

**STRONG COMPONENTS CO., LTD.**  
**Metallized Polypropylene Film Capacitor Tubular**

**Type: MFA 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 ~ +105°C (+85°C to 105°C: decreasing factor 1.35% per °C for VR(DC))		IEC 60384-16 <b>2.1.1</b> <b>2.2.5</b>
2	額定電壓 Rated Voltage	450VDC, 500VDC		IEC 60384-16 <b>2.1.4</b>
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 160% 2 sec Charge and discharge current shall not exceed 10 mA IEC 60384-16 <b>4.2.1</b>
4	絕緣阻抗 Insulation Resistance	C ≤ 0.33μF VR > 100V 25,000MΩ min VR ≤ 100V 12,500MΩ min C > 0.33μF VR > 100V 7,500MΩ*μF min VR ≤ 100V 3,750MΩ*μF min	Charge time: 60 ±5sec. Charge voltage: VR < 100VDC: 50VDC VR < 500VDC: 100VDC VR ≥ 500VDC: 500VDC Test Temp: 20°C	IEC 60384-16 <b>4.2.4</b>
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 60384-16 <b>4.2.2</b>
6	散逸因數 Dissipation Factor	a. 0.08 %max at 1KHz b. 0.15 %max at 10KHz (C ≤ 1.0μF) 0.2 %max (1.0 < C ≤ 3.3μF)	Measure voltage at 1 Vrms Test temp: 20°C	IEC 60384-16 <b>4.2.3</b>
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 60384-16 <b>4.3</b>
8	耐震性 Vibration Proof	無明顯異常 No abnormality of the appearance	Frequency range: 10-55-10-55 Hz Amplitude: 0.75mm, 2 hrs/direction for 3 directions	IEC 60384-16 <b>4.7</b>
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 60384-16 <b>4.5</b>
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 ±3%以內 Within ±3% 於項目 6 範圍以內 Within spec of item 6 above. Same as the spec of item 4 above	Solder temp: 265 ±5°C Immersion time: 10±0.5 sec. IEC 60384-16 <b>4.4</b>

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11	耐寒性 Cold Resistance	靜電容量變化率 Capacitance Change	±5%以內 Within ±5%	Temperature: -40 ±2°C Duration: 96±4 hrs  <b>4.10.4</b>	IEC 60384-16															
12	耐熱性 Dry Heat Resistance	絕緣阻抗 Insulation Resistance	50% of minimum specified value	Temperature: +85 ±2°C Duration: 96±4hrs	IEC 60384-16  <b>4.10.2</b>															
		靜電容量變化率 Capacitance Change	±5%以內 Within ±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: auto; margin-right: auto;"> <thead> <tr> <th>Step</th> <th>Temp</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40±2°C</td> <td>30 ±1min</td> </tr> <tr> <td>2</td> <td>+25±2°C</td> <td>10~15min</td> </tr> <tr> <td>3</td> <td>+85±2°C</td> <td>30 ±1min</td> </tr> <tr> <td>4</td> <td>+25±2°C</td> <td>10~15min</td> </tr> </tbody> </table>	Step	Temp	Time	1	-40±2°C	30 ±1min	2	+25±2°C	10~15min	3	+85±2°C	30 ±1min	4	+25±2°C	10~15min	IEC 60384-16  <b>4.6</b>
		Step	Temp		Time															
		1	-40±2°C		30 ±1min															
		2	+25±2°C		10~15min															
		3	+85±2°C		30 ±1min															
4	+25±2°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	±5%以內 Within ±5%																			
散逸因數變化量 Dissipation Factor Change	0.3 %max 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 ±2°C Duration: 504 ± 1 hrs  Measure after exposing at normal state for 1.5±0.5 hrs.	IEC 60384-16  <b>4.11</b>															
		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	±5%以內 Within ±5%																	
		散逸因數變化量 Dissipation Factor Change	0.1 %max 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 ±2°C Duration: 1,000 +48/-0 hrs  Applied voltage 125%× V <sub>R</sub> through series resistor of 20~1000Ω/V to the Capacitor  Measure after exposing at normal state for 4 hrs.	IEC 60384-16  <b>4.12</b>															
		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	±5%以內 Within ±5%																	
		散逸因數變化量 Dissipation Factor Change	0.2 %max at 1KHz (20°C)																	