



## 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.
Board to Board Male	2383-xxMG00DPT-P	2383D01001
Board to Board Female	2383-xxFG00DPxT-P	2383D02001

PRODUCT NAME 產品名稱	DOCUMENT No.: 文件編號	Rev. 版本	OUPIIN
0.80mm Pitch Board To Board Connector	Q2383-PSS-001	A	歐品電子
	<b>Approved</b> 核准	<b>Checked</b> 審核	<b>Prepared</b> 制作
	Q.A. Section Chief	Joseph Yen	05.02/2017



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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 Board to Board 0.8 mm , 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 Board to Board 0.8 mm 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-202	Test method for electrical components (電子零件測試方法)
EIA 364	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。)



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

Rating current is 0.5A, rating voltage is 50V DC/AC RMS.

額定電流 0.5A，額定電壓 50V DC/AC RMS。

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

Temperature range: -55°C~+125°C, including terminal temperature rise for rating current.

溫度範圍：-55°C~+125°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°C per second.

(溫度增加不超過 4°C /秒,)

#### 2 Soldering (焊接)

Maximum allowable time above reflow temperature of 150~200°C is 90~120 seconds. Maximum temperature in this interval is 260°C, not to exceed 5 seconds.

(回流焊溫度150~200°C時最長不超過90~120秒。最高溫度260°C時間不超過5秒.)

#### 3 Cool Down (冷卻)

Cool down shall not exceed 5°C per second.

(冷卻速度不超過5°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.)



## **PRODUCT SPECIFICATION OF OUPIIN**

### **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；)



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**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)	40 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)	100 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 (250 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 )(250V DC±10%)
4. Dielectric Strength (耐電壓)	Connector must withstand test potential of 500 V AC for 1 minute. Current leakage must be 0.2 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 0.2 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: 40 mΩ Max. after testing. (測試後接觸阻抗最大 40mΩ)	The sample should be mounted the tester and fully mated and unmated 100 cycles specified at the rate of 25mm/min (重複進行配合產品 100 次插拔.)
6. Connector Mated / Unmated Force (產品插拔力)	Mated force : 0.1 Kg max. per contact Unmated force : 0.006 Kg min. per contact 插入力: 0.1 Kg 最大 per contact 拔出力: 0.006 Kg 最小 per contact	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)



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<p>7. Thermal shock (熱衝擊)</p>	<p>After testing, no damage, Contact Resistance 30 mΩ max.. Dielectric Strength should be OK, Insulation Resistance should be 500 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 500MΩ 最小;)</p>	<p>Temperature range from -55°C to +85°C .Start from -55°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: -55°C ~ +85°C; 從 -55°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.)</p>
<p>8. Humidity (恆溫恆濕)</p>	<p>After testing, no damage, Contact Resistance 30 mΩ max.. Dielectric Strength should be OK, Insulation Resistance should be 500 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 500MΩ 最小;)</p>	<p>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。)</p>
<p>9.High temperature Life (高溫老化)</p>	<p>After testing, no damage, Contact Resistance 30 mΩ max.. Dielectric Strength should be OK, Insulation Resistance should be 500 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 500MΩ 最小;)</p>	<p>Subject product to 125±2°C for 96 hours continuously. MIL-STD-202, Method 108. (產品置於 125±2°C 連續 96 小時, 適用 MIL-STD-202, 方法 108。)</p>
<p>10. Solder ability (可焊性)</p>	<p>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, 在放大倍數為 10 倍的顯微鏡下, 檢查外觀損壞如: 小孔, 空焊, 外觀粗糙度; )</p>	<p>Soldering time: 3 to 5 Seconds (焊接時間: 3~5 秒) Peak Temperature: 260±5°C. (最高溫度: 260±5°C.)</p>



