



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.
1.6mm Pitch Power Header	9113-F12CB30PP1SA	9113-D0000-015
	9114-F12CB30PP1SA	9114-D0000-010

PRODUCT NAME (產品名稱)	DOCUMENT No.: (文件編號)	Rev. (版本)	OUPIIN
1.6mm Pitch Power Header (RoHS)	Q9113-PSS-007	C (I800)	(歐品)
	Approved (核準)	Checked (審核)	Prepared (製作)
	Q.A. Section Chief	Ruru Chen	2021.12.06



PRODUCT SPECIFICATION OF OUPIIN

1. SCOPE (範圍)

This product specification defines the product performance and the test methods to ascertain the performance of the 1.6mm Pitch Power Header, 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生產的 1.6mm Pitch Power Header 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
QQ-N-290A	Specification for nickel plating	鍍鎳規格
MIL-P-81728A	Specification for tin/lead plating	鍍錫鉛規格
MIL-T-10727B	Specification for tin plating	鍍錫規格
UL1977	UL standard for safety of attachment plug and receptacle	UL安規要求標準
EN/ISO5961	Determination of total lead & cadmium content	總鉛和總鎘含量測定
EN1122	Determination of total lead & cadmium content	總鉛和總鎘含量測定
EN13346	Determination of heavy metals content	重金屬含量測定
EPA3052	Determination of total lead & cadmium content	總鉛和總鎘含量測定

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.

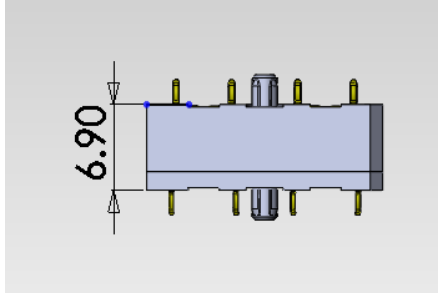
(本產品的相關尺寸參考圖面。)



PRODUCT SPECIFICATION OF OUPIIN

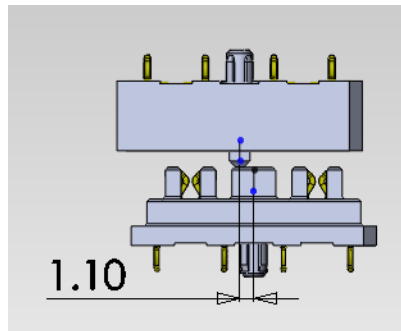
3.2. MALE AND FEMALE PRODUCT (公母產品裝配)

3.2.1. Male Female assembly dimension 公母產品裝配尺寸

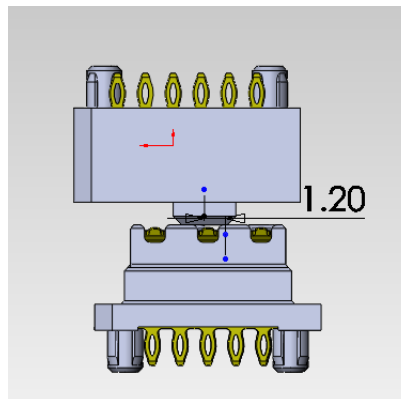


3.2.2. Product oriented capability 產品導向能力

The design of the centering and guiding in the Mpc of the free and fixed board connector modules shall accept a misalignment of 1.10mm in transverse and 1.20mm in longitudinal axes of the connector
固定板連接器模件的 Mpc 裡，連接器設計中心線橫向可接受 1.10mm 和縱向可接受 1.20 mm 的偏差。



allowed misalignment in transverse axes 在橫向方向允許對插偏差量



allowed misalignment in longitudinal axes 在縱向方向允許對插偏差量

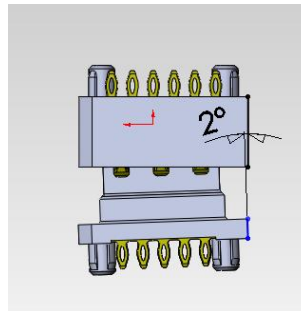
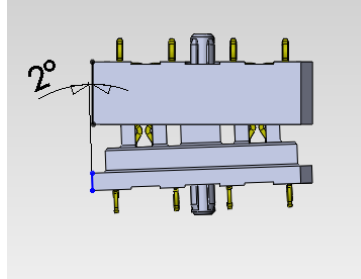


