



## PRODUCT SPECIFICATION OF OUPIIN

# PRODUCT SPECIFICATION

(產品規格書)

產品名稱 Description	產品料號 Part No.	圖號 Drawing No.
Pin Header 0.8mm*1.2mm Double Row S.M.D Type	2081-2X04G00DN-2U-P	2081D01001

PRODUCT NAME (產品名稱)	DOCUMENT No.: (文件編號)	Rev. (版本)	OUPIIN
Pin Header 0.8mm*1.2mm Double Row S.M.D Type  (RoHS)	2081spec	A3(I535)	(歐品)
	<b>Approved</b> (核準)	<b>Checked</b> (審核)	<b>Prepared</b> (製作)
	Q.A. Section Chief	Jack Hsing	2020.05.13



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## 1. SCOPE (範圍)

This product specification defines the product performance and the test methods to ascertain the performance of the Pin Header 0.8mm\*1.2mm Double Row S.M.D Type , 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 Pin Header 0.8mm\*1.2mm Double Row S.M.D Type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)
EIA364	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：)



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### 3.5. PACKAGING (包裝)

Products shall be packaged according to requirements specified in purchase order for safe delivery. Products required carrier tape should meet the proper specification per purchase order. Connector container and the packaging specification is shown in package drawing.

(產品包裝可依客戶指定要求.本產品採用 Tube Packag 包裝，具體見包裝圖面.)

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

Rating current is 0.75A, rating voltage is 150V DC/AC RMS.

額定電流 0.75A，額定電壓 150V 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)

#### WAVE SOLDERING (波峰接)

Each cycle consists of three consecutive phases.

(每個焊接週期包括三個連續的階段)

#### 1. Preheat (預熱)

The steady temperature of the preheat zone is 90~125°C.

(預熱區最終溫度控制在90~125°C)

#### 2. Soldering (焊接)

To avoid the secondary tin-melting, the temperature on PCB upper surface is 160°C Max. for products with lead, or 200°C Max. for lead-free products. The temperature of the PCB bottom surface shall not be exceed 100°C more than the temperature of the PCB upper surface. The peak temperature is during 220~245°C for products with lead, or 240~255°C for lead-free products. The tin dip time is duration for 3~5 seconds.

(有鉛產品板面溫度不得超過160°C，無鉛產品板面溫度不得超過200°C，以防止貼片零件二次熔錫。板面溫度與板底的溫度溫差不得超過100°C。板下溫度峰值有鉛產品維持在220~245°C，無鉛產品控制在240~255°C。浸錫時間控制在3~5秒。)



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### **3. Cool Down (冷卻)**

Cool down shall not exceed 6°C per second.

(冷卻速度不超過6°C/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為準.)

## **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述的機械，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；)



## PRODUCT SPECIFICATION OF OUPIIN

**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)	15 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 10 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 10 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, (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)
4. Dielectric Strength (耐電壓)	Connector must withstand test potential of 500 V AC for 1 minute.. (樣品必須承受測試電壓 500V AC，時間一分鐘)	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. Retention Force (保持力)	0.2Kg /Pin. Min. 每支最小 0.2Kg	Apply axial pull out force at a speed of 25±3 mm/minute on the contact assembled in the housing. 以 25±3mm/分鐘的速度施加軸向拉力從塑膠本體上拔出端子。
6. Solderability (可焊性)	There shall have a solder coverage of 95% minimum。 產品在測試完成後，焊接部位粘錫面積大於 95%。	Soldering time: 3 to 5 seconds. Temperature: 255±5°C. 焊接時間：3~5 秒。 溫度：255±5°C。