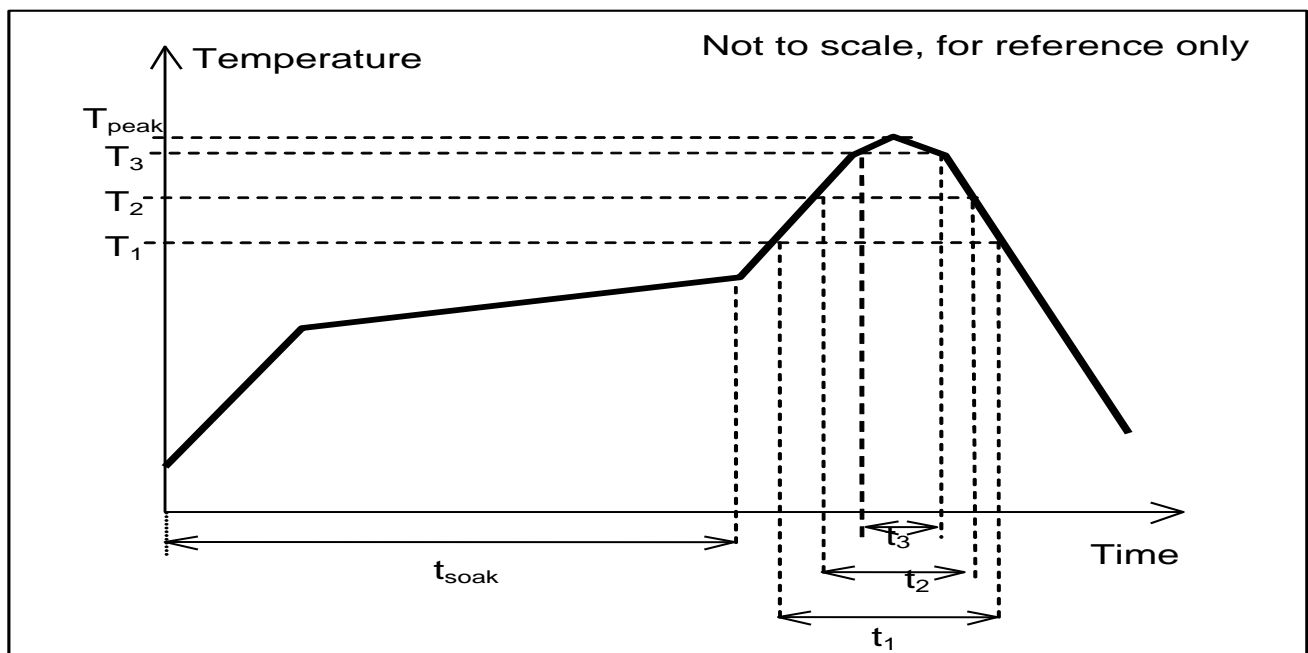
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Table II: Reflow soldering profile

(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	$T_{\text{soak}}$	60 Seconds (max)
Time Above 150~180°C	$t_1$	120 Seconds (max)
Time Above 200~230°C	$t_2$	50 Seconds (max)
Time Above 230~255°C	$t_3$	10 Seconds (max)
Peak temperature in reflow (回流焊接中最高溫度)	$T_{\text{peak}}$	260°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 : I662-PA9T

[SGS Test Report Click here](#)

[如需 SGS 測試報告請點選此處](#)

## Material properties of Genestar

Grade	Unit	Test method (ASTM)	Genestar			Other products (Non-halogen grade)			
			GW1458HF Non-halo (HB)	GW2458HF Halogen (V-0)	GP2450NH Non-halo (V-0)	PA6T FR52G30 NH	PA10T R630NH	PA10T XE4027 (HT3)	LCP E130i
Glass fiber content	%	-	45	45	45	30	30	30	30

### Physical properties

Specific gravity	g/cm <sup>3</sup>	-	1.50	1.73	1.53	1.45	1.40	1.39	1.61
Water absorption (105F.40c/95%RH/168hrs)	%	-	1.1	0.8	1.0	<3.5>	<1.6>	<1.5>	0.04
Flammability	-	UL94	HB	V-0	V-0	V-0	V-0	V-0	V-0
			0.75-3.0mm	0.75-3.0mm	0.4mm	0.4-3.0mm	0.4mm	0.35-3.0mm	0.75-3.0mm

