

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

	Forming Lead Shapes			
	I	II	III	IV
	P ≥ F		P < F	
	0mm ≤ P-F ≤ 3mm	3mm < P-F ≤ 8mm	3mm < F-P ≤ 5mm	0mm < F-P ≤ 3mm
F ± 1.0mm; A ≤ 5.0mm; B = 4.5 ± 0.5mm				

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	0.010μF ~ 10.0μF		
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 ≤ 0.33μF; (20°C, 10V, 1min)	
		≥5 000s, CR > 0.33μF	
	UR > 100V	≥30 000MΩ, CR ≤ 0.33μF; (20°C, 100V, 1min)	
		≥10 000s, CR > 0.33μF	

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 Tgδ: 1kHz, C > 1.0μF 10kHz, C ≤ 1.0μF	
	Terminal strength	There shall be no visible damage	Ref. item 4.3 Tension: 0.6 ≤ φd ≤ 0.8mm, 10N φd = 1.0mm, 20N Bend: 0.6 ≤ φd ≤ 0.8mm, 5N φd = 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	ΔC/C ≤ ±2% (relative to the initial value) Increase of tgδ: ≤ 0.005 (10kHz, C ≤ 1.0μF) ≤ 0.003 (1kHz, C > 1.0μF)	
3	Initial measurement	Capacitance Tgδ: 1kHz, C > 1.0μF 10kHz, C ≤ 1.0μF	
	Rapid change of temperature	There shall be no evidence of deterioration.	ΘA = -55°C, ΘB = +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 tg δ : ≤ 0.003 (10kHz, $C \leq 1.0\mu F$) ≤ 0.002 (1kHz, $C > 1.0\mu F$) IR: $\geq 50\%$ of the rated value	
	Initial measurement	Capacitance Tg δ : 1kHz, $C > 1.0\mu F$ 10kHz, $C \leq 1.0\mu F$	
4	climate sequence		+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.	15°C~35°C, 8.5kPa, 1h,
	Damp heat, cyclic other		Test Db, Severity b, the other cycles, Applying UR for 1 minute after the test finished.
	Climate sequence (continue)	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 tg δ : ≤ 0.005 (10kHz, $C \leq 1.0\mu F$) ≤ 0.003 (1kHz, $C > 1.0\mu F$) 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 tg $\delta \leq 0.005$ IR: $\geq 50\%$ of the rated value	Temperature: 40°C $\pm 2^\circ C$ Humidity: 93 $\pm 3\%$ RH Duration: 21 days
6	Endurance	$\Delta C/C \leq \pm 8\%$ (relative to the initial value) Increase of tg δ : ≤ 0.003 (10kHz, $C \leq 1.0\mu F$) ≤ 0.002 (1kHz, $C > 1.0\mu F$) IR: $\geq 50\%$ of the rated value	Temperature: +85°C Voltage: 1.25 \times UR Duration: 2 000h
7	Charging and discharging	$\Delta C/C \leq \pm 5\%$ (relative to the initial value) Increase of tg δ : ≤ 0.003 (10kHz, $C \leq 1.0\mu F$) ≤ 0.002 (1kHz, $C > 1.0\mu F$) 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 (Ω) Discharging resistance: R=10/C _R (Ω) or 20 Ω (whichever is the greater) C _R : rated capacitance (μF)