PRODUCT SPECIFICATION

(產品規格書)

Ordering information

2248-A	2*	40	G	00	D	P	U
Series	2：Double Row	No. of Pin Per Row 02~40	G：Gold Plated	00:Gold Flash	D：SMD Type	P：With Post N：Without Post	U：Tube Package T：Tape & Reel Package

A1:APR.13/2011.
A2:JUL.10/2013.(修改 3.5 Packing 包裝敘述)

PRODUCT NAME (產品名稱)	**DOCUMENT No.:** (文件編號)	**Rev.** (版本)	**OUPIIN** (歐品)
PCB Socket 1.27mm*1.27mm (RoHS)	2248spec-A	A2	
	Approved (核準)	**Checked** (審核)	**Prepared** (製作)
	Q.A. Section Chief	Amy Chiu	JUL.11/2013

1. SCOPE （範圍）

This product specification defines the product performance and the test methods to ascertain the performance of the PCB Socket Connector, which is designed and manufactured by Oupiin Electronic Co.,Ltd.

(本產品規格書規定了由歐品電子有限公司生產的 PCB Socket Connector 型連接器,產品的特性及測試方法.)

2. REFERENCE DOCUMENTS （參考文件）

MIL-STD-1344A	Test method for electrical connector （電子連接器測試方法）
MIL-STD-202F	Test method for electrical components (電子零件測試方法）

3. FEATURE & DIMENSIONS （特徵及尺寸）

3.1. PRODUCT DIMENSION （產品尺寸）

These connectors shall have the dimensions as shown in drawing.

(本產品的相關尺寸參考圖面.)

3.2. PCB/PANEL LAYOUT （印刷電路板佈局）

The recommended PCB layout is shown in drawing.

(本產品適用的 PCB layout 參考圖面.)

3.3. BILL OF MATERIAL （材料清單）

Harmful material control follow the requirement of RoHS. The bill of material and product number is described in drawing.

(有害物質控制符合RoHS指令要求.本產品使用的材料參考附件.)

3.4. MECHANICAL & ELECTRICAL CHARACTERISTIC（機械及電氣特性）

The connector shall have the mechanical and electrical performance as described in drawing.

(本產品的機械及電氣特性見圖面：)

3.5. PACKAGING （包裝）

Products shall be packaged according to requirements specified in purchase order for safe delivery, connector container and the packaging method are shown in package specification.

(產品可依客戶指定要求包裝，包裝材料與包裝方式參見產品包裝規範。)

3.6 RATING CURRENT AND RATING VOLTAGE *額定電流與額定電壓*

Rating current is 1.0A, rating voltage is 250V DC/AC RMS.
額定電流 1.0A，額定電壓 250V DC/AC RMS。

3.7 STORAGE AND OPERATING TEMPERATURE *儲存與使用溫度*

Temperature range: -40°C~+105°C, including terminal temperature rise for rating current.
溫度範圍：-40°C~+105°C，包含接觸端子的額定電流溫升。

4. ENVIRONMENTAL（環境要求）

4.1. SOLDERABILITY （可焊性）

Connectors meet solder ability to MIL-STD-202F. Finish shall be free of contaminants.
(產品可焊性符合 MIL-STD-202F 標準規定的相關要求，表面不得有污染物.)

4.2. RESISTANCE TO SOLDER HEAT （耐焊接熱）

INFRARED REFLOW （紅外線回流焊接）

Three cycles. Each cycle consisting of three consecutive phased.
(三個週期，每個週期包括三個連續的階段完成；)

1. Preheat （預熱）

Increase in temperature not to exceed 4℃ per second.
(溫度增加不超過 4℃ /秒,)

2. Soldering （焊接）

Maximum allowable time above reflow temperature of 150~200℃ is 90~120 seconds. Maximum temperature in this interval is 255℃, not to exceed 5 seconds.
(回流焊溫度150~200℃時最長不超過90~120秒. 最高溫度255℃時間不超過5秒.)

3. Cool Down （冷卻）

Cool down shall not exceed 6℃ per second.
(冷卻速度不超過6℃/秒.)

Note: （說明）
Device temperature measurements are referenced from the top-center of the package outer surface.
(設備溫度量測時以從頂部中間位置測量爲准.)

5. PERFORMANCE AND TEST DESCRIPTION

（性能及測試）

5.1. REQUIREMENT （要求）

Product is designed to meet electrical, mechanical, and environmental performance requirements specified in **Table I**.
(本產品設計符合**附表**一所列的機械，電氣及環境要求.)