### Mechanical properties

Tensile strength	MPa	D638	150	165	151	149	132	117	150
Tensile elongation	%	D638	3.1	3.5	3.0	2.4	2.7	2.0	2.4
Weld strength	MPa	D638	32	35	32	52	41	52	20
Weld elongation	%	D638	0.4	0.3	0.4	0.7	0.6	0.8	0.2
Flexural strength	MPa	D790	207	225	203	188	182	161	167
Flexural modulus	GPa	D790	13	15	12.5	9.4	9.4	8.7	11
Izod impact strength (notched)	J/m	D256	130	125	90	62	68	72	116

### Flow properties

Bar-flow length (320c/0.5mmt/750kgf)	mm	-	62	71	58	66 <325c>	47 <310c>	50 <310c>	80 <340c>
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### Thermal properties

Melting point	F/C	-	583/306	583/306	583/306	599/315	576/302	581/305	—
Glass transition	F/C	-	257/125	257/125	257/125	—	—	—	—
DTUL (1.82MPa)	F/C	D648	554/290	545/285	545/285	552/289	522/272	514/268	527/275

### Electrical properties

Dielectric strength	MV/m	D149	30	30	30	26	—	39	30
Volume resistivity	$\Omega$ cm	D257	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>13</sup>	10 <sup>15</sup>	10 <sup>9</sup>	10 <sup>16</sup>
Tracking resistance	PLC	IEC60112	0 *	0	0	0	—	0	3
Relative permittivity (10GHz)	-	D150	3.6	3.8	3.6	—	—	—	4.2
Dielectric loss tangent (10GHz)	-	D150	0.01	0.01	0.009	—	—	—	0.018

### Dimensional properties

Molding shrinkage : MD/TD (Thickness)	%	-	0.05/0.5 (1mmt)	0.03/0.4 (1mmt)	0.04/0.5 (1mmt)	—	—	—	0.1/0.6 (1mmt)
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Table shows typical values, which are not specified values.

06-May-10





# PRODUCT SPECIFICATION OF OUPIIN

Material Housing :UL

Component - Plastics

E90350

**KURARAY CO LTD**

GENESTAR DIV, OTE CENTER BLDG 1-1-3, OTEMACHI, CHIYODA-KU TOKYO 100-8115 JP

**GP2450NH**

Polyamide 9T (PA9T), "Genestar", furnished as pellets

Color	Min Thk	Flame			RTI	RTI	RTI
	(mm)	Class	HWI	HAI	Elec	Imp	Str
ALL	0.40-0.44	V-0	3	3	140	90	130
	1.5	-	-	-	140	90	130
	3.0	-	-	-	140	100	140

Comparative Tracking Index (CTI): **0**

Inclined Plane Tracking (IPT): -

Dielectric Strength (kV/mm): -

Volume Resistivity (10<sup>9</sup> ohm-cm) : -

High-Voltage Arc Tracking Rate (HVTR): **0**

High Volt, Low Current Arc Resis (D495): **4**

Dimensional Stability (%): -

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:2009-10-28

Last Revised:2013-06-28

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# PRODUCT SPECIFICATION OF OUPIIN

Material Contact : C2680 (Brass)

[SGS Test Report Click here](#)

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GUO CHING PRECISION CO., LTD

## 試驗成績表

### REPORT OF MATERIAL TEST

客戶： Customer	弘振企業股份有限公司	國慶精密股份有限公司 桃園縣龜山鄉大崗村大湖路2-17號
品名： Product	C2680-H	尺寸： Size
料號： Lot No	950327030	日期： Date
		TEL：03-2115391-8 FAX：03-2115399

### 化學成份 CHEMICAL COMPOSITION

元素 ELEMENT	Cu %	Fe	Pb
規範 MAX	68.000	0.050	0.090
SPEC MIN	64.000	-	-
分析值 ANALYSIS VALUE	64.714	0.010	0.004

### 試驗 TEST RESULT

項目 ITEM	抗張 Tensile Strength kgf/mm2	伸長 Elongation %	硬度 Hardness Test o	結晶粒度 Grain Size µm	導電率 Electric Conductivity
規範 CONDITION	-	-	HV	-	-
SPEC MAX	55.000	-	175.000	-	-
SPEC MIN	42.000	10.000	105.000	-	-
測驗值 MEASURE-MENT VALUE	48.740	17.920	150-152	-	25.300



Approved by:



Checked by:

