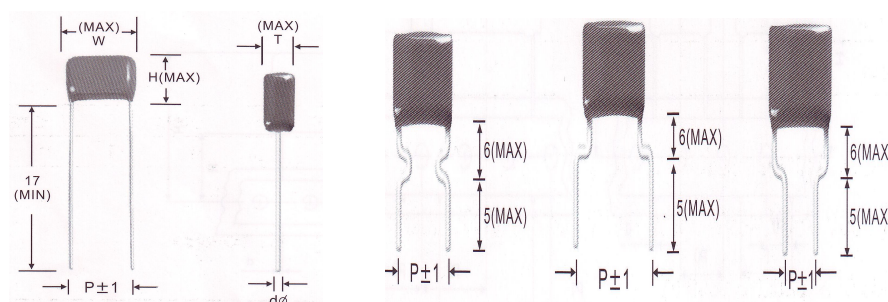
5. Characteristics (IEC60384-2)

No	Test items	Performance	Test Method
5.1	Withstand voltage (Between Terminals)	Shall be no abnormality	150% Of Rated Voltage, 60sec.
	Between terminal and Enclosure	Shall be no abnormality	$U_R \times 200\% + 1000VDC$, 60sec.
5-2	Capacitance	Within the tolerance specified	1KHz, 1Vrms Max. at 25°C
5-3	Tense Strength of Terminal	No wire breakage and No Damage of Capacitor	1. Load Force : 1.0 Kg 2. Holding Time : 10 ± 1 sec
5-4	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
5-5	Solder-ability	1. Appearance : No Visible Damage 2. Covering an area of > solder 95%	Soldering Peocess 1.Capacitor preheating temperature of $T < 120^\circ C$ 2.Preheating time capacitor $t < 5$ min Single wave soldering 1.Solder temperature: $270 \pm 5^\circ C$ 2.Solder time: 2 ± 0.5 sec
5-6	Heat Shock test	Appearance : No Visible Damage Withstand Voltage : Normal Capacitance Change : $\leq \pm$ 3% of The Initial Value	The terminal of capacitor shall be immersed in the melting solder. a. Solder temperature: $270 \pm 5^\circ C$ b. Solder time: 3 ± 0.5 sec c. Test Voltage: 100% of The Rate Voltage For 1min.
5-7	Cold Resistance	Appearance : No Visible Damage Capacitance Change : $\leq 0 \sim$ -10%of The Initial Value	a. Test Temperature: $-40^\circ C$ b. Test Times: 2Hrs

No	Test items	Performance	Test Method
5.8	Dry Heat Resistance	Appearance : No Visible Damage Withstand Voltage : Normal Capacitance Change : $\leq +5\sim -2\%$ Of The Initial Value	a. Test Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ b. Test Times: 2Hrs
5.9	Humidity Resistance	Appearance : No Visible Damage Withstand Voltage : Normal Capacitance Change : $\leq \pm 10\%$ of The Initial Value (4) Insulation Resistance: $\geq 50\%$ of the rated value (5) DF ($\tan\delta$) ≤ 0.01	a. Test Temperature: $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ b. Relative Humidity: 90 ~ 95% c. Test Times: 240 $\pm$ 8 HRS d. Test Voltage: 125% of The Rated Voltage for 1 min.
5.10	Heat Resistance (Charge & Discharge)	Appearance : No Visible Damage (2) DF ($\tan \delta$) ≤ 0.01 (3) Capacitance Change : $\pm 10\%$ of TheInitial Value (4) Insulation Resistance: $\geq 50\%$ of the rated value	a. Test Voltage : Rated Voltage Charge for 2sec. Discharge for 2 sec. Repeated For 1000 $\pm$ 100 cycles b. Test Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$
5.11	Heat Resistance (Continuous)	Appearance : No Visible Damage (2) DF ($\tan \delta$) ≤ 0.01 (3) Capacitance Change : $\pm 10\%$ of The Initial Value (4) Insulation Resistance: $\geq 50\%$ of the rated value	a. Test Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ b. Test Times: 500 $\pm$ 24Hrs c. Test Voltage: 125% of The Rated Voltage

