

# SPECIFICATION SHEET 規格書

DOC.NO. 文件編號	4PPMT39500250L32JYOYLW	REV. NO. 修改編號	Issue Date 發行日期	Reason 原因
BENNIC P/N BENNIC 料號	4PPMT39500250L32JYOYLW	0	2012.07.09	首次發行 First issue
Description 規格	MKP 3.9μF 250V 5%	1		
		2		
		3		
Cust. P/N 客戶料號		4		
		5		
Customer 客戶		6		
		7		

## 金屬化聚丙烯薄膜電容器 YMPT系列

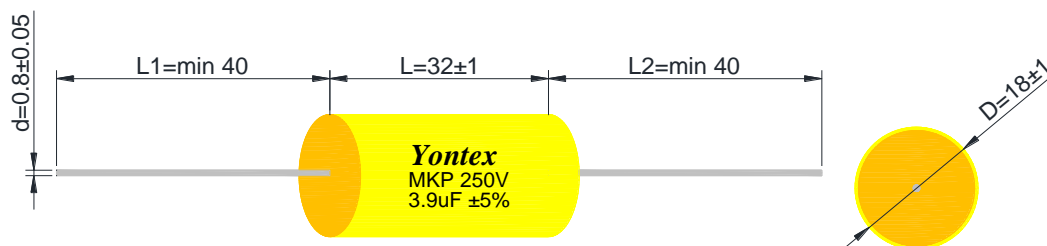
### YMPT series - Metallized Polypropylene Film Capacitors

#### 特點 Feature

採用高溫金屬化聚丙烯膜卷繞而成,無感式結構,自愈性能好,超低損耗,絕緣電阻高,電容量穩定,容量範圍寬等特點.採用鍍錫無氧銅線軸向引出,外部用聚酯膠帶包裹,阻燃环氧树脂封裝.



The capacitor is made of high temperature resistant metallized polypropylene film, non-inductive winding structure design. Characteristics are good self-healing performance, ultra low dissipation factor, high insulation resistance, minimum capacitance tolerance and wide capacitance range. It's welded with tinned oxygen-free copper wire in axial lead type, wrapped with polyester tape and encapsulated with flame retardant epoxy resin.

外觀圖紙 Appearance Drawing 外觀/尺寸 Size 單位 unit: 公厘 mm



檢查項目 Check Item	規格 Specification	尺寸檢查項目 Check Item	規格 Spec. /公差 Tol.
膠帶顏色 Tape Color	黃色 Yellow	導線材質 Wire material	TC
膠面顏色 Resin Color	黃色 Yellow	本體直徑 Case Dia. (ΦD)	1.8±1mm
印字顏色 Printing Color	黑色 Black	本體長度 Case Length (L)	32±1mm
印刷商標 Brand Marking:	Yontex	引線直徑 Lead Dia (Φd)	0.8±0.05mm
印字方向 Letter Direction	如示意圖	引線長度 Lead Length (L1)	min.40mm
單位重量 Unit Weight: g/pcs		引線長度 Lead Length (L2)	min.40mm
標準包裝 Standard Packing: pcs/bag			
標準裝箱 Standard Packing: pcs/box			
容量誤差 Cap.Tolerance	±5% (J)		
損失因數 Dissipation Factor (DF)	MAX 0.1% at 1kHz 25°C		
額定電壓 Rated Voltage (Vr)	250VDC		
測試電壓 Test Voltage	1.5倍額定工作電壓 於 25°C 大於 3秒 1.5 x Vr for 3 Sec. at 25°C		

工作溫度範圍 Temperature Range	- 40°C to + 85°C
介質常數 Dielectric Constant	2.1ε
絕緣電阻 Insulation Resistance	IR ≥ 9000MΩ (C ≤ 0.33uF) @ 20°C, lmin IR ≥ 7500MΩ (C > 0.33uF) @ 20°C, lmin
外觀要求 Appearance requirements	除非另有註明或客戶特殊要求，外觀的標準以工業零件為準，即符合下列為合格品<The qualified appearance standards are based on the following industrial rules, except customer specific requirements or other stated. >
	1. 不影響產品結構及電氣性能。 < Does not affect product structure and electrical performance.>
	2. 如有文字標示，其足可涵蓋產品的參數。 < If there is a printed mark, it can present the parameters of the product at least. >
	3. 沒有沾粘製程所用的原物料之外的異物。導針沾膠不超過本體直徑的1/2<The product does not attach the foreign matter which is not used during the production process. The lead sticking the rubber is not more than 1/2 of the diameter of the case.>
信賴度測試 Life Test	4. 以視力1.0 距離30cm、45±15度角、正常光源距離50-55cm 照度500-550lux為目視標準規範。 < Visual standard specification follow below rule, Vision 1.0, distance 30cm, 45±15 degree angle, normal light source distance 50-55cm, illumination 500-550lux.>
	高溫負荷: 印加 150%額定電壓, 於85°C 運行1000小時后, 恢復於 25°C, 其電性符合如下所定; High temperature load test: applied 150% of Vr at 85 °C for 1,000 hours then return to 25°C must be meet:
	低溫負荷: 印加150%額定電壓, 於-40°C 運行100H后恢復於 25°C 其電性符合如下所定; Low temperature load test: applied 150% of Vr at -40 °C for 100 hours then return to 25°C must be meet:
	(a)電容量變化值: 原測值±5%內; Capacitance change within ±5% of initial value (b)損失角: DF<0.1%
出腳拉力測試 Lead Pull Force Test	在30分鐘至少可承受1.5公斤; Hold Max. 1.5Kg for 30 minutes.
出腳彎曲度測試 Lead Bend Force Test	上下90°度一次不斷裂; Not break during 90° bending for 1 cycle.
耐濕度測試 Humidity Test	在濕度為95%, 溫度為40°C 下工作1000小時后, 其電性符合如下所定 After working for 1,000 hours at R.H. 95% @40°C, specs. must be met: (a)電容量變化值: 原測值±5%內 Capacitance change within ± 5% of initial value (b)損失角: 2%內 DF: Max. 2% (c)絕緣電阻值: 至少7000MΩ I.R. Min. 7,000 MΩ
高溫儲存 High Temperature Storage	85°C 高溫放置100H, 恢復於25; After placed at high temperature 85°C for 100 hours and then restored to 25°C.
	(a)電容量變化值: 原測值±3%內; Capacitance change within ±3% of initial value (b)損失角: DF ≤ 0.1%

