

METALLIZED POLYESTER FILM CAPACITOR

CL21

FEATURES

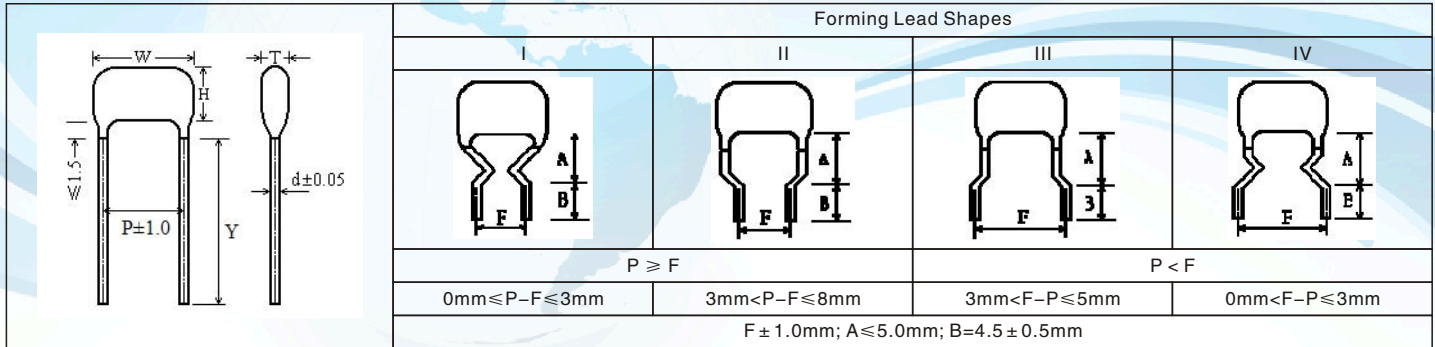
- Metallized polyester film, non-inductive wound construction
- Wide capacitance range, small size and light weight
- Long life due to self-healing effect
- Flame retardation epoxy resin powder coated

TYPICAL APPLICATIONS

- Suitable for blocking, by-pass and coupling of DC and signals
- Widely used in filter and low pulse circuits



OUTLINE DRAWING



SPECIFICATIONS

Reference Standard	GB/T 7332 (IEC 60384-2)	
Climatic Category	55/105/21	
Rated temperature	85°C	
Operating temperature range	-55°C ~ 105°C (+85°C to +105°C: decreasing factor 1.25% per °C for VR(dc))	
Rated Voltage	50/63V, 100V, 250V, 400V, 630V	
Capacitance Range	0.010 μF ~ 10.0 μF	
Capacitance Tolerance	± 5%(J), ± 10%(K), ± 20%(M)	
Voltage Proof	1.6U _R (5s)	
Dissipation Factor	≤ 1.0% (20°C, 1kHz)	
Insulation Resistance	UR ≤ 100V	≥ 15 000MΩ, CR ≤ 0.33 μF; (20°C, 10V, 1min)
		≥ 5 000s, CR > 0.33 μF
	UR > 100V	≥ 30 000MΩ, CR ≤ 0.33 μF; (20°C, 100V, 1min)
		≥ 10 000s, CR > 0.33 μF;

TEST METHOD AND PERFORMANCE

No.	Item	Performance	Test method (IEC60384-2)
1	Solderability	Good quality of tinning	Solder temperature: 245°C ± 5°C Immersion time: 2.0s ± 0.5s
2	Initial measurement	Capacitance Tg δ : 1kHz, C > 1.0 μF 10kHz, C ≤ 1.0 μF	
	Terminal strength	There shall be no visible damage	Ref. item 4.3 Tension: 0.6 ≤ φ d ≤ 0.8mm, 10N φ d = 1.0mm, 20N Bend: 0.6 ≤ φ d ≤ 0.8mm, 5N φ d = 1.0mm, 10N The terminals shall be bent 2 times in each direction.
	Resistance to solder heat	There shall be no visible damage	Solder temperature: 260°C ± 5°C Immersion time: 10s ± 1s
	Final measurement	Δ C/C ≤ ± 2% (relative to the initial value) Increase of tg δ : ≤ 0.005 (10kHz, C ≤ 1.0 μF) ≤ 0.003 (1kHz, C > 1.0 μF)	
3	Initial measurement	Capacitance Tg δ : 1kHz, C > 1.0 μF 10kHz, C ≤ 1.0 μF	
	Rapid change of temperature	There shall be no evidence of deterioration.	θ A = -55°C, θ B = +85°C 5 cycles, Duration: t = 30min
	Vibration	There shall be no evidence of deterioration.	Amplitude 0.75mm or acceleration 98m/s ² (whichever is the smaller severity), f: 10Hz to 500Hz. Three directions, 2h for each direction, total 6h.

No.	Item	Performance	Test method (IEC60384-2)
3	Bump	There shall be no evidence of deterioration.	4 000 times, Acceleration: 390m/s ² , Pulse duration, 6ms
	Final measurement	$\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of $\text{tg } \delta$: ≤ 0.003 (10kHz, $C \leq 1.0 \mu\text{F}$) ≤ 0.002 (1kHz, $C > 1.0 \mu\text{F}$) IR: $\geq 50\%$ of the rated value	
4	climate sequence	Initial measurement	Capacitance $\text{Tg } \delta$: 1kHz, $C > 1.0 \mu\text{F}$ 10kHz, $C \leq 1.0 \mu\text{F}$
		Dry heat	+85°C, 16h
		Damp heat, Cyclic	Test Db, Severity: b, the first cycle
		Cold	-55°C, 2h
		Low air pressure	There shall be no permanent breakdown, flashover or other harmful deformation when applying UR at the last 1 minute.
	Damp heat, cyclic other	15°C~35°C, 8.5kPa, 1h, Test Db, Severity b, the other cycles, Applying U_r for 1 minute after the test finished.	
Climate sequence (continue)	Final measurement	There shall be no evidence of deterioration and the marking shall be legible. $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of $\text{tg } \delta$: ≤ 0.005 (10kHz, $C \leq 1.0 \mu\text{F}$) ≤ 0.003 (1kHz, $C > 1.0 \mu\text{F}$) IR: $\geq 50\%$ of the rated value	
5	Damp heat steady state	There shall be no evidence of deterioration and the marking shall be legible. $\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of $\text{tg } \delta \leq 0.005$ IR: $\geq 50\%$ of the rated value	Temperature: 40°C $\pm 2^\circ\text{C}$ Humidity: 93 $^{+2}_{-3}$ RH Duration: 21 days
6	Endurance	$\Delta C/C \leq \pm 8\%$ (relative to the initial value) Increase of $\text{tg } \delta$: ≤ 0.003 (10kHz, $C \leq 1.0 \mu\text{F}$) ≤ 0.002 (1kHz, $C > 1.0 \mu\text{F}$) IR: $\geq 50\%$ of the rated value	Temperature: +85°C Voltage: $1.25 \times U_r$ Duration: 2 000h
7	Charging and discharging	$\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of $\text{tg } \delta$: ≤ 0.003 (10kHz, $C \leq 1.0 \mu\text{F}$) ≤ 0.002 (1kHz, $C > 1.0 \mu\text{F}$) IR: $\geq 50\%$ of the rated value	Times: 10 000 Duration of charging: 0.5s Duration of discharging: 0.5s Charging voltage: rated voltage Charging resistance: $220/C_r(\Omega)$ Discharging resistance: $R=10/C_r(\Omega)$ or 20Ω (whichever is the greater) C_r : rated capacitance (μF)