



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.
High Power And Signal Edge Card Connector	9302-4A2S24P111ACB30DA	9302-D0000-007

PRODUCT NAME 產品名稱	DOCUMENT No.: 文件編號	Rev. 版本	OUPIIN
High Power And Signal Edge Card Connector	9302spec-4A2	B(I800)	歐品電子
	Approved 核准	Checked 審核	Prepared 制作
	QA. Chief	Joseph Yen	03.12/2018



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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 High Power And Signal Edge Card 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High Power And Signal Edge Card Connector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

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。



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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。

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

Rating current: Power pin 12.5A ; Signal pin 1.5 A

額定電流: Power pin 12.5A ; Signal pin 1.5 A

Rating voltage : Power pin 250V Signal pin 30V

額定電壓 Power pin 250V; Signal pin 30V

3.7 STORAGE AND OPERATING TEMPERATURE 存貯與使用溫度

Temperature range: -55°C~+105°C, including terminal temperature rise for rating current.

Storage Temperature :0°C~+40°C, Humidity: 80%RH under 。

溫度範圍：-55°C~+105°C,包含接觸端子的額定電流溫升。

儲存溫度：0°C~+40°C，濕度：80%RH以下。

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)

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 220~250°C for products with lead, or 235~265°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



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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220~250°C，無鉛產品控制在235~265°C。浸錫時間控制在3~10秒。)

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	Power pin: 0.6 mΩ Max.initial and After test. Signal pin:25 mΩ Max initial and after test change less than 10 mΩ Max. Power pin:初始狀態和測試後接觸阻抗最大 0.6 mΩ Signal pin: 初始狀態接觸電阻 25 mΩ 測試後改變值最大 10 mΩ	Subject mated contacts assembled in housing to closed circuit of 20 mA max. EIA 364 TP06 所述固定端子連結到一個封閉回路中測試,電流 20 mA max,電壓 20 mV max。適用：EIA 364 TP06
3. Insulation Resistance 絕緣阻抗	Power pin: 5000 MΩ Min. Signal pin: 500 MΩ Min. Power pin 最小 5000 MΩ. Signal pin 最小 500 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 DC±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 TP06,條件 B (500 V DC±10%)。
4. Dielectric Withstanding Voltage 耐電壓	Power pin must withstand test potential of 1000 VAC RMS for 1 minute, current leakage must be 1.0mA Max. Signal pin must withstand test potential of 500 VAC RMS for 1 minute, current leakage must be 1.0mA Max. Power pin 必須承受測試電壓 1000 VAC RMS，時間 1 分鐘，漏電流不大於 1.0 mA。 Signal pin 必須承受測試電壓 500 VAC RMS，時間 1 分鐘，漏電流不大於 1.0 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。



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<p>5. Durability (Repeated Mating/Un-mating) 耐久性</p>	<p>Power contact resistance less than 0.6mΩ and signal contact resistance change 10 mΩ max. After testing. 測試後電源針接觸阻值。抗不超過 0.6 mΩ · 信號針接觸阻抗比初始值增大不超過 10 mΩ 。</p>	<p>Repeat mate and unmated for connector 200 cycles, at a speed of 127mm per minute. 重復進行配合產品 200 次插拔 · 速度 127mm/分鐘。</p>
<p>6. Mating /Un-mating Force 插入力/拔出力</p>	<p>Power : Mating force: 0.98N /pin pair Max. Un-mating force: 0.25N /pin pair Min Signal : Mating force: 0.22N /pin pair Max. Un-mating force: 0.06N /pin pair Min Power 插入力最大: 0.98N /pin pair Max · 拔出力最小: 0.25N /pin pair Min Signal 插入力最大: 0.22N /pin pair Max · 拔出力最小: 0.06N /pin pair 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 product. 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。</p>
<p>7. Vibration Sinusoidal Low Frequency 低頻正弦振動</p>	<p>No electrical discontinuity less than 1μs shall occur, Contact resistance: Rise in relation to initial values 10 mΩ Max. 不允許出現超過 1 μs 的瞬間斷開，測試後接觸阻抗比初始值增大不超過 10 mΩ 。</p>	<p>Subject mated connector to 10-55-10 Hz traversed in 1 minute at 1.52mm amplitude, 2 hours each of 3 mutually perpendicular planes, 對測試產品，在頻率變化每分鐘從 10 mA potential applied. MIL-STD-202, Method 201. 10-55-10 Hz, 振幅 1.52 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：MIL-STD-202，方法 201。</p>
<p>8. Thermal Shock 溫度沖擊</p>	<p>After testing, no damage, Contact Resistance: Rise in relation to initial Values 10 mΩ Max. Dielectric Strength should be OK; 測試後產品無損壞，接觸阻抗比初始值增大不超過 10 mΩ 。</p>	<p>Temperature range from -55±3°C to +85±2°C. Start from -55°C, after 30 minutes, change to +85±2°C; change time is no more than 5 minutes, total 5 cycles. MIL-STD-202, Method 107, condition A. 溫度變化範圍：-55±3°C ~ +85±2°C。從 -55°C 開始，30 分鐘後換到 +85°C，轉換時間不超過 5 分鐘，共 5 個循環。適用：MIL-STD-202，方法 107，條件 A。</p>
<p>9. Mechanical Shock 機械沖擊</p>	<p>Electrical discontinuity less than 1us.</p>	<p>速度 490m/s²; 半正弦波; 持續 11 毫秒; ±X, ±Y,</p>



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	<p>电流瞬断时间小于1us.</p>	<p>±Z, 方向各 3 次; Accelerate Velocity:490m/s²; Waveform:Half-sine shock plus; Duration:11msec; 3drops each to normal and reversed directions of X,Y and Z axes;</p>
<p>10. Humidity- Temperature Cycle 溫濕度循環</p>	<p>After testing, no damage, Contact Resistance: Rise in relation to initial Values 10 mΩ Max. Dielectric Strength should be OK 測試後產品無損壞，接觸阻抗比初始值增大不超過 10 mΩ。</p>	<p>Subject product to 25~65°C, 90-95%.R.H 10Cycles. EIA-364-31B 產品置於 25~65°C,相對濕度：90-95%,循環 10 次,適用：EIA-364-31B</p>
<p>11. Salt Spray 鹽霧</p>	<p>After testing, no damage, Contact Resistance: Rise in relation to initial Values 10 mΩ Max. Dielectric Strength should be OK. 測試後產品無損壞，接觸阻抗比初始值增大不超過 10 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>12.High Temperature Life 高溫老化</p>	<p>After testing, no damage, Contact Resistance: Rise in relation to initial Values 10 mΩ Max. Dielectric Strength should be OK; 測試後產品無損壞，接觸阻抗比初始值增大不超過 10 mΩ。</p>	<p>Subject product to 105±3°C for 250 hours continuously. MIL-STD-202, Method 108, condition A. 產品置於 105±3°C 連續 250 小時。 適用：MIL-STD-202，方法 108，條件 A。</p>
<p>13. Solderability 可焊性</p>	<p>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%。</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。1</p>



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Material Housing : 069-LCP(Black)

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長春人造樹脂廠股份有限公司

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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

LONGLITE[®]

Liquid Crystalline Polymer Compound LCP-270B3G/ LCP-270N3G

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

Physical Properties :

Items	Unit	Test Method	LCP-270B3G* LCP-270N3G
Features	heat resistance/low warpage		
Filler	%	---	Glass Fiber
Filler Content		ASTM	30
Specific Gravity	---	D792	1.62
Water Absorption	%	D570	0.042
Shrinkage	MD	%	CCP
	TD	%	method
Tensile Strength(RT)	MPa	D638	130
Tensile Elongation(RT)	%		2.0
Flexural Strength (RT)	MPa	D790	185
Flexural Modulus (RT)	GPa		14.5
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

* 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		RTI		RTI Str
			HWI	HAI	Elec	Imp	
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 (10⁹ 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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Material Signal Pin : Copper Alloy (Phosphor Bronze)

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REPORT OF MATERIAL TEST 材料測試報告

ISO 9001
ISO/TS 16949
IEC QC080000
ISO 14001
OHSAS 18001 & TOSHMS

No.: 251197

DATE: MAY.21,2013

Customer 顧客名稱: 名佳利金屬工業股份有限公司
Commodity 商品名稱: C5210R PHOSPHOR BRONZE FOR SPRING (EH)
Applied Standard 引用標準: CNS 9503 Phosphor Bronze Sheets, Plates and Strips

Manufacture No.	銅捲製號	24M007A	
(Specification)	產品規格	Standard	
Thickness (mm)	產品厚度		0.300
Width (mm)	產品寬度		622.000
Length (mm)	產品長度		
(Chemical Analysis Test)	化性測試		
P(%)	磷	0.030 - 0.350	0.128
Sn(%)	錫	7.000 - 9.000	7.938
Cu+Sn+P(%)	銅錫磷	min. 99.700	99.942
(Mechanical & Physical Test)	物性測試		
Thickness Test (mm)	厚度測試	-	0.292
Width Test (mm)	寬度測試	-0.10 +0.00	GOOD
Tensile Strength (kgf/mm2)	抗拉強度	min. 65.00	72.26
Elongation (%)	伸長率	min. 10.00	23.54
Hardness Test (Hv)	硬度	200.0 - 230.0	224.0 - 226.0
Grain Size (mm)	結晶粒度	-	0.010
Electric Conductivity (%)	導電率	-	12.10
(Other Information)	其他資訊		
Delivery No.	出貨單號		



MINCHALI METAL INDUSTRY CO., LTD.
名佳利金屬工業股份有限公司
11, Pei Yuan Road, Chung Li City, Taiwan, R.O.C.
Tel : (03)4526141-5 (03)4526017-9
Fax : (03)4529112 (03)4629625

QA Supervisor: 周建偉

A980301 S1800901ME




PRODUCT SPECIFICATION OF Oupiin

Material Power Pin : Copper Alloy (C1840)

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INSPECTION REPORT



客戶名稱 CUSTOMER	弘振企業股份有限公司					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				
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品名 PRODUCT	C18400-R480	母料號碼 LOT NO	A09H15-2	日期 DATE	2014/11/11
規格 SIZE	0.6 X 310	重量 QUANTITY	1784 KG	序號 NO.	131200010

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		99.1125	0.6696	0.1582					

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 SPEC	MIN	480	450	8	83	140
	MAX	560				180
實測值 MEASURED VALUE		486	454	12-12.1	87.11	145

尺寸量測 GEOMETRICAL DIMENSIONS					
項目 ITEM		厚度 Thickness (mm)	寬度 Width (mm)	粗糙度 Ra um	
規格 SPEC	MIN	0.570	309		
	MAX	0.630	311	0.15	
實測值 MEASURED VALUE		0.600	310	0.06-0.08	

備註 REMARKS		
*厚度 ≤ 0.12T 以下者, 硬度僅供參考.		
	責任者  Theresa 2014.11.12 黃秀玲	品質擔當者  Ricky 2014.11.12 康建邦


 黃
 2014.11.12
 毅毅