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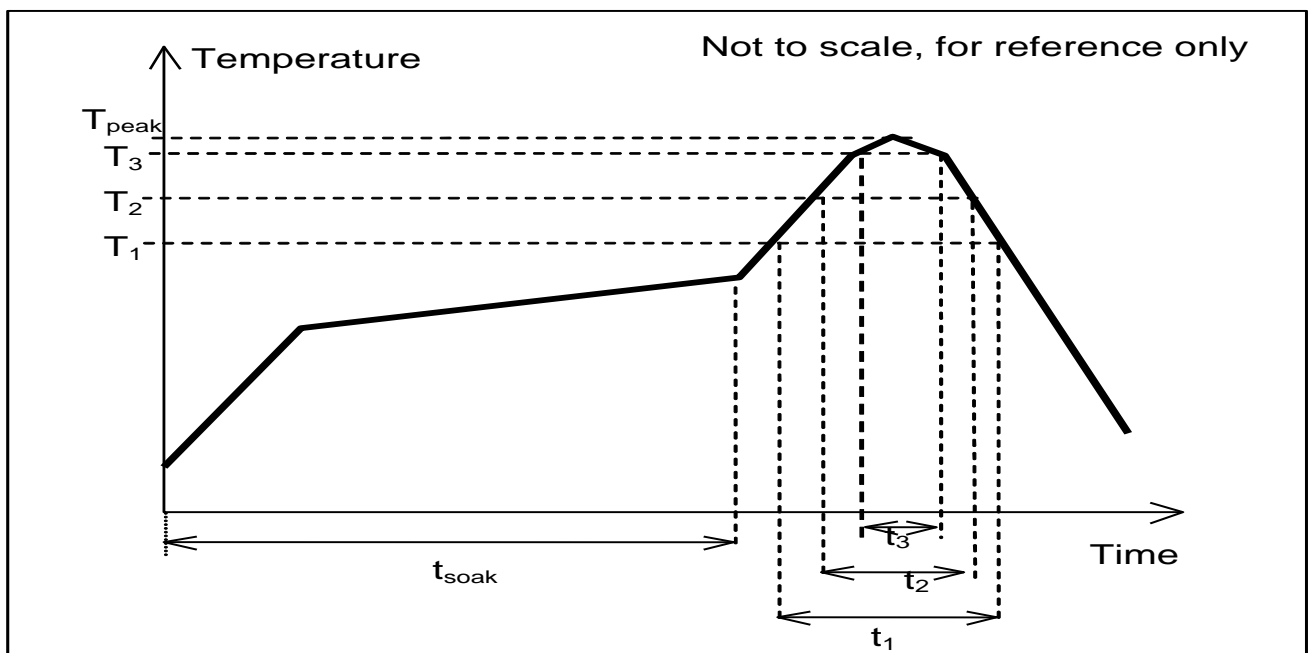
7. Temperature resistance test (阻抗溫度測試)	After testing, no damage, Contact Resistance 30 mΩ max.. Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ min. (測試後,產品無損壞, 接觸阻抗: 30 mΩ 最大; 耐電壓測試 OK, 絕緣阻抗 1000MΩ 最小;)	Test Peak Temperature 255°C Test Time 3~5 (sec) 測試峰值溫度 255°C 測試時間 3~5 (秒)
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## 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 230~245°C	$t_3$	10 Seconds (max)
Peak temperature in reflow (回流焊接中最高溫度)	$T_{peak}$	255°C (-0/+5°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.)



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Material Housing : I535-PA6T

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物理特性	單位	ASTM	E430K	RA230NK	RG430N
玻璃纖維含量	%	-	30	30	30
比重	-	D792	1.43	1.46	1.43
<b>機械特性</b>					
拉伸強度	MPa	D638	170	170	170
拉伸率	%	D638 <sup>1)</sup>	3	4	4
彎曲強度	MPa	D790	260	250	250
彎曲彈性模量	MPa	D790	11,000	11,000	11,000
Izod強度	J/m	D256	80	80	76
Rockwell 強度	M scale	D785	100	95	95
<b>熱物性</b>					
熔點	°C	-	320	320	320
玻璃化溫度	°C	-	95	95	95
熱變型溫度 (1.82 MPa)	°C	D648	310	306	305
線膨脹係數	機械方向	*10 <sup>-5</sup> °C	2.1	1.4	1.6
	垂直方向		9.1	7.7	8.4
<b>電器特性</b>					
體積電阻	Ω m	D257	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>
介電率 (10 <sup>6</sup> Hz)	-	D150	3.6	3.8	3.5
介電損耗 (10 <sup>6</sup> Hz)	-	D150	0.015	0.013	0.013
絕緣破壞電壓	kV/mm	D149	21	26	25
<b>其他物性</b>					
成型收縮率 (2 mmt)	機械方向	%	D955	0.4	0.4
	垂直方向			1.0	0.9
吸水率 (24 h in water, 2 mmt)	23 °C	%	D570	0.4	0.5
	100 °C			3.9	3.7
阻燃性	-	UL94	HB	V-0	V-0