5.2. TEST CONDITION (測試條件)

Unless otherwise specified, all tests shall be performed at ambient environmental conditions.
(除非特別注明，所有測試在室溫條件下完成；)

5.3. SAMPLE SELECTION （樣品選擇）

Test samples shall be selected at random from current production. No test samples shall be reused. Samples are pre-conditioned with 10cycles of durability. Each group shall be containing 5 test samples.
(測試樣品從現生產的產品中隨機抽取，所有測試過的樣品不得重複使用. 樣品已預先插拔10次，每組測試有5個樣品；)

Table I: Test Requirements and Procedures

(附錄一:測試要求)

Items (項目)	Requirements (要求)	Test Methods (檢測方法)
1. Confirmation of Product (產品確認)	Product shall be conforming to the requirements of applicable product drawing. (產品必須滿足相關檔的規定)	Check the dimensions and functions per applicable product drawing in your eyes. (目視，尺寸及功能依產品圖面檢查)
2. Contact Resistance (接觸阻抗)	20 mΩ Max. initial (最大.初態)	Subject mated contacts assembled in housing to closed circuit of 100 mA max. at open circuit voltage of 20 mV max. (所述固定在外殼裏的端子連結到一個封閉回路中測試：電流 100 mA，電壓 20 mV max.)
3. Insulation Resistance (絕緣阻抗)	1000 MΩ Min. (最小)	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. MIL-STD-202, Method 302, Condition B (500 V DC±10%). (測試產品端子間以及端子與接地間的電阻，適用：MIL-STD-202,方法 302，條件 B)(500V DC±10%)
4. Dielectric Strength (耐電壓)	Connector must withstand test potential of 500 V AC for 1 minute. Current leakage must be 0.5 mA max. (樣品必須承受測試電壓 500V AC,時間一分鐘，漏電流不大於 0.5 mA.)	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. MIL-STD-202, Method 301. (測試產品端子間以及端子與接地間的電壓，適用：MIL-STD-202，方法 301。)
5. Durability (Repeated Mating/Unmated) (耐久性)	Contact Resistance: 30 Mω Max. after testing. (測試後接觸阻抗最大 30mΩ)	The sample should be mounted the tester and fully mated and unmated 100 cycles specified at the rate of 25mm/min (重復進行配合產品 100 次插拔.)
6. Connector Insertion Force Unmated Force (產品插拔力)	Insertion force : 120 g max. per contact Unmated force : 20 g min. per contact 插入力: 120 g 最大 拔出力: 20 g 最小	Measure force necessary to unmated between the counterparts connectors.. (軸向力以 25±3mm/分的速度從塑膠本體對插後拔出)

