

STRONG COMPONENTS CO., LTD.
Polyester Film Capacitor (Non-Inductive)

Type: **PEN**

SPECIFICATIONS

No.	項目 Item	性能 Performance	條件 Test Conditions	參考標準 Reference Standard
1	使用溫度範圍 Operating Temperature Range	-40°C ~ +125°C (+85°C to 125°C: decreasing factor 1.25% per °C for VR(DC))		IEC 60384-2 2.1.1 2.2.4
2	額定電壓 Rated Voltage	50VDC~1K0VDC		IEC 60384-2 2.2.3
3	耐電壓 Withstand Voltage	端子間 Between Terminals 端子外裝間 Between Terminals & Enclosure	無異常 No abnormality.	Rated voltage x 200% 2 sec Charge and discharge current shall not exceed 10 mA IEC 60384-2 4.2.1
4	絕緣阻抗 Insulation Resistance	C 0.33μF VR > 100V 7,500MΩ min VR ≤ 100V 3.750MΩ min C > 0.33μF VR > 100V 2,500MΩ*μF min VR ≤ 100V 1.250MΩ*μF min	Charge time: 60 ±5sec. Charge voltage: VR < 100VDC: 50VDC VR < 500VDC: 100VDC VR 500VDC: 500VDC Test Temp: 20°C	IEC 60384-2 4.2.4
5	靜電容量 Capacitance	於指定範圍內 Within specified tolerance	at 1 KHz ±10% Measure voltage at 1 Vrms Test temp: 20°C	IEC 60384-2 4.2.2
6	散逸因數 Dissipation Factor	a. 0.75 %max at 1KHz b. 1.30 %max at 10KHz	Measure voltage at 1 Vrms Test temp: 20°C	IEC 60384-2 4.2.3
7	端子強度 Terminal Strength	抗拉強度 Pull Strength 扭轉強度 Bending Strength	端子不鬆斷 No cutting or slack of terminals	Wire diameter: 0.6&0.8 mm Load: 1 kg, time: 10 sec. Wire diameter: 1.0&1.2mm Load: 2 kg, time: 20 sec. Wire diameter: 0.6&0.8 mm 1.0 & 1.2mm 90° x 4 time IEC 60384-2 4.3
8	耐震性 Vibration Proof	無明顯異常 No abnormality of the appearance	Frequency range : 10-55-10-55 Hz Amplitude: 0.75 mm, 2 hrs/direction for 3 directions	IEC 60384-2 4.7
9	焊錫附著性 Solder ability	導線浸入後的表面至少需附著 95% 的新焊錫 At least 95% of the surface of the lead wire dipped into is covered with new solder.	Solder temp: 245°C ±5°C Immersion time: 2 ±0.5sec. Solder: SnAgCu (Sn:96.5% Ag:3% Cu:0.5%)	IEC 60384-2 4.5
10	焊錫耐熱性 Resistance to Soldering heat	外觀 Appearance 耐電壓 Withstand Voltage 靜電容量變化率 Capacitance Change 散逸因數 Dissipation Factor 絕緣阻抗 Insulation Resistance	無明顯異常 No abnormality on appearance 依項目 3 Comply with item 3 △C ≤ ±2% 以內 Within ±2% △DF ≤ 1.0 % at 1KHz Same as the spec of item 4 above	Solder temp: 265 ±5°C Immersion time: 10±0.5 sec. IEC 60384-2 4.4

STRONG COMPONENTS CO., LTD.
Polyester Film Capacitor (Non-Inductive)