6 Dimensions(mm)

6.1 Outline Drawing



6.2 Case size:

μF	50/63/100VDC					250VDC				
	W Max	H Max	T Max	P ± 1	d ± 0.1	W Max	H Max	T Max	P ± 1	d ± 0.1
0.010	10.0	9.5	5.5	7.5	0.6	10.0	9.5	5.5	7.5	0.6
0.012	10.0	10.0	6.0	7.5	0.6	10.0	10.0	6.0	7.5	0.6
0.015	10.0	10.0	6.0	7.5	0.6	10.0	10.0	6.0	7.5	0.6
0.018	10.0	10.5	6.5	7.5	0.6	10.0	10.5	6.5	7.5	0.6
0.022	10.0	9.5	5.5	7.5	0.6	10.0	9.5	5.5	7.5	0.6
0.027	10.0	10.0	5.5	7.5	0.6	10.0	10.0	6.0	7.5	0.6
0.033	10.0	9.0	5.0	7.5	0.6	10.0	9.0	5.0	7.5	0.6
0.039	10.0	9.5	5.0	7.5	0.6	10.0	9.5	5.0	7.5	0.6
0.047	10.0	9.5	5.5	7.5	0.6	10.0	9.5	5.5	7.5	0.6
0.056	10.0	10.0	5.5	7.5	0.6	10.0	10.0	6.0	7.5	0.6
0.068	10.0	9.5	5.5	7.5	0.6	10.0	9.5	5.5	7.5	0.6
0.082	10.0	9.5	6.0	7.5	0.6	10.0	9.5	6.0	7.5	0.6
0.10	10.0	9.0	5.0	7.5	0.6	10.0	10.0	6.0	7.5	0.6
0.12	10.0	9.0	5.0	7.5	0.6	10.0	10.5	6.5	7.5	0.6
0.15	10.0	9.0	5.0	7.5	0.6	10.0	11.0	7.0	7.5	0.6
0.18	10.0	9.5	5.5	7.5	0.6	12.0	11.0	6.0	10.0	0.6
0.22	10.0	10.0	6.0	7.5	0.6	12.0	11.5	6.5	10.0	0.6
0.27	10.0	10.0	6.0	7.5	0.6	12.0	12.0	7.0	10.0	0.6
0.33	12.0	10.5	6.0	10.0	0.6	12.0	13.0	7.0	10.0	0.6
0.39	12.0	11.0	6.0	10.0	0.6	17.5	12.5	6.5	15.0	0.6
0.47	12.0	11.5	6.5	10.0	0.6	17.5	13.0	7.0	15.0	0.8
0.56	12.0	12.0	7.0	10.0	0.6	17.5	13.0	7.5	15.0	0.8
0.68	17.5	12.0	6.5	15.0	0.6	17.5	14.0	8.0	15.0	0.8
0.82	17.5	13.0	7.0	15.0	0.6	17.5	14.5	9.0	15.0	0.8
1.0	17.5	13.0	7.5	15.0	0.8	17.5	15.0	9.5	15.0	0.8
1.2	17.5	14.0	8.0	15.0	0.8	24.0	14.5	9.0	20.0	0.8
1.5	17.5	14.5	9.0	15.0	0.8	17.5	15.0	7.5	15.0	0.8
1.8	17.5	15.0	9.5	15.0	0.8	23.0	17.0	10.0	20.0	0.8
2.2	23.0	15.5	8.5	20.0	0.8	23.0	18.0	10.5	20.0	0.8
2.7	23.0	16.0	9.0	20.0	0.8	23.0	19.0	12.0	20.0	0.8
3.3	23.0	17.0	10.0	20.0	0.8	28.0	19.0	11.5	25.0	0.8
3.9	23.0	18.0	10.5	20.0	0.8	28.0	19.5	12.0	25.0	0.8
4.7	28.0	18.0	10.5	25.0	0.8	28.0	21.0	13.5	25.0	0.8
5.6	28.0	18.5	11.0	25.0	0.8	34.0	20.5	13.0	31.0	0.8
6.8	28.0	19.5	12.0	25.0	0.8	34.0	22.5	14.0	31.0	0.8
8.2	28.0	20.5	13.0	25.0	0.8	34.0	24.0	15.0	31.0	0.8
10.0	28.0	22.0	14.5	25.0	0.8	34.0	25.5	16.5	31.0	0.8