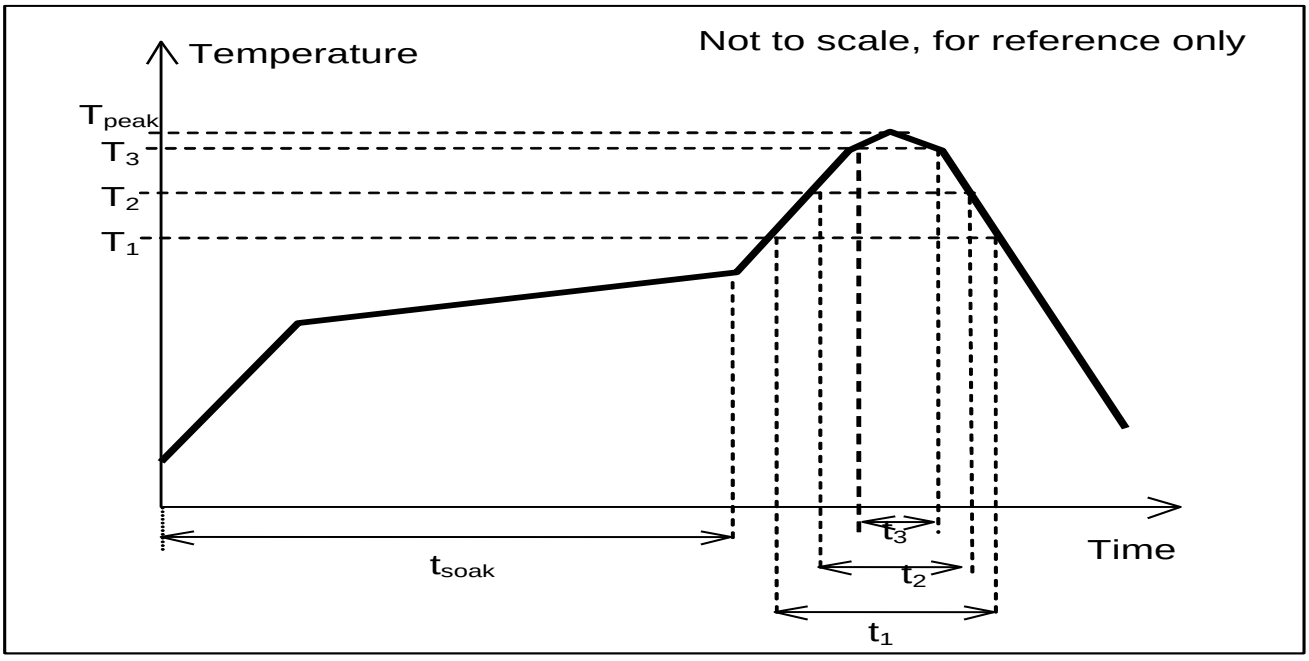
7. Thermal shock (熱衝擊)	After testing, no damage, Contact Resistance 30 mΩ max. (測試後,產品無損壞， 接觸阻抗：30 mΩ最大)	Temperature range from -40°C to +85°C .Start from -40°C, after 30 min. change to +85°C; change time is no more than 30 seconds. Total 5 cycles. MIL-STD-202, Method 107D, condition A. (溫度變化範圍： -40°C~ +85°C；從 -40°C 開始，30 分鐘後換到+85°C；轉換時間不超過 30 秒；共 5 個循環.適用：MIL-STD-202，方法 107D，條件 A.)
8. Humidity (恆溫恆濕)	After testing, no damage, Contact Resistance 30 mΩ max. (測試後,產品無損壞， 接觸阻抗：30 mΩ最大)	Temperature :+40±2°C 96 hours. (溫度：+40±2°C 96 小時) Relative Humidity : 90-95%; (相對濕度 ：90-95%；) Duration :96 Hours. MIL-STD-202, Method 108, (時間：96 小時；MIL-STD-202，方法 108。)
9.High Temperature Life (高溫老化)	After testing, no damage, Contact Resistance 30 mΩ max. (測試後,產品無損壞， 接觸阻抗：30 mΩ最大)	Subject product to 105±3°C for 96 hours continuously. MIL-STD-202, Method 108. (產品置於 105±3°C 連續 96 小時， 適用 MIL-STD-202, 方法 108。)
10. Solder ability (可焊性)	Appearance of the specimen shall be inspected after the test with the assistance of a magnifier capable of giving a magnification of 10 X for any damage such as pinholes, void or rough surface. (樣品在測試完成後，在放大倍數爲 10 倍的顯微鏡下，檢查外觀損壞如：小孔，空焊，外觀粗糙度；)	Soldering time: 3 to 5 Seconds (焊接時間：3~5 秒) Peak Temperature: 245±5°C. (最高溫度：245±5°C.)

Table II: Reflow soldering profile

(附錄二:回流焊接曲線圖)

Pb-free reflow profile requirements: (無鉛回流焊接曲線)

Parameter (參數)	Reference (參考)	Specification (規格)
Average Temperature Gradient in Preheating (平均預熱溫度)		2.5°C/s
Soak Time 25~150°C	T_{soak}	60 Seconds (max)
Time Above 150~200°C	t_1	120 Seconds (max)
Time Above 200~230°C	t_2	50 Seconds (max)
Time Above 230~250°C	t_3	5 Seconds (max)
Peak temperature in reflow (回流焊接中最高溫度)	T_{peak}	255°C (–5/+0°C)
Temperature Gradient in Cooling (冷卻時溫度幅度)		Max -5°C/s



This profile is the minimum requirement for evaluating soldering heat resistance of components. Heat transfer method used for reflow soldering is hot air convection. The actual air temperatures used to achieve the specified profile largely dependent on the reflow equipment.

(這個曲線圖是評估原器件焊接抗熱的基本要求. 應用在對流焊接中的熱傳遞方式是熱氣對流. 達到特定曲線圖的實際溫度主要依賴於回流焊接設備.)

