



## PRODUCT SPECIFICATION OF Oupiin

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## 產品規格書

產品名稱 Description	產品料號 Part No.	圖號 Drawing No.
DIN41612 R&Q&Half R&Half Q Type Male/Female Dip Connector	9001-A14xx1CxxA	9001D14013
	9001-A18xx1CxxA-(Axxx)	9001D180xx
	9001-A24xx1CxxA	9001D14013
	9001-A28xx1CxxA	9001D18008
	9001-A34xx1CxxA	9001D34003
	9001-A38xx1CxxA	9001D38004
	9001-A44xx1CxxA	9001D34003
	9001-A48xx1CxxA	9001D38004

PRODUCT NAME 產品名稱	DOCUMENT No. 文件編號	Rev. 版本	OUPIIN
DIN41612 R&Q&Half R&Half Q Type Male/Female Dip Connector	9001-Aspec-14+24	B	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	01.25/2018



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## 1. SCOPE 適用範圍

This product specification defines the product performance and the test methods to ascertain the performance of the DIN41612 R&Q&Half R& Half Q Type Male/Female Dip Connector, which is designed and manufactured by Oupiin Electronic Co., Ltd. This product specification is applicable but not only for those part numbers which be shown in the cover page.

本產品規格書規定了由歐品電子有限公司設計生產的 DIN41612 R&Q&Half R& Half Q Type Male/Female Dip 型連接器，產品的特性及測試方法。本產品規格書適用於但不局限於封面所顯示的產品料號。

## 2. REFERENCE DOCUMENTS 參考文件

MIL-STD-1344	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
EIA364	Test method for electrical components 電子連接器測試方法

## 3. FEATURE & DIMENSIONS 特征及尺寸

### 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見圖面。

### 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 參見圖面。

### 3.3. BILL OF MATERIAL 材料清單

Harmful material controlling follows the requirements of RoHS. The bill of material 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見圖面。

### 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參見圖面。

### 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 2.0A, rating voltage is 500V DC/AC RMS.

額定電流 2.0A · 額定電壓 500V DC/AC RMS。

## 3.7 STORAGE AND OPERATING TEMPERATURE 存貯與使用溫度

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-202, and shall be free of contaminants.

產品可焊性符合 MIL-STD-202 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

#### 4.2.1. WAVE SOLDER 波峰焊接

Each cycle consists of three consecutive phases.

每個焊接週期包括三個連續的階段。

##### 4.2.1.1. 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。

##### 4.2.1.2. 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 230~255°C for products with lead, or 255~270°C for lead-free products. The tin dip time is duration for 3~10 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 230~255°C · 無鉛產品控制在 255~270°C。浸錫時間控制在 3~10 秒。

##### 4.2.1.3. 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。



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## 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 at least.

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，每組測試至少有 5 個樣品。



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**Table I: Test Requirements and Methods**

附表一：測試要求與方法

Items 項目	Requirements 要求	Test Methods 測試方法
1. Confirmation of Product 產品確認	Product shall be conforming to the requirements of applicable product drawing. 產品必須符合相關產品圖面的要求。	Visually, dimensions and functionally inspected per applicable product drawing. 依相關產品圖面，檢查產品的外觀、尺寸及功能。
2. Contact Resistance 接觸阻抗	20 mΩ Max. Initial. 初始狀態最大 20 mΩ。	Subject mated contacts assembled in housing to closed circuit of 100 mA max. 20 mV max. MIL-STD-202, Method 307. 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 max，電壓 20 mV max。適用：MIL-STD-202，方法 307。
3. Insulation Resistance 絕緣阻抗	1000 MΩ Min. 最小 1000 MΩ。	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%). 測試產品相鄰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 (500 V DC±10%)。
4. Dielectric Withstanding Voltage 耐電壓	Connector must withstand test potential of 1000 VAC RMS for 1 minute, current leakage must be 0.3mA Max. 產品必須承受測試電壓 1000 VAC RMS，時間 1 分鐘，漏電流不大於 0.3 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. 對產品相鄰端子間以及端子與接地間加載電壓，並測試其漏電流。適用：MIL-STD-202，方法 301。
5. Durability (Repeated Mating /Un-mating) 耐久性	Contact Resistance: 35 mΩ Max. after testing. 測試後接觸阻抗最大 35 mΩ。	Repeat mate and unmated for connector 250 cycles, at a speed of 2 cycles per minute. 重復進行配合產品 250 次插拔，速度每分鐘 2 次。
6. Connector Pin Mating /Un-mating Force 單支端子插入力/拔出力	Mating force: 0.9N/Pin Max. Un-mating force: 0.15 N/Pin Min. 插入力最大 0.9 N/Pin。拔出力最小 0.15N/Pin。	At a speed of 25±3 mm/minute, apply axial insert the mating part into fully or pull out from the subject product. 以 25±3 mm/分鐘的速度，軸向完全插入對配插件到被測產品中或從被測產品中拔出。