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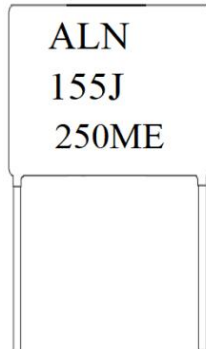
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μF	400VDC					630VDC				
	W Max	H Max	T Max	P $\pm$ 1	d $\pm$ 0.1	W Max	H Max	T Max	P $\pm$ 1	d $\pm$ 0.1
0.010	10.0	9.5	5.5	7.5	0.6	12.0	9.0	5.0	10.0	0.6
0.012	10.0	10.0	6.0	7.5	0.6	12.0	9.0	5.0	10.0	0.6
0.015	10.0	10.0	6.0	7.5	0.6	12.0	9.5	5.5	10.0	0.6
0.018	10.0	10.5	6.5	7.5	0.6	12.0	10.0	6.0	10.0	0.6
0.022	10.0	9.5	5.5	7.5	0.6	12.0	11.0	6.0	10.0	0.6
0.027	10.0	10.0	6.0	7.5	0.6	12.0	10.5	6.5	10.0	0.6
0.033	10.0	10.0	6.0	7.5	0.6	12.0	11.0	7.0	10.0	0.6
0.039	10.0	10.5	6.5	7.5	0.6	12.0	11.5	7.0	10.0	0.6
0.047	10.0	11.0	7.0	7.5	0.6	15.5	12.0	7.0	12.5	0.6
0.056	12.0	11.0	6.0	10.0	0.6	15.5	12.5	7.5	12.5	0.6
0.068	12.0	11.5	6.5	10.0	0.6	15.5	13.0	8.0	12.5	0.6
0.082	12.0	12.0	7.0	10.0	0.6	15.5	13.5	8.5	12.5	0.6
0.10	12.0	12.0	7.0	10.0	0.6	17.5	14.0	8.0	15.0	0.8
0.12	12.0	13.0	8.0	10.0	0.6	17.5	14.5	9.0	15.0	0.8
0.15	17.5	12.0	7.5	15.0	0.6	17.5	15.0	9.5	15.0	0.8
0.18	17.5	13.0	8.0	15.0	0.6	17.5	16.0	10.0	15.0	0.8
0.22	17.5	14.0	8.0	15.0	0.6	17.5	17.0	11.0	15.0	0.8
0.27	17.5	14.5	9.0	15.0	0.6	23.0	17.0	10.0	20.0	0.8
0.33	17.5	15.0	9.5	15.0	0.8	23.0	18.0	10.5	20.0	0.8
0.39	17.5	16.0	10.0	15.0	0.8	23.0	19.0	11.5	20.0	0.8
0.47	17.5	17.0	11.0	15.0	0.8	28.0	19.0	10.5	25.0	0.8
0.56	24.0	16.0	10.0	20.0	0.8	28.0	20.0	11.0	25.0	0.8
0.68	24.0	17.0	11.0	20.0	0.8	28.0	21.0	12.5	25.0	0.8
0.82	24.0	18.0	12.0	20.0	0.8	28.0	22.5	13.5	25.0	0.8
1.0	17.5	13	8.0	15.0	0.8	34.0	22.5	13.5	31.0	0.8
1.2	23.0	19.0	12.0	25.0	0.8	34.0	23.5	15.0	31.0	0.8
1.5	23.0	20.5	13.0	25.0	0.8	34.0	25.0	16.0	31.0	0.8
1.8	34.0	21.0	12.5	31.0	0.8	34.0	27.0	18.0	31.0	0.8
2.2	34.0	22.2	14.0	31.0	0.8	34.0	28.5	20.0	31.0	0.8
2.7	34.0	24.0	15.0	31.0	0.8					
3.3	34.0	25.5	17.0	31.0	0.8					
3.9	34.0	27.0	18.0	31.0	0.8					
4.7	34.0	29.0	20.0	31.0	0.8					

