PRODUCT SPECIFICATION

產品規格書

產品名稱 Description	產品料號 Part No.	圖號 Drawing No.
2.00mm Pitch Power Header & Receptacle	9113-2X2CxxPPA(-HD)	9113-D0000-006
	9114-2X2CxxPPxA	9114-D0000-001
	9113-2X2CxxPPA	9113-D0000-001
	9113-N2X2CxxPPA	9113-D0000-014
	9114-2X2CxxPPxRA	9114-D0000-019

PRODUCT NAME 產品名稱	**DOCUMENT No.:** 文件編號	**Rev.** 版本	**OUPIIN** 歐品電子
2.00mm Pitch Power Header & Receptacle	9113spec+9114spec	E	
	Approved 核准	**Checked** 審核	**Prepared** 制作
	Q.A. Section Chief	Joseph Yen	2018.05.09

1. COPE 適用範圍

This product specification defines the product performance and the test methods to ascertain the performance of the **2.00mm Pitch Power Header & Receptacle** , 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 **2.00mm Pitch Power Header & Receptacle** 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

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。

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

Rating current is 20 A@75°C ambient., rating voltage is 150V DC.
在環境溫度 75°C, 額定電流 20 A，額定電壓 150V DC。

3.7 STORAGE AND OPERATING TEMPERATURE 儲存與使用溫度

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

Storage Temperature :0°C~+40°C, Humidity: 80%RH under Time limit is 12 months the products are stored。

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,產品限存時間為12 個月.

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列的機械，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.
除非特別注明，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 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。

4.4. TEST SEQUENCE 測試順序

Product qualification test sequence as shown in **Table II.**
產品品質測試順序見附表二。

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	1 mΩ Max. initial. 初始狀態最大 1 mΩ。	Subject mated contacts assembled in housing to closed circuit. EIA 364-06。 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 364-06。
3. Insulation Resistance 絕緣阻抗	10000 MΩ Min. 最小 10000 MΩ。	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. EIA 364-21。Condition (500 V DC). 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。條件(500 V DC)。
4. Dielectric Withstanding Voltage 耐電壓	Connector must withstand test potential of 1500 VAC RMS for 1 minute, current leakage must be 1mA 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 1 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:1.5mΩ Max. after testing. 測試後接觸阻抗最大 1.5 mΩ。	Repeat mate and unmated for connector 100 cycles, at a speed of 5 cycles per minute. 重復進行配合產品 100 次插拔，速度每分鐘 5 次。
6. Contact Retention Force 端子保持力	9114 Series:1/2 pin 10N min。 9113 Series:10N/PIN Min 9114 系列：1/2 pin 端子保持力最小 10N 。 9113 系列：端子保持力最小 10N/PIN	The method of testing: The jig grasps and moulds Plastics , The rigidity rope is affixed to the platform, The underpart is affixed to PIN end son , To pull upward, test, appear single son, end of pin, keep strength, test the Speed 25.4mm / minute 测试方法：夹具夹持住塑膠，柔性鋼绳上端固定於機台上端，下端固定於單 PIN 端子上，向上拉测试出单 pin 端子保持力，测试速度 25.4mm/分钟

7.1 Connector Pin Mating/Un-mating Force 單支插入力/拔出力	Mating force: 33.4N/Module Max. Un-mating force: 9N/ Module Min. 插入力最大 33.4N/ Module， 拔出力最小 9 N/ Module。	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。
7.2 Contact Pin Press In/Retention Force 單支端子壓入/拉 出 PCB 孔的力量	Press in force per pin: 67N Max. Retention in force per pin: 17N Min. Returning board strength of the post:50 N Min. 壓入力最大 67N/PIN,拉出力最小 17 N/PIN. 柱子退板力最小 50 N.	At a speed of 5.08±3 mm/minute, apply axial press in PCB to right position (detail as drawing) or pull out from PCB. 以 5.08±3mm/分鐘的速度施加軸向壓力將 Press 部份壓力 PCB 孔至適當位置（詳細見產品圖面或從 PCB 孔中拉出。
8. Vibration Sinusoidal Low Frequency 低頻正弦振動	No electrical discontinuity greater than 1 μs shall occur, Contact Resistance: 1.5 mΩ Max. 不允許出現超過 1 μs 的瞬間斷開，接觸阻抗最大 1 .5mΩ。	Subject mated connector to 10-55-10 Hz traversed in 1 minute at 1.5 mm amplitude, 2 hours each of 3 mutually perpendicular plane, 10 mA potential applied. MIL-STD-202, Method 201. 對測試產品，在頻率變化每分鐘從 10-55-10 Hz, 振幅 1.5 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。
9. Thermal Shock 熱衝擊	After testing, no damage, Contact Resistance 1.5 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 10000 MΩ Min. 測試後產品無損壞，接觸阻抗最大 1.5 mΩ；耐電壓測試 OK，絕緣阻抗最小 10000 MΩ。	Temperature range from -55°C to +105°C. Start from -55°C, after 30 minutes, change to +105°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~ +105°C。從 -55°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：MIL-STD-202，方法 107， 條件 A。
10. Humidity (Steady State) 恆溫恆濕	After testing, no damage, Contact Resistance 1.5mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 10000 MΩ Min. 測試後產品無損壞，接觸阻抗最大 1.5 mΩ；耐電壓測試 OK，絕緣阻抗最小 10000 MΩ。	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。