Type: **PEN**

SPECIFICATIONS

No.	項目 Item	性能 Performance	條件 Remark	參考標準 Reference Standard															
11	耐寒性 Cold Resistance	靜電容量變化率 Capacitance Change	$\Delta C \leq \pm 5\%$ 以內 Within $\pm 5\%$	Temperature: $-40 \pm 2^\circ\text{C}$ Duration: 96 ± 4 hrs IEC 60384-2 4.10.4															
12	耐熱性 Dry Heat Resistance	絕緣阻抗 Insulation Resistance	50% of minimum specified value	Temperature: $+85 \pm 2^\circ\text{C}$ Duration: 96 ± 4 hrs IEC 60384-2 4.10.2															
		靜電容量變化率 Capacitance Change	$\Delta C \leq \pm 5\%$ 以內 Within $\pm 5\%$																
13	溫度循環 Temperature Cycle	外觀 Appearance	無明顯異常 No abnormality on appearance	Total: 6 cycle <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Step</th> <th>Temp</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>$-40 \pm 2^\circ\text{C}$</td> <td>30 ± 1min</td> </tr> <tr> <td>2</td> <td>$+25 \pm 2^\circ\text{C}$</td> <td>10~15min</td> </tr> <tr> <td>3</td> <td>$+85 \pm 2^\circ\text{C}$</td> <td>30 ± 1min</td> </tr> <tr> <td>4</td> <td>$+25 \pm 2^\circ\text{C}$</td> <td>10~15min</td> </tr> </tbody> </table> IEC 60384-2 4.6	Step	Temp	Time	1	$-40 \pm 2^\circ\text{C}$	30 ± 1 min	2	$+25 \pm 2^\circ\text{C}$	10~15min	3	$+85 \pm 2^\circ\text{C}$	30 ± 1 min	4	$+25 \pm 2^\circ\text{C}$	10~15min
		Step	Temp		Time														
		1	$-40 \pm 2^\circ\text{C}$		30 ± 1 min														
		2	$+25 \pm 2^\circ\text{C}$		10~15min														
		3	$+85 \pm 2^\circ\text{C}$		30 ± 1 min														
4	$+25 \pm 2^\circ\text{C}$	10~15min																	
耐電壓 Withstand Voltage	依項目 3 Comply with item 3																		
絕緣阻抗 Insulation Resistance	50% of minimum specified value																		
靜電容量變化率 Capacitance Change	$\Delta C \leq \pm 5\%$ 以內 Within $\pm 5\%$																		
散逸因數變化量 Dissipation Factor Change	$\Delta DF \leq 1.0\%$ at 1KHz (20°C)																		
14	穩態濕熱試驗 Damp heat, Steady state	外觀 Appearance	無明顯異常 No abnormality on appearance 印字可辨識 Marking to be legible	Humidity: 90~95% RH Temperature: $+40 \pm 2^\circ\text{C}$ Duration: 504 ± 1 hrs Measure after exposing at normal state for 1.5 ± 0.5 hrs. IEC 60384-2 4.11															
		耐電壓 Withstand Voltage	依項目 3 Comply with item 3																
		絕緣阻抗 Insulation Resistance	50% of minimum specified value																
		靜電容量變化率 Capacitance Change	$\Delta C \leq \pm 5\%$ 以內 Within $\pm 5\%$																
		散逸因數變化量 Dissipation Factor Change	$\Delta DF \leq 1.0\%$ at 1KHz (20°C)																
15	高溫負荷 Endurance Test	外觀 Appearance	無明顯異常 No abnormality on appearance 印字可辨識 Marking to be legible	Temperature: $+85 \pm 3^\circ\text{C}$ Duration: $1,000 +48/-0$ hrs Applied voltage $125\% \times V_R$ through series resistor of $20 \sim 1000 \Omega$ to the Capacitor Measure after exposing at normal state for 4 hrs. IEC 60384-2 4.12															
		耐電壓 Withstand Voltage	依項目 3 Comply with item 3																
		絕緣阻抗 Insulation Resistance	50% of minimum specified value																
		靜電容量變化率 Capacitance Change	$\Delta C \leq \pm 8\%$ 以內 Within $\pm 8\%$																
		散逸因數變化量 Dissipation Factor Change	$\Delta DF \leq 1.0\%$ at 1KHz (20°C)																