低溫儲存 Cryogenic Storage	<p>-40°C 低溫放置100H,恢復於25°C; After placed at low temperature -40°C for 100 hours and then recovery to 25 °C.</p> <p>(a)電容量變化值: 原測值±3%內; Capacitance change within ± 3% of initial value</p> <p>(b)損失角: <math>DF \leq 0.1\%</math></p>				
溫度循環 Temperature Cycling	<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 2px;">-40°C放置0.5H</div> <div style="margin: 0 5px;">⇨</div> <div style="border: 1px solid black; padding: 2px;">25°C放置1H</div> </div> <div style="margin: 0 10px;">↑</div> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 2px;">25°C放置1H</div> <div style="margin: 0 5px;">⇨</div> <div style="border: 1px solid black; padding: 2px;">85°C放置0.5H</div> </div> <div style="margin: 0 10px;">↓</div> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 2px;">85°C放置0.5H</div> <div style="margin: 0 5px;">⇨</div> <div style="border: 1px solid black; padding: 2px;">25°C放置1H</div> </div> </div> <p>在50次溫度循環後恢復於25°C; After 50 times temperature cycle and then restore to 25°C.</p> <p>(a)電容量變化值: 原測值±3%內 Capacitance change within ±3% of initial value</p> <p>(b)損失角: <math>DF \leq 0.1\%</math></p>				
冷熱沖擊 Thermal Shock	<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 2px;">-40°C放置0.5H</div> <div style="margin: 0 5px;">⇨</div> <div style="border: 1px solid black; padding: 2px;">25°C放置3~5minute</div> </div> <div style="margin: 0 10px;">↑</div> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 2px;">25°C放置3~5minute</div> <div style="margin: 0 5px;">⇨</div> <div style="border: 1px solid black; padding: 2px;">85°C放置0.5H</div> </div> <div style="margin: 0 10px;">↓</div> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 2px;">85°C放置0.5H</div> <div style="margin: 0 5px;">⇨</div> <div style="border: 1px solid black; padding: 2px;">25°C放置3~5minute</div> </div> </div> <p>在10次冷熱沖擊循環後恢復於25°C; After 10 times shock cycle and then restore to 25°C.</p> <p>(a)電容量變化值: 原測值±3%內; Capacitance change within ±3% of initial value</p> <p>(b)損失角: <math>DF \leq 0.1\%</math></p>				
耐振動 Vibration Resistance**	<p>以每分鐘1倍頻*的起始速率，測試頻率從10Hz到55Hz，振幅為±0.75mm，每小時XYZ方向交替，且總共進行6小時的振動測試之後，規格需符合以下所訂定; After applied total 6 hours vibration test with following frequency range 10 Hz to 55 Hz at 1 oct/min* starting rate, ±0.75mm amplitude and XYZ direction change every 1 hour, specs must be met:</p> <p>(a)電容量變化值: 原測值±3%內 Capacitance change within ±3% of initial value;</p> <p>(b)損失角: <math>DF \leq 0.1\%</math>;</p> <p>(c)絕緣電阻 <math>IR \geq 7500M\Omega</math> (20°C, 1 min)</p>				
耐沖擊 Impact Resistance	<p>經過2米垂直落體20次, 2米高75° 坡度滑落20次之後, 測試符合如下: After 2 meters vertical fall 20 times and 2 meters high 75° slope slide 20 times, specs must be met:</p> <p>(a)電容量變化值:原測值±3%內; Capacitance change within ±3% of initial value</p> <p>(b)損失角: <math>DF \leq 0.1\%</math></p>				
參考標準: IEC 60384-16					
Approved 批准		Checked 審核		Issuer 制表	張成梅

附註: \* 倍頻指的是一段頻率中，一段與另外一端的數值比率為 2:1。

\*\*臥式電容在耐振動測試中的安裝方式為安裝點距離本體6mm±1mm的位置且安裝在導針上。

Note: \* Octave (Oct) means the interval between one frequency and another differing by 2:1.

\*\*For axial type capacitor, mounting point shall be on the lead and distance between the body and mounting point shall be 6mm ±1mm