11. Salt Spray 鹽霧	After testing, no damage, Contact Resistance 1.5 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 10000 MΩ Min. 測試後產品無損壞，接觸阻抗最大 1.5 mΩ；耐電壓測試 OK，絕緣阻抗最小 10000 MΩ。	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, Contact Resistance 1.5 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 10000 MΩ Min. 測試後產品無損壞，接觸阻抗最大 1.5 mΩ；耐電壓測試 OK，絕緣阻抗最小 10000 MΩ。	Subject product to 105±2°C for 1000 hours continuously. MIL-STD-202, Method 108, condition A. 產品置於 105±2°C 連續 1000 小時。 適用：MIL-STD-202, 方法 108，條件 A。

PRODUCT SPECIFICATION OF Oupiin

9113 Series Material Housing : 043-PPA

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倡業股份有限公司
High Performance Co., Ltd.
桃園縣觀音鄉觀音工業區經建一路5號
No.5, Ching-Chien 1st' Rd., Kuan-Yin Ind. Park, Tao-Yuan County, Taiwan.
TEL:+886-3-4830540 FAX:+886-3-4830741

品質檢驗報告
Certificate of Analysis

客戶		弘振	品名	PPA-043	
			批號	111203-E-01	
項目		Test Method ASTM	單位 Units	規格值 SPEC.	數據 Value
物理性質	外觀	-	-	-	-
	比重 Specific Gravity	D 792	g/cm^3	1.6±0.05	1.57
	收縮率 Mold Shrinkage-Flow	D 955	$10^{-3}mm/mm$	2±1	2.8
機械性質	引張強度 Tensile Strength	D 638	kg/cm^2	≧1050	1252
	伸長率 Elongation at Break	D 638	%	≧2	3.3
	彎曲強度 Flexural Strength	D 790	kg/cm^2	≧1500	1910
	彎曲彈性係數 Flexural Modulus	D 790	kg/cm^2	≧90000	90982
	衝擊強度 Notched Impact	D 256	kg-cm/cm	≧6.5	7.5
熱性質	融熔指數 Melt Index	D 1238	g/10min	≧15	65

成形條件(Processing)

料缸溫度	模具溫度	乾燥溫度	乾燥時間
320~350℃	30~120℃	120℃	>4hrs

1.衝擊強度條件=1/8inch 缺口試片
2.H.D.T.條件=1/8inch 試片
3.MI條件= 330℃,216g
4.本規格表僅供參考
5.本產品符合RoHS規範

收發章 TEL:03-4830540 FAX:03-4830741

RoHS Compliant

主管審核： 檢驗者判定： 製表：

T7-15 版次：1.6 修訂：98.10.01

PRODUCT SPECIFICATION OF Oupiin

Material Housing :UL

ONLINE CERTIFICATIONS DIRECTORY

UL Certifications Directory

QMFZ2.E229058
Plastics - Component

Plastics - Component

HIGH PERFORMANCE CO LTD E229058
5 JING-JIANN 1ST RD
KUAN-YIN INDUSTRIAL PARK
KUAN-YIN
TAOYUAN HSIEN, 328 TAIWAN

									H	D	
		Min.		H	H	R T I			V	4	C
		Thk	Flame	W	A	Elec	Mech		T	9	T
Material Dsg	Color	mm	Class	I	I		Imp	Str	R	5	I
Liquid Crystal Polymer (LCP), 30% glass fiber reinforced, furnished as pellets.											
SL-5030	WT, BK	0.8	V-0	-	-	130	130	130			
		1.6	V-0	-	-	130	130	130			
Polyamide (PA), glass reinforced, furnished as pellets.											
HA 348 FR	NC	1.6-1.76	V-0	-	-	65	65	65			
HP-2004FR	BK	0.8-0.88	V-0	-	-	65	65	65			
Polyamide (PA), furnished as pellets.											
HP-1004FR	NC, BK	0.8	V-0	-	-	65	65	65			
		3.2	V-0	-	-	65	65	65			
Polyamide 6 (PA6), 30% glass reinforced, furnished as pellets.											
MG306-14	NC	0.8-0.88	HB	-	-	65	65	65			
Polyamide 66 (PA66), 30% glass reinforced, furnished as pellets.											
NF306-27	NC	0.8-0.88	HB	-	-	65	65	65			
Polyamide 66 (PA66), furnished as pellets.											

