



PRODUCT SPECIFICATION

產品規格書

產品名稱 Description	產品料號 Part No.	圖號 Drawing No.
Power (+Signal) Press Fit and Dip Connector	9113-C13ABS06CB30-CB30DPA	9113-D0000-011
	9114-C13ABS06CB30-CB30PPA	9114-D0000-007

PRODUCT NAME 產品名稱	DOCUMENT No.: 文件編號	Rev. 版本	OUPIIN
Power(+Signal)Press Fit and Dip Connector	Q9113-PSS-004	B	歐品電子
	Approved 核准	Checked 審核	Prepared 制作
	QA. Chief	Joseph Yen	OCT.21/2016



PRODUCT SPECIFICATION OF Oupiin

1. COPE 適用範圍

This product specification defines the product performance and the test methods to ascertain the performance of the Power(+Signal) Press Fit (Dip)Type 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 Power(+Signal) Press Fit (Dip)Type 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 電子零件測試方法
JIS C 0051	Test method for electrical components 電子零件測試方法
MIL-G-45204C	Specification for gold plating 鍍金規格
IEC-512-3	IEC standard for current carrying capacity tests IEC電流測試標準
UL1977	UL standard for safety of attachment plug and receptacle UL安規要求標準

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.



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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 :20A(PCB Spered copper thickness 2ozx2).Signal Pin 1A.

Rating voltage:600V DC(POWER), Rating voltage:48V DC(Signal)

額定電流POWER PIN:20A(PCB鋪銅厚度2ozx2) · Signal Pin 1A,額定電壓600V DC(電源).

額定電壓Signal PIN:48V DC(信號)

3.7 STORAGE AND OPERATING TEMPERATURE 存貯與使用溫度

Operating Temperature: -25°C~+105°C, including terminal temperature rise for rating current.

Storage Temperature:0°C~+40°C, Humidity:80%RH, Time limit is 18months the products are stored.

使用溫度：-25°C~+105°C(包涵接觸端子的額定電流溫昇)

儲存溫度：0°C~+40°C，濕度：80%RH以下，產品現存時間為18個月

4. ENVIRONMENTAL (環境要求)

4.1. SOLDERABILITY (可焊性)

Connectors meet solder ability to MIL-STD-202. Finish 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 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)

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)



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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 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。

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	Power Pin: 1 mΩ Max. initial; Signal Pin: 30 mΩ Max. initial. Power Pin: 初始狀態最大 1 mΩ; Signal Pin: 初始狀態最大 30 mΩ。	Subject mated contacts assembled in housing to closed circuit. EIA 364 TP06 所述固定在外殼裏的端子連結到一個封閉回路中測試。 適用：EIA 364 TP06.
3. Insulation Resistance 絕緣阻抗	Insulation Resistance Power Pin: 1500 MΩ Min; Signal Pin: 1000 MΩ Min. 產品絕緣電阻值 Power Pin: 最小 1500 MΩ; Signal Pin 最小 1000 MΩ	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. EIA 364 TP06 Condition B (500 V AC±10%). 測試產品相鄰端子間以及端子與接地間的電阻，適用：EIA 364 TP21，條件 B (500 V AC±10%)。
4. Dielectric Withstanding Voltage 耐電壓	Power Pin must withstand test potential of 2500 VAC RMS for 1 minute, current leakage must be 1mA Max. Signal Pin must withstand test potential of 750 VAC RMS for 1 minute, current leakage must be 1mA Max. Power Pin 必須承受測試電壓 2500 VAC RMS，時間 1 分鐘，漏電流不大於 1 mA。Signal Pin 必須承受測試電壓 750 VAC RMS，時間 1 分鐘，漏電流不大於 1 mA。	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. EIA 364 TP20 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：EIA 364 TP20
5. Durability (Repeated Mating/Un-mating) 耐久性	Power Pin: 1mΩ Max. initial. Contact resistance change 0.2 mΩ。 Signal Pin: 30 mΩ Max. initial. Contact resistance change 10 mΩ Power Pin: 初始狀態最大 1 mΩ。:	Repeat mate and unmated for connector 250 cycles, at a speed of 25.4±3mm per minute. 重複進行配合產品 250 次插拔，速度每分鐘 25.4±3mm