Note: Capacitors of Special Specification are made according to customer's need

7. Marking:



ALN	Aillen
155	CAPACITANCE
J	CAPACITANCE TOLERANCE
250	RATED VOLTAGE
ME	METALLIZED POLYESTER FILM

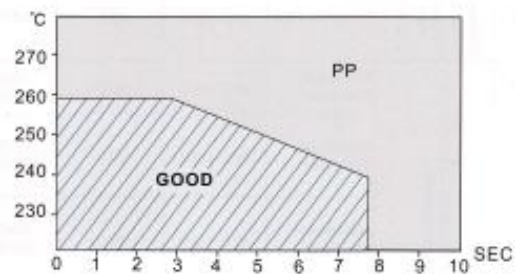
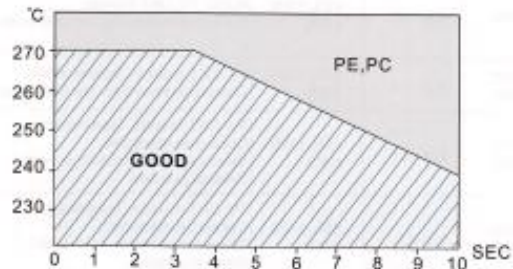
8. Storage conditions and duration

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.

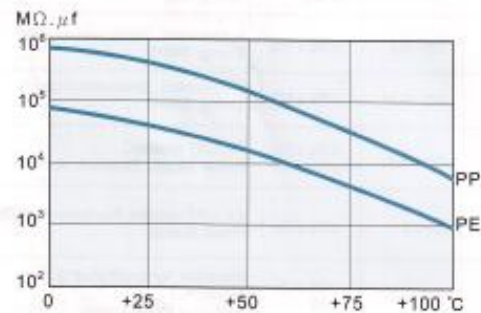
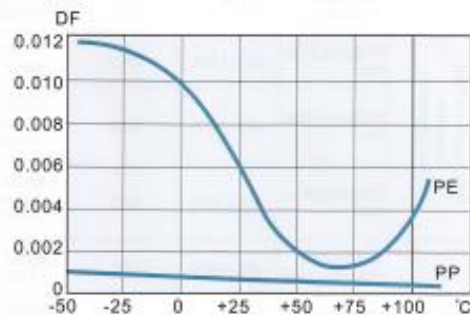
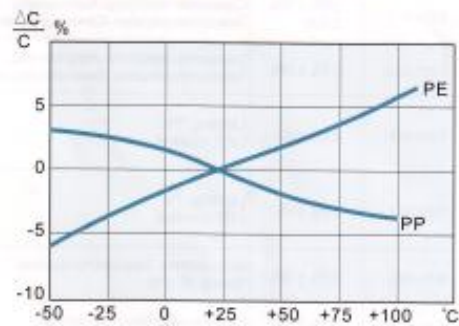
Capacitor at a temperature within the range 20 ~ 25 °C, humidity less than 50% of the state of storage for one year.

9. Typical graphs

Soldering Temperature VS Time



Temperature Characteristics



PP: 聚丙烯薄膜 (Polypropylene Film)

PE: 聚酯薄膜 (Polyester Film)

Frequency Characteristics