倡業股份有限公司
TEL：(03)4830540 FAX：(03)4830741

PRODUCT SPECIFICATION OF Oupiin

9113 Series Material Contact-Male : Copper Alloy (C18400)

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INSPECTION REPORT

客戶名稱 CUSTOMER	歐品電子有限公司(弘振)

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	OG08E31	日期 DATE	2013/05/31
規格 SIZE	0.5 X 310	重量 QUANTITY	1936 KG	序號 NO.	130500018

化學成份 CHEMICAL COMPOSITION

成分符號 ELEMENT		Cu	CR	ZR								
規格 SPEC (%)	MIN											
	MAX											
分析值 ANALYSIS VALUE		remainder	0.7748	0.1517								

機械特性試驗 MECHANICAL TESTING

項目 ITEM		抗拉強度 Tensile Strength N/mm²	屈服強度 Yield Strength N/mm²	伸長率 Elongation %	導電率 Electrical Conductivity %IACS	硬度 Hardness (for reference only) HV
規格 SPEC	MIN	540	500	4	83	160
	MAX	630				200
實測值 MEASURED VALUE		542-544	502-503	12.2-13	88.7	163

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	0.475	309			
	MAX	0.525	311	0.15		
實測值 MEASURED VALUE		0.498	310	0.05-0.10		

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 黃秀玲	Ricky 康建邦

PRODUCT SPECIFICATION OF Oupiin

9114 Series Material Housing : 017-1-LCP(Nature)

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1. General physical properties of VECTRA® E130i

Table 1-1 General properties (ISO)

Item	Unit	Testing Method	High Heat Resistance/High Flow
			E130i
			Glass Fiber, Standard
Density	g/cm^3	ISO 1183	1.61
Tensile strength*	MPa	ASTM D638	175
Tensile elongation*	%	ASTM D638	2
Flexural strength	MPa	ISO 178	220
Flexural modulus	MPa	ISO 178	15000
Flexural strain	%	ISO 178	2.3
Charpy impact strength(notched)	kJ/m^2	ISO 179/1eA	35
Temperature of deflection under load(1.8MPa)	°C	ISO 75-1,2	280
Mold Shrinkage(80×1mmt, Flow direction, Injection pressure59MPa)	%		0.02
Mold Shrinkage(80×1mmt, Transverse direction, Injection pressure59MPa)	%		0.54
Mold Shrinkage(80×1mmt, Flow direction, Injection pressure79MPa)	%		-
Mold Shrinkage(80×1mmt, Transverse direction, Injection pressure79MPa)	%		-
Volume resistivity	Ohm·cm	IEC 60093	1.0×10^{16}
Surface resistivity	Ohm	IEC 60093	1.0×10^{16}
Dielectric constant(1kHz)		IEC 60250	4.3
Dielectric constant(1MHz)		IEC 60250	3.8
Dielectric constant(10GHz)			3.6
Dielectric dissipation factor(1kHz)		IEC 60250	0.017
Dielectric dissipation factor(1MHz)		IEC 60250	0.032
Dielectric dissipation factor(10GHz)			0.007
Dielectric breakdown strength(Thickness 1mm)	kV/mm	IEC 60243-1	44
Dielectric breakdown strength(Thickness 3mm)	kV/mm	IEC 60243-1	24
Tracking resistance (CTI)	CTI	IEC 60112	125
Arc resistance	s		130
Flammability		UL94	V-0

All figures in the table are thetypical values of the material and not the minimum values of the material specifications.

*1)For qualified values of UL (Underwriters Laboratories Inc.) refer to the yellow card (File No.E106764) issued by UL.

*2)This grade comes under Item 16 of Annex 1 of the Export Trade Control Order on the basis of the Foreign Exchange and Foreign Trade Law of Japan.

PRODUCT SPECIFICATION OF Oupiin

Material Housing :UL

Component - Plastics E106764

POLYPLASTICS CO LTD

18-1 KONAN 2 CHOME, MINATO TOKYO 1088280 JP

E130i(d)(e)(f1)

Liquid Crystal Polymer (LCP), thermotropic aromatic polyester, "VECTRA" or "LAPEROS", furnished as pellets

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
NC, BK	0.75	V-0	2	0	240	220	240
	1.5	V-0	1	0	240	220	240
	3.0	V-0	0	0	240	220	240

Comparative Tracking Index (CTI): 4

Inclined Plane Tracking (IPT): -

Dielectric Strength (kV/mm): 39

Volume Resistivity (10^X ohm-cm): 16

High-Voltage Arc Tracking Rate (HVTR): 0

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

Dimensional Stability (%): 0

(d) - Virgin and regrind up to 50% by weight incl., have the same basic material characteristics in NC and BK with a minimum thickness of 0.75mm.

(e) - Regrind from 26-50