PRODUCT SPECIFICATION OF OUPIIN

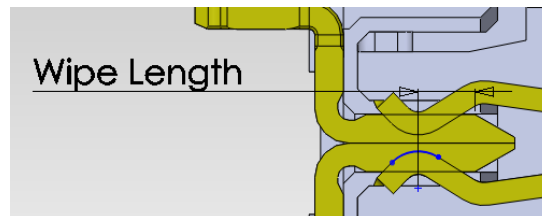
3.2.3. Inclination 傾向

The center and guiding in the Mpc of the free and the fixed board connector modules shall allow an Initial angular misalignment of 2 from in the transverse and 2 from in longitudinal axes

固定板連接器模件的在 Mpc 裡,連接器可接受橫向 2° 和縱向 2° 的最大傾斜對插角度。



3.2.4. Capability for products wipe length 產品接觸長度等級



Contact	Mating Level	Wipe Length(min)
Power Pin	1	0.99mm

3.3. 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。

3.4. 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見圖面。



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3.5. 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。

3.6. 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。

3.7. RATING CURRENT AND RATING VOLTAGE (額定電流與額定電壓)

Rating current is 60A (2ozX4), rating voltage is 400V DC/AC RMS.

額定電流 60A (2ozX4)，額定電壓 400V DC/AC RMS。

3.8. 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。

3.9. ADDITIONAL EXPLANATION (附加說明)

The connector can bear 5.2kg on the surface.

單個連接器可以承受 5.2kg 的壓力。

4. PERFORMANCE AND TEST DESCRIPTION (性能及測試)

4.1. 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。

4.2. TEST CONDITION (測試條件)

Unless otherwise specified, all tests shall be performed at ambient environmental conditions.

除非特別註明，所有測試在室溫條件下完成

4.3. 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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4.4. TEST SEQUENCE (測試順序)

Product qualification test sequence as shown in Table II.

(品品質測試順序見附表二。)



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Table I: Test Requirements and Procedures

(附表一: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	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)	Initial : 0.5 mΩ Max. After test : Δ 0.2 mΩ. 初始狀態最大 0.5 mΩ 測試後變化量 0.2 mΩ	Subject mated contacts assembled in housing to closed circuit of 100 mA max. 20 mV max. EIA-364-23. 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：EIA-364-23。
3. Insulation Resistance (絕緣阻抗)	1500 MΩ Min. 最小 1500 MΩ。	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. EIA-364-21, (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-364-21 (500 V DC±10%)。
4. Dielectric Withstanding Voltage (耐電壓)	Connector must withstand test potential of 1500 VAC RMS for 1 minute, current leakage must be 0.3mA Max. 產品必須承受測試電壓 1500 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. EIA-364-20. 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-364-20。
5. Durability (Repeated Mating/Un-mating) (耐久性)	Contact Resistance: 0.7 mΩ Max. after testing. 測試後接觸阻抗最大 0.7 mΩ。	Repeat mate and unmated for connector 200 cycles, at a speed of 25±3mm per minute. 重復進行配合產品 200 次插拔，速度每分鐘 25±3mm。
6. Connector Mating /Un-mating Force (插入力/拔出力)	Mating force : 35N Max. Un-mating force : 5N Min. 插入力: 35N 最大。 拔出力: 5N 最小。	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>25N/Pin Min. 最小 25N/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. Vibration Sinusoidal Low Frequency (低頻正弦振動)</p>	<p>No electrical discontinuity greater than 1 μs shall occur, Contact Resistance: 0.7 mΩ Max. 不允許出現超過 1 μs 的瞬間斷開，接觸阻抗最大 0.7 mΩ。</p>	<p>Subject mated connector to 10-55-10 Hz traversed in 1 minute at 1.52 mm amplitude, 2 hours each of 3 mutually perpendicular planes, 10 mA potential applied. EIA-364-28. 對測試產品，在頻率變化每分鐘從 10-55-10 Hz, 振幅 1.52mm 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-364-28。</p>
<p>9. Thermal Shock (溫度衝擊)</p>	<p>After testing, no damage, Contact Resistance 0.7 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 1500 MΩ Min. 測試後產品無損壞，接觸阻抗最大 0.7 mΩ；耐電壓測試 OK，絕緣阻抗最小 1500 MΩ。</p>	<p>Temperature range from -40°C to +105°C . Start from -40°C, after 30 minutes, change to +105°C; change time is no more than 30 seconds, total 5 cycles. EIA-364-32. 溫度變化範圍： -40°C ~ +105°C。從 -40°C 開始，30 分鐘後換到+105°C，轉換時間不超過 30 秒，共 5 個循環。適用：EIA-364-32。</p>
<p>10. Humidity (Steady State) (恆溫恆濕)</p>	<p>After testing, no damage, Contact Resistance 0.7 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 1500 MΩ Min. 測試後產品無損壞，接觸阻抗最大 0.7 mΩ；耐電壓測試 OK，絕緣阻抗最小 1500 MΩ。</p>	<p>Temperature: 25°C-65°C. Relative Humidity: 90-95 %. Total:10 cycles EIA-364-31. 溫度：25°C-65°C。相對濕度：90-95%。 持續：10 次。適用：EIA-364-31。</p>
<p>11. Test temperature rise for rating current (溫升測試)</p>	<p>The temperature rise above ambient shall not exceed 30 °C。 溫度不能超過 30 °C。 Ambient conditions - Still air 25°C。 周圍環境溫度 25°C。</p>	<p>Subject mated contacts assembled in housing to closed circuit of Power Pin:60A (2ozX4)max, Per EIA-364-70 所述固定在外殼包的端子連結到一個封閉回路中測試， Power Pin:60A(2ozX4) max, 適用：EIA-364-70</p>



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<p>12. Salt Spray (鹽霧)</p>	<p>After testing, no damage or corrosion. Contact Resistance 0.7 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 1500 MΩ Min. 測試後產品無損壞及腐蝕，接觸阻抗最大 0.7mΩ；耐電壓測試 OK，絕緣阻抗最小 1500 MΩ。</p>	<p>5±1% salt concentration 24hours, 35±2°C EIA-364-26. 鹽水濃度 5±1%，時間 24 小時，溫度 35±2°C。 適用：EIA-364-26。</p>
<p>13. High Temperature Life (高溫老化)</p>	<p>After testing, no damage, Contact Resistance 0.7 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 1500 MΩ Min. 測試後產品無損壞，接觸阻抗最大 0.7 mΩ；耐電壓測試 OK，絕緣阻抗最小 1500 MΩ。</p>	<p>Subject product to 150°C for 1000 hours continuously. EIA-364-17. 產品置於 150°C 連續 1000 小時。 適用：EIA-364-17。</p>



PRODUCT SPECIFICATION OF OUPIIN

Material Housing : 074-LCP

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江苏沃特特种材料制造有限公司
Jiangsu WOTE High Performance Materials Co., LTD.



产品材质证明

Certificate Of Quality

No. 190970

客户名称 Customer	欧品电子(昆山)有限公司				
产品名称 Product	LCP	产品牌号 Grade	KC184BLM		
生产批号 Lot No.	190922A	产品颜色 Colour	黑色		
产品数量/KG Quantity	2000	生产日期 Date	2019.09.22		
性能 Property	单位 Units	测试标准 Test method	测试条件 Test condition	管控范围 Control range	检测结果 Value
相对密度 Relative Density	g/cm ³	ASTM D792	23℃	≥1.55	1.61
弯曲强度 Flexural Strength	MPa	ASTM D790	23℃ 3mm/min	≥160	177
弯曲应变 Flexural strain	%	ASTM D790	23℃ 3mm/min	≥1.5	1.6
弯曲模量 Flexural Modulus	GPa	ASTM D790	23℃ 3mm/min	≥11.5	14.2
热变形温度 Heat Deflection Temperature	℃	ASTM D648	120℃ /h, 1.82MPa	≥255	266
结论 Result:					
					

检验人(Examiner): 刘林

确认人(Confirmor): 周洪

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test Report can not be reproduced except in full without prior written permission of the company.

除非另有说明, 以上数据是我司实验室在特定条件下测出的参考数据, 本报告未经本公司书面许可, 不可复制或部分复制



PRODUCT SPECIFICATION OF OUPIIN

Material Housing :UL

iq.ul.com

Component - Plastics [guide info] E478701

Jiangsu Wote High Performance Materials Co Ltd
 No. 6-3, Weijiu RD, Economic development zone, Donglai CN

KC184(@)
 Liquid Crystal Polymer (LCP), "SELCION", furnished as pellets

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

Comparative Tracking Index (CTI): 3
 Dielectric Strength (kV/mm): -
 High-Voltage Arc Tracking Rate (HVTR): 1
 Dimensional Stability (%): -

Inclined Plane Tracking (IPT): -
 Volume Resistivity (10⁸ ohm-cm): -
 High Volt, Low Current Arc Resis (D495): 4

(@) - Represented by one, two or three numbers or letters.
 ANSUL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSUL 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: 2006-12-13
 Last Revised: 2016-02-26 © 2016 UL LLC

IEC and ISO Test Methods	Test Method	Units	Thk (mm)	Value
Test Name			0.3	
Flammability	IEC 60695-11-10	Class (color)	3.0	V-0 (NC, BK) V-0 (NC, BK)
Glow-Wire Flammability (GWFI)	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	-	-



PRODUCT SPECIFICATION OF OUPIIN

Material Power Contacts(Male) : I800-C18400

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产品质量证明书 CERTIFICATE OF QUALITY

客户名称 (Customer)	欧品电子	发货重量 (Weight)	80.0 公斤
产品名称 (Commodity)	C18400-R540	生产日期 (Date)	2021.09.07
生产批号 (Lot NO.)	A2104/18-010	执行标准 (Carried standard)	GB/T5231-2012

上海慧普金属材料有限公司
Shanghai Huipu metal materials Co.,Ltd
地址：上海市宝山区泰和路 1011 号
邮编：200940 电话：021-68689108 13917656209
No.1011, Taihe Road, Baoshan District Shanghai

尺寸公差 (Size & Tolerance)						
规格 Specification(mm×mm×mm)	厚度公差 Thickness Tolerance(mm)	宽度公差 Width Tolerance(mm)	长度公差 Length Tolerance(mm)			
0.5*14	+0/-0.015	-0.1	--			
化学成份 (CHEMICAL COMPOSITION)						
元素名称 (Element)	Cu	Si	Cr	Zn	Fe	P
含量标准 (Standard)	余量	≤0.1	0.4-1.2	≤0.7	≤0.15	≤0.05
实测值 (Value)	--	0.002	0.836	0.005	0.017	0.007
物理性能 (MECHANICAL PROPERTIES)						
检测项目 (Testing items)	抗拉强度 Tensile Strength(N/mm ²)	延伸率 Elongation(%)	硬度值 Hardness(HV)	屈服强度 yield Strength(MPa)	导电率%IACS	
实测值	581	10.5	178	551	83.8	

- 一、本保证书未报项次 (如形状精度、表面质量等) 均合格。
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质量主管: 邓志武
Manager of Quality Assurance Dept.

实验人: 赵良金
Operator of test:

质量专用章:
Seal of Quality Assurance Dept.



PRODUCT SPECIFICATION OF OUPIIN

Material Power Contacts(Female) : I800-C18150

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产品质量证明书 CERTIFICATE OF QUALITY

客户名称 (Customer)	欧品电子	发货重量 (Weight)	176.0 公斤
产品名称 (Commodity)	C18150	生产日期 (Date)	2021.09.07
生产批号 (Lot NO.)	A2108/21-010	执行标准 (Carried standard)	GB/T5231-2012

上海慧普金属材料有限公司
Shanghai Huipu metal materials Co.,Ltd
地址: 上海市宝山区泰和路 1011 号
邮编: 200940 电话:021-68689108 13917656209
No.1011, Taihe Road, Baoshan District Shanghai

尺寸公差 (Size & Tolerance)					
规格 Specification(mm×mm×mm)	厚度公差 Thickness Tolerance(mm)	宽度公差 Width Tolerance(mm)	长度公差 Length Tolerance(mm)		
0.4*20	+0/-0.015	-0.1	--		
化学成份 (CHEMICAL COMPOSITION)					
元素名称 (Element)	Cu	Zr	Cr		
含量标准 (Standard)	余量	0.05-0.25	0.5-1.5		
实测值 (Value)	--	0.05	0.759		
物理性能 (MECHANICAL PROPERTIES)					
检测项目 (Testing items)	抗拉强度 Tensile Strength(N/mm ²)	延伸率 Elongation(%)	硬度值 Hardness(HV)	屈服强度 yield Strength(MPa)	导电率%IACS
实测值	581	8	168	551	86.2

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Manager of Quality Assurance Dept.

实验人: 赵良金
Operator of test:

质量专用章:
Seal of Quality Assurance Dept.