Material Housing：029-PA46 (Black)

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Stanyl

Datasheet TE250F9 - 00001

45% GF reinforced, flame retardant, grade for E/E applications

Typical properties	Unit	ISO/IEC	DIN	Grade TE250F9
General properties				
Density	g/cm³	ISO 1183	53479	1,82
Melting temperature	°C	ISO 3146		295
Temperature properties				
HDT-A (1.8 MPa)	°C	ISO 75-1	53461	290
Peak temperature (1min.)	°C	UL 746B		-
Continuous use temperature	°C	IEC 60216		
- 5000 hrs				163
Coeff. linear thermal expansion	E-4/K	DIN 53752		
- // (23-55°C)				0,2
- _|_ (23-55°C)				0,8
Electrical properties				
RTI electrical	°C,mm	UL 746B		*
Insulation class	-	UL 1446		*
Flammability (at thickness)	class(mm)	UL 94		V-0 (0.8)
Comparative tracking index (CTI)	PLC	IEC 60112		2
Electric strength	kV/mm	IEC 60243-1		
- dry (23°C)				30
- con (23°C/50%RH)				20
Volume resistivity	Ohm.cm	IEC 60093		
- dry (23°C)				1E+15
- con (23°C/50%RH)				1E+10
Mechanical properties				
Izod impact strength (notched)	kJ/m²	ISO 180-1A		
- dry (23°C)				13
- con (23°C/50%RH)				15
Tensile strength	MPa	ISO 527-1	53455	
- dry (23°C)				200
- con (23°C/50%RH)				130
Tensile Modulus	MPa	ISO 527-1	53457	
- dry (23°C)				17000
- con (23°C/50%RH)				12000
Strain at break	%	ISO 527-1	53455	
- dry (23°C)				2
- con (23°C/50%RH)				3
Dimensional properties				
Moulding shrinkage	%	DSM		
- //				0,3
- _|_				0,9
Humidity absorption (equi. 23°C/50%RH)	%	ISO 62		1,2

DSM ENGINEERING PLASTICS

DSM Engineering Plastics 9701/2.0

Material Housing :UL

QMFZ2 Component - Plastics Monday, April 10, 2006 E47960

DSM ENGINEERING PLASTICS B V

POSTBUS 604 GELEEN 6160 AP NL

Material Designation: **TE250F9(h)(j)**

Product Description: Polyamide 4/6 (PA4/6), glass reinforced, flame retardant, designated "Stanyl" furnished as pellets.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
ALL	0.75	V-0	0	0	140	110	120	-	-
	1.5	V-0	0	0	140	125	125	-	-
	3.0	V-0	0	0	140	130	130	-	-

CTI: 2 **IEC CTI** (V): - **HVTR:** 1 **D495:** 7 **IEC Ball Pressure** (°C): -

Dielectric Strength (kV/mm): - **Volume Resistivity** (10^{x} ohm-cm): - **Dimensional Stability**(%): -

ISO Tensile Strength (MPa): - **ISO Flexural Strength** (MPa): - **ISO Heat Deflection** (°C): -

ISO Tensile Impact (kJ/m^2): - **ISO Izod Impact** (kJ/m^2): - **ISO Charpy Impact** (kJ/m^2): -

(h) Virgin and regrind up to 50% by weight inclusive, have the same basic material characteristics.

(j) Virgin and regrind, up to 100% by weight inclusive, have the same basic material characteristics with respect to Flammability in the 0.75mm thickness and greater.

Report Date: 1/1/2003 Underwriters Laboratories Inc®

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.

Material Contact : Copper Alloy (Phosphor Bronze)

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REPORT OF MATERIAL TEST

MINCHALI

DATE: FEB.15.2006

Customer: 敬品電子有限公司 | Commodity: C 5191 R PHOSPHOR BRONZE STRIP (H)

Applied Standard: CNS 9503 Phosphor Bronze Sheets,Plates and Strips

ISO 9002:4M8Y035-00 台正字第 3545 號

Chemical Analysis Test

Work No.	Size of Product Thickness (mm)	Width (mm)	Length (mm)	P(%)	Sn(%)	Cu+Sn+P(%)				
	Standard			0.030 - 0.350	5.50 - 7.00	min. 99.50				P.O. NUMBER
4CC135A	0.200	305.000		0.164	5.829	99.962				
4CC135B	0.200	305.000		0.164	5.829	99.962				

Mechanical & Physical Test

Work No.	Size of Product Thickness (mm)	Width (mm)	Length (mm)	Dimension Test Thickness (mm)	Width (mm)	Tension Test Tensile Strength (kgf/mm²)	Elongation (%)	Hardness Test HV	Grain Size (mm)	Electric Conductirity (%)
	Standard			-	(-) 0.10 - (+) 0.00	min. 58	-	min. 170	-	-
4CC135A	0.200	305.000		GOOD.	GOOD.	60.13	26.54	192.0 - 193.0	0.010	14.1
4CC135B	0.200	305.000		GOOD.	GOOD.	60.13	26.54	192.0 - 193.0	0.010	14.1

QC Supervisor 鄭建益

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