\*) 上記物性數據為測定的代表值, 而不是規格值

1) 拉伸率是夾具間測試





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## Material Housing :UL

UL iQ™ for Plastics

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Component - Plastics

E52579

### MITSUI CHEMICALS INC

SHIODOME CITY CENTER, #1-5-2, HIGASHI-SHINBASHI, MINATO-KU, TOKYO 105-7117 JP

### RG430N(#)

Polyamide 6T (PA6T), glass reinforced, "Arlen", furnished as pellets

Color	Min Thk	Flame	HWI	HAI	RTI	RTI	RTI
	(mm)	Class			Elec	Imp	Str
ALL	0.2	V-0	-	-	65	65	65
	6.2	V-0	-	-	65	65	65

Comparative Tracking Index (CTI): 0

Inclined Plane Tracking (IPT): -

Dielectric Strength (kV/mm): -

Volume Resistivity (10<sup>8</sup> ohm-cm): -

High-Voltage Arc Tracking Rate (HVTR): -

High Volt, Low Current Arc Resis (D495): -

Dimensional Stability (%): -

(#) - May be followed by 1 to 4 digits and/or letters

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

Report Date: 2011-09-28

Last Revised: 2011-09-28

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## IEC and ISO Test Methods

Test Name	Test Method	Units	Thickness	Value
			Tested (mm)	
Flammability	IEC 60695-11-10	Class (color)	0.2	V-0 (ALL)
			6.2	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	3.0	CTI600
IEC Ball Pressure	IEC 60695-10-2	C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m <sup>2</sup>	-	-
ISO Izod Impact	ISO 180	kJ/m <sup>2</sup>	-	-
ISO Charpy Impact	ISO 179-2	kJ/m <sup>2</sup>	-	-

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The materials covered in this database are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. THE FINAL ACCEPTANCE OF THE COMPONENT IS DEPENDENT UPON ITS INSTALLATION AND USE IN COMPLETE PRODUCTS SUBMITTED TO UNDERWRITERS LABORATORIES INC.

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Material Contact :Copper Alloy (C2700)

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## 材質測試報告 ( Test Report )

客戶名稱 (Title of customer)	台聘股份有限公司			出貨日期 (Date of delivery)	2018/04/02			
訂單號碼 (Number of order)				製造批號 (Manufacture No)	爐號：7010604 序號：A1070313013			
材質名稱 (Spec.)	訂單規格 (Ordered Dimension)		容許公差 (Tolerance)		實際規格 (Measured Dimension)			
JIS H3260 C2700 W-1/8H	尺寸(mm) (Diameter)	1.7	+0 -0.020		1.693			
			+					
	長度(mm) (Length)	—	+		—			
			-					
化學分析 (Chemical Analysis)								
使用儀器 (Instrument)	光譜分析儀 (Spark Metal Analyser)							
元素名稱 (Element)	銅 (Cu)	鉛 (Pb)	鋅 (Zn)	鐵 (Fe)	錫 (Sn)	鐵+錫 (Fe)+(Sn)	鈹 (Bi)	鎘 (Cd)
標準規範 % (Specification)	63.0-67.0	≤0.05	Balance	≤0.05	—	—	—	≤75ppm
實際含量 % (Actual value)	65.3	28ppm	Balance	90ppm	77ppm	0.02	5ppm	5ppm
外觀及物理性質 (Exteriority Check And Physical Properties )								
外觀 (Exteriority)	外觀檢驗 (Exter Appear)	OK			直度檢驗 (Camber)			
使用儀器 (Instrument)	材料試驗機 (Material test machine)				測試方法 (Method of test)	JIS Z 2241		
物理性質 (Physical character)	時期破裂試驗 (S.C.C. Test)	抗拉強度 (Tensile strength)			延伸率 (Elongation)	硬度 (Hardness)		
標準規範 (Specification)	—	— (N/mm <sup>2</sup> )			— %	— HV		
實測數值 (Actual value)	—	364 (N/mm <sup>2</sup> )			35 %	— HV		
單位主管 (Supervisor)	洪凱新				檢驗員 (Operator)	黃聖鎮		
<p>以上材質樣本經測試後核對無誤，符合標準規範。 The above material sample has been tested and check correct to comply with the specification.</p> <p>國晟工業股份有限公司 GWO CHERN INDUSTRIAL CO., LTD.</p> 								