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<p>7. Contact Retention Force 端子保持力</p>	<p>10.0 N/Pin Min. 最小 10.0 N/Pin。</p>	<p>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。</p>
<p>8. Thermal Shock 熱衝擊</p>	<p>After testing, no damage, Contact Resistance 35 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ Min. 測試後產品無損壞。接觸阻抗最大 35 mΩ；耐電壓測試 OK。絕緣阻抗最小 1000 MΩ。</p>	<p>Temperature range from -55°C to +85°C. Start from -55°C, after 30 minutes, change to +85°C; change time is no more than 30 seconds, total 5 cycles. MIL-STD-202, Method 107, 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 107。條件 A。</p>
<p>9. Humidity (Steady State) 恆溫恆濕</p>	<p>After testing, no damage, Contact Resistance 35 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ Min. 測試後產品無損壞。接觸阻抗最大 35 mΩ；耐電壓測試 OK。絕緣阻抗最小 1000 MΩ。</p>	<p>Temperature: 40±2°C. Relative Humidity: 90-95%. Duration: 96 Hours. MIL-STD-202, Method 103, condition B. 溫度：40±2°C。相對濕度：90-95%。持續時間：96 小時。適用：MIL-STD-202。方法 103。條件 B。</p>
<p>10. Salt Spray 鹽霧</p>	<p>After testing, no damage, Contact Resistance 35 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ Min. 測試後產品無損壞。接觸阻抗最大 35 mΩ；耐電壓測試 OK。絕緣阻抗最小 1000 MΩ。</p>	<p>5±1% salt concentration 48 hours 35±2°C MIL-STD-202, Method 101, condition B. 鹽水濃度 5±1%。時間 48 小時。溫度 35±2°C。適用：MIL-STD-202。方法 101。條件 B。</p>
<p>11. High Temperature Life 高溫老化</p>	<p>After testing, no damage, Contact Resistance 35 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ Min. 測試後產品無損壞。接觸阻抗最大 35 mΩ；耐電壓測試 OK。絕緣阻抗最小 1000 MΩ。</p>	<p>Subject product to 125±3°C for 96 hours continuously. MIL-STD-202, Method 108, condition A. 產品置於 125±3°C 連續 96 小時。 適用：MIL-STD-202, 方法 108。條件 A。</p>
<p>12. 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. 產品在測試完成後。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: 4 to 6 seconds. Temperature: 260±5°C. MIL-STD-202, Method 208. 焊接時間：4~6 秒。溫度：260±5°C。 適用：MIL-STD-202。方法 208。</p>



# PRODUCT SPECIFICATION OF Oupin

Material Housing : 001-PBT

[SGS Test Report Click here](#)

[如需 SGS 測試報告請點選此處](#)

## 長春人造樹脂廠股份有限公司

台北市松江路三〇一號七樓

**CHANG CHUN PLASTICS CO., LTD.**

NO.301, SONGKIANG ROAD, 7<sup>TH</sup> FL.,  
TAIPEI, 10477 TAIWAN

TEL:886-2-25001883  
FAX:886-2-25018018

### CCP PBT 4830BK PROPERTIES

MATERIAL : PBT4830BK

VENDOR: CHANG CHUN PLASTICS CO., LTD.

TEST ITEM	TEST METHOD	UNIT	QC RANGE
比重 (SPECIFIC GRAVITY)	ASTM D-792		$\geq 1.57$
灰份 (ASH)		%	28-32
抗張強度 (TENSILE STRENGTH)	ASTM D-638	KG/CM <sup>2</sup>	$\geq 1000$
伸長率 (ELONGATION)	CCP METHOD	%	$\geq 3.0$
抗折強度 (FLEXURAL STRENGTH)	ASTM D-790	KG/CM <sup>2</sup>	$\geq 1500$
抗折模數 (MODULUS)	ASTM D-790	KG/CM <sup>2</sup>	$\geq 70000$
衝擊強度 (IMPACT STRENGTH, NOTCHED)	ASTM D256	KG-CM/CM	$\geq 7.0$
熔融指數 (MELT INDEX)	ASTM D-1238	g/10MIN	14-26



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Material Housing :UL

QMFZ2 Component - Plastics

Wednesday, May 25, 2005

E59481

**CHANG CHUN PLASTICS CO LTD**

7TH FL 301 SONGKIANG RD TAIPEI TW

Material Designation: **PBT-4830**

Product Description: Polybutylene Terephthalate (PBT), glass reinforced, designated "LONGLITE" furnished as pellets.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
ALL	3.0-3.2	V-0	0	1	75	75	75	-	-
<b>CTI: 3</b>	<b>IEC CTI (V): -</b>	<b>HVTR: 2</b>			<b>D495: 7</b>			IEC Ball Pressure (°C): -	
Dielectric Strength (kV/mm): -		Volume Resistivity (10 <sup>12</sup> ohm-cm): -				Dimensional Stability(%): -			
ISO Tensile Strength (MPa): -		ISO Flexural Strength (MPa): -				ISO Heat Deflection (°C): -			
ISO Tensile Impact (kJ/m <sup>2</sup> ): -		ISO Ind Impact (kJ/m <sup>2</sup> ): -				ISO Charpy Impact (kJ/m <sup>2</sup> ): -			

Report Date: 9/1/1987

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 ULL.





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Material : Copper Alloy (Phosphor Bronze C5191)

[SGS Test Report Click here](#)

如需 SGS 測試報告請點選此處



## REPORT OF MATERIAL TEST

DATE: AUG.05,2000

Customer: 亞松貿易有限公司	Commodity: C 5191 R PHOSPHOR BRONZE STRIP ( H )	ISO 9002:4M8Y035-00 台正字第 3545 號
Applied Standard: CNS 9503 Phosphor Bronze Sheets, Plates and Strips		

### Chemical Analysis Test

Work No.	Size of Product			P(%)	Sn(%)	Cu+Sn+P(%)			
	Thickness (mm)	Width (mm)	Length (mm)						
	Standard								
				0.030 - 0.350	5.50 - 7.00	min. 99.50			
87C194A	0.400	624.000		0.139	5.979	99.967			

### Mechanical & Physical Test

Work No.	Size of Product			Dimension Test		Tension Test		Hardness Test HV	Grain Size (mm)	Electric Conductivity (%)
	Thickness (mm)	Width (mm)	Length (mm)	Thickness (mm)	Width (mm)	Tensile Strength (kgf/mm <sup>2</sup> )	Elongation (%)			
	Standard			-	(-) 0.10 - (+) 0.00	60 - 70	min. 8			
								190 - 200	-	-
87C194A	0.400	624.000		GOOD.	GOOD.	60.70	21.66	190.0 - 191.0	-	14.6

MINCHALI METAL INDUSTRY CO., LTD.

11, Pei Yuan Road, Chung Li City, Taiwan, R. O. C.

QC Supervisor

陳建祥

4020203