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	<p>接觸電阻變化值 0.2mΩ·Signal Pin 初始狀態最大 30 mΩ。 接觸電阻 變化值 10mΩ。</p>	
<p>6. Contact Retention Force, 端子保持力,</p>	<p>Power Pin:25N/Pin. Min. Signal Pin:10N/Pin. Min Power Pin 每支最小 25N. Signal Pin 每支最小 10N</p>	<p>Apply axial pull out force at a speed of 25.4±3 mm/minute on the contact assembled in the housing. 以 25.4±3mm/分鐘的速度施加軸向拉力從塑膠本體上 拔出端子。</p>
<p>7.1 Mating /Un-mating Force 插入力/拔出力</p>	<p>Power:Mating force : 15N Max/Pin; Power:Un-mating force:1.5N Min/Pin; Middle in strength in single PIN signal PIN: 1.7N Mx/Pin; The single PIN signal PIN is pulled out and exerted oneself: The end son hangs one gram of strength 0.2 5N/Pin Min . 單Pin電源插 入力:15N Max 單Pin電源 拔出力:1.5N Min 單 Pin 信號 插入力:1.7N/Pin Max 單 Pin 信號 拔出力 : 0.25N/Pin Min</p>	<p>At a speed of 25.4±3 mm/minute, apply axial insert the mating part into fully or pull out from the subject proually mix common Pin to truss up with 20g weight, common Pin gives and is open after inserting mother cup port, freedom state weight has not dropped. 以 25.4±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;· 互配公 Pin 用 20g 砝碼捆綁·公 Pin 插入母杯口後送 開· 自由狀態砝碼無掉落。</p>
<p>7.2 Connector Pin Press in/Retention Force 單只端子壓入&拔出 PCB 孔的力量</p>	<p>Press in Force per Pin: 60N Max Retention in Force per Pin: Power Pin 15N Min, Signal Pin:15N/PIN Female Plastic post force:50N/Min Compliant all Pin Insertion Force:2500N Max 壓入力最大 : 60N/PIN 拉出力最小 : Power Pin:15N/PIN Signal Pin:15N/PIN 母座塑膠定位柱保持力 : 50N/Min. 器件承受的最大壓接力 : 2500N Max</p>	<p>At a speed of 25.4±3 mm/minute, apply axial Press in PCB to Right Prostion or Pull out from PCB. 以 25.4±3 mm/分鐘的速度軸向施加壓力將 Press 部分 壓 入 PCB 孔適當位置或從 PCB 孔中拉出。</p>
<p>8. Vibration Sinusoidal Low Frequency 低頻正弦振動</p>	<p>No electrical discontinuity greater than 1 μs shall occur, Power Contact resistance change 0.2 mΩ.Signal Contact resistance</p>	<p>Subject mated connector to 10-500-10 Hz traversed in1 minute at 1.50mm amplitude, 2 hours each of 3 mutually perpendicular plane, 10 mA potential applied. EIA 364 TP28</p>



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	change 10mΩ. 不允許出現超過 1 μs 的瞬間斷開。 接觸電阻 Power Pin 最大變化值 0.2mΩ, Signal Pin 最大變化值 10mΩ。	對測試產品，在頻率變化每分鐘從 10-500-10 Hz, 振幅 1.50 mm 條件下，在互相垂直的三個面上，每個面 2 小時下測量，電流 10 mA。適用：EIA 364 TP28。
9. Thermal Shock 熱衝擊	Power Pin: 1 mΩ Max. initial. Power Contact resistance change 0.2 mΩ, Signal Contact resistance change 10 mΩ。 Power Pin: 初始狀態最大 1 mΩ。 接觸電阻 Power Pin 最大變化值 0.2mΩ, Signal Pin 最大變化值 10mΩ。	Temperature range from -55°C(30 minutes) to +85°C(30 minutes). Start from -55°C, after 30 minutes, change to +85°C; change time is no more than 30 seconds, total 5 cycles. EIA 364 TP 32. 溫度變化範圍：-55°C(30 分鐘)~ +85°C(30 分鐘)。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：EIA 364 TP 32
10. Humidity (Steady State) 恆溫恆濕	After testing, no damage, Power Contact resistance change 0.2 mΩ, Signal Contact resistance change 10 mΩ. 測試後產品無損壞，接觸阻抗 Power Pin 最大變化值 0.2mΩ, Signal Pin 最大變化值 10mΩ。	Temperature: 25°C-65°C. Relative Humidity: 90-95%. Duration: 10 cycles. EIA 364 TP 31 溫度：25°C-65°C。相對濕度：90-95%。持續時間：10 個循環。適用：EIA 364 TP 3
11. Salt Spray 鹽霧	After testing, no damage, Power Contact resistance change 0.2 mΩ, Signal Contact resistance change 10mΩ. Dielectric Strength should be OK, 測試後產品無損壞，接觸阻抗: Power Pin 最大變化值 0.2mΩ, Signal Pin 最大變化值 10mΩ, 耐電壓測試 OK。	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。
12. High Temperature Life 高溫老化	After testing, no damage, Power Contact resistance change 0.2mΩ, Signal Contact resistance change 10mΩ. 測試後產品無損壞，接觸阻抗: Power Pin 最大變化值 0.2 mΩ, Signal Pin 最大變化值 10mΩ。	Subject product to 105±3°C for 250 hours continuously. EIA 364 TP 17 產品置於 105±3°C 連續 250 小時。 適用：EIA 364 TP 17。



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Material Housing : 069-LCP(Black)

[SGS Test Report Click here](#)

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長春人造樹脂廠股份有限公司

台北市 10477 松江路三 0 一號七樓

CHANG CHUN PLASTICS CO.,LTD.

CABLE ADDRESS :
LONGLITE TAIPEI
TLX:22535 LONGLITE

No.301, SONGKIANG ROAD, 7TH FL.,
TAIPEI, 10477 TAIWAN

TEL: (02)2503-8131 (REP)
FAX: (02)2503-3378

Technical Data

Liquid Crystalline Polymer Compound

LONGLITE[®] LCP 270B3G / 270N3G

LCP-270B(N)3G is liquid crystalline polymer which contains 30% glass fiber.
LCP-270B(N)3G has advantages of high heat resistance, strength and good flowability.

Physical Properties :

Items	Unit	Test Method	270B3G* 270N3G
Features	heat resistance/low warpage		
Filler	%	---	Glass Fiber
Filler Content		ASTM	30
Specific Gravity	---	D792	1.62
Water Absorption	%	D570	0.04
Shrinkage	MD	CCP method	0.19
	TD		0.39
Tensile Strength(RT)	MPa	D638	122
Tensile Elongation(RT)	%		1.8
Flexural Strength (RT)	MPa	D790	190
Flexural Modulus (RT)	GPa		12.5
Izod Impact (3.0t/w notched)	J/m	D256	110
HDT (264 psi)	°C	D648	270
Dielectric Strength	KV/mm	D149	19
Arc Resistance	sec	D495	150
UL-94(NC, BK)	Rating	UL94	V-0
Tracking Resistance (CTI)	V	D257	125
Dielectric Constant / Dk	---	10 ⁶ Hz (1 MHz)	4.5
Dielectric Tangent / Df	---	10 ⁶ Hz (1 MHz)	0.036

* Typical data : Not to be constructed as specification

LCP-270B(N)3G B : Black N : Natural color



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Material Housing :UL

UL iQ™ for Plastics

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Component - Plastics

E59481

CHANG CHUN PLASTICS CO LTD
7TH FL, 301 SONGKIANG RD, TAIPEI 104 TW

270(X1)3G

Liquid Crystal Polymer (LCP), "LONGLITE", furnished as pellets

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
BK	0.3	V-0	4	0	130	130	130
	1.0	V-0	2	0	130	130	130
	3.0	V-0	0	0	130	130	130

Comparative Tracking Index (CTI): **4**

Inclined Plane Tracking (IPT): -

Dielectric Strength (kV/mm): -

Volume Resistivity (10^x ohm-cm) : -

High-Voltage Arc Tracking Rate (HVTR): **2**

High Volt, Low Current Arc Resis (D495): **5**

Dimensional Stability (%): -

(X1) - Maybe replace by one letter N representing Natural color or B representing Black color

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:2013-07-12
Last Revised:2013-07-12

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IEC and ISO Test Methods

Test Name	Test Method	Units	Thickness Tested (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.3	V-0 (BK)
			1.0	V-0 (BK)
			3.0	V-0 (BK)
Glow-Wire Flammability (GWF1)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
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 ²	-	-
ISO Izod Impact	ISO 180	kJ/m ²	-	-
ISO Charpy Impact	ISO 179-2	kJ/m ²	-	-

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<http://iq.ul.com/iq/newiq/list.aspx?ulid=101575821>

2013/9/11



DUPIN

PRODUCT SPECIFICATION OF Oupin

Material Power Pin : Copper Alloy (C18400)

[SGS Test Report Click here](#)

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INSPECTION REPORT

客戶名稱 CUSTOMER	弘振企業股份有限公司
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鎧 蔚 企 業 有 限 公 司
METALEX ENTERPRISE CO., LTD
 No.108-3, Sec. 1, Guangfu Rd., SanChong District,
 New Taipei City 24158, Taiwan
 TEL : +886-2-2278-1989 FAX : +886-2-2999-9687

品名 PRODUCT	C18400-R540	母料號碼 LOT NO	C09I12-1F	日期 DATE	2014/10/23
規格 SIZE	0.64 X 310	重量 QUANTITY	1454 KG	序號 NO.	131000015

化學成份 CHEMICAL COMPOSITION

成分符號 ELEMENT	Cu	CR	ZR						
規格 SPEC	MIN	0.2	0.03						
(%)	MAX	1.2	0.3						
分析值 ANALYSIS VALUE	99.2250	0.5686	0.1509						

機械特性試驗 MECHANICAL TESTING

項目 ITEM	抗拉強度 Tensile Strength N/mm ²	屈服強度 Yield Strength N/mm ²	伸長率 Elongation %	導電率 Electrical Conductivity %IACS	硬度 Hardness (for reference only) HV
規格 MIN	540	500	4	83	150
SPEC MAX	630				190
實測值 MEASURED VALUE	555	510	9.5	90.12	156

尺寸量測 GEOMETRICAL DIMENSIONS

項目 ITEM	厚度 Thickness (mm)	寬度 Width (mm)	粗糙度 Ra um		
規格 MIN	0.610	309			
SPEC MAX	0.670	311	0.15		
實測值 MEASURED VALUE	0.640	310	0.07-0.08		

備註 REMARKS

*厚度≤0.12T以下者,硬度僅供參考.

責任者

品質擔當者

Theresa
2014.10.23
黃秀玲

柯智鴻

黃
2014.10.28.
筱微



PRODUCT SPECIFICATION OF Oupiin

Material Signal Pin :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.05,2009

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 ²)	Elongation (%)			
	Standard			-	(-) 0.10 - (+) 0.00	60 - 70	min. 8			
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

陳保祥

4000202