PRODUCT SPECIFICATION

(產品規格書)

PRODUCT NAME (產品名稱)	產品料號 Part No.	圖號 Drawing No.
DIN 41612 Female	9001-C32xx1CxxxxA	9001-D0000-005
	9001-C42xx1CxxxxA	9001-D0000-005

PRODUCT NAME (產品名稱)	**DOCUMENT No.:** (文件編號)	**Rev.** (版本)	**OUPIIN** (歐品)
DIN 41612 Female	9001-Cspec-32+42	**C**	
	Approved (核準)	**Checked** (審核)	**Prepared** (製作)
	QA. Chief	Joseph Yen	01.17/2018

1. SCOPE （範圍）

This product specification defines the product performance and the test methods to ascertain the performance of the DIN 41612 (Female) , 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 DIN 41612 (Female) 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）
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. 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Tray 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 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 *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）

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 230~255°C for products with lead, or 255~265°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255~265°C。浸錫時間控制在3~10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 1000 V AC for 1 minute. Current leakage must be 0.5 mA max. (樣品必須承受測試電壓 1000V AC，時間一分鐘，漏電流不大於 0.5 A.)	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 (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 250 cycles specified at the rate of 25mm/min (重復進行配合產品 250 次插拔.)
6. Connector Insertion/Withdrawal Force (產品插拔力)	Insertion force : (插入力: xx N 最大) 64 Pin max. 60 N 32 Pin max. 30 N 16 Pin max. 15 N Withdrawal force : 0.15 N min. per individual 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)

	單孔拔出力: 0.15 N 最小	
7. Thermal shock (熱衝擊)	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;)	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.)
8. Humidity (恆溫恆濕)	After testing, no damage, Contact Resistance 30mΩ max.. Dielectric Strength should be OK, Insulation Resistance should be 1000MΩ 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;)	Temperature :85±2°C 96 hours. (溫度：85±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 (高溫)	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;)	Subject product to 85±2°C for 96 hours continuously. MIL-STD-202, Method 108. (產品置於 85±2°C 連續 96 小時， 適用 MIL-STD-202, 方法 108。)
10. Salt Spray (鹽霧)	After testing, no damage, Contact Resistance 50 mΩ max.. (測試後,產品無損壞，接觸阻抗： 50 mΩ最大)	5±1% salt concentration 24 hours 35±2°C MIL-STD-202, Method 101 Condition B. (鹽水濃度（重量比）5±1%，時間 24 小時， 溫度 35±2°C；MIL-STD-202， 方法 101 條件 B.)
11. 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，在放大倍數為 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.)

Material Housing：004-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 10477 松江路三零一號七樓

CHANG CHUN PLASTICS CO.,LTD.

TLX:2253 LONGLITE NO.301 SONGKIANG ROAD, 7FL., TAIPEI. 10477 TAIWAN FAX: (02)25033378
CABLE ADDRESS: LONGLITE TAIPEI TEL: (02)25038131

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材 質 證 明

MATERIAL FORMULATION CONFIDENTIAL REPORT

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廠商 Customer：
材質名稱 Type of Material：PBT (Poly Butylene terephthalate)聚丁烯對苯二甲酸酯
規格 Grade：PBT 4130

說明 Description：

PBT-4130 複合材料包含 PBT 純樹脂、玻纖、溴化耐燃劑及少量添加劑。PBT 4130 完全符合 RoHS 指令的規定。

The raw material of PBT-4130 compound contains PBT pure resin, glass fiber, flame retardant, and few of additives. Our PBT-4130 are completely up to the regulations specified in RoHS directive.

PBT 複合材料成分表
Chemical Composition of PBT Compound

規格 Grade				4130
組成 Chemical Composition		Molecular formula	CAS Number	含量(%) Content (%)
1	PBT 樹脂 PBT resin	$(C_{12}H_{12}O_4)_n$	26062-94-2	40~56
2	玻璃纖維 Glass Fiber	$SiO_2 \cdot CaO \cdot Al_2O_3$	65997-17-3	30
3	耐燃劑 Flame Retardant	$(C_{18}H_{16}Br_4O_3)_n$ $(C_{16}H_{10}Br_4O_3)_n$	68928-70-1 71342-77-3	12~17
4	耐燃劑 Flame Retardant	Sb_2O_3	1309-64-4	2~5
5	添加劑 Additives	N.A.	NA	0~6

供應商 MATERIAL SUPPLIER

Company: *CHANG CHUN PLASTICS CO., LTD KAOHSIUNG FACTORY*

Signature: *Ching-Neng Tseng / Section Manager / Technical Section*

Address: *No.14 KUNG-YEH 1ST ROAD. JEN-WU INDUSTRIES DISTRICT, KAOHSIUNG, TAIWAN, ROC.*

Date: *Sep.09, 2006*

Material Housing :UL

QMFZ2 Component - Plastics Monday, February 26, 2007 E59481

CHANG CHUN PLASTICS CO LTD
7TH FL 301 SONGKIANG RD TAIPEI TW

Material Designation: **4130 (a)**

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	0.40	V-0	4	0	75	75	75	-	-
	0.74	V-0	4	0	120	120	140	-	-
	1.5	V-0	3	0	120	120	140	-	-
	3.0	V-0	2	0	120	120	140	-	-

CTI: 2 **IEC CTI** (V): - **HVTR:** 4 **D495:** 7 **IEC Ball Pressure** (°C): 210

Dielectric Strength (kV/mm): 28 **Volume Resistivity** (10^xohm-cm): 14 **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): -

(a) Ball pressure temperature of 210 C in accordance with IEC.695.10.2 and IEC 950.5.4.10

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 ULI.

Material Contact : Copper Alloy (Phosphor Bronze)

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如需 SGS 測試報告請點選此處

REPORT OF MATERIAL TEST

MINCHALI

DATE: FEB.23,2005 4

Customer: 歐品電子有限公司 | 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
3CC195A	0.300	305.000		0.145	6.000	99.974				

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	-	-
3CC195A	0.300	305.000		GOOD.	GOOD.	63.57	21.38	201.0 - 203.0	-	14.4

QC Supervisor 鄭建益

MINCHALI METAL INDUSTRY CO., LTD.
11, Pei Yuan Road, Chung Li City, Taiwan, R. O. C.
Tel : (03)4526141-5 (03)4526017-9

Material Lock : 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

MINCHALI

DATE: FEB.23,2005 4

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(%)				P.O. NUMBER
Standard				0.030 - 0.350	5.50 - 7.00	min. 99.50				
3CC195A	0.300	305.000		0.145	6.000	99.974				

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 Conductivity (%)
Standard				-	(-) 0.10 - (+) 0.00	min. 58	-	min. 170	-	-
3CC195A	0.300	305.000		GOOD.	GOOD.	63.57	21.38	201.0 - 203.0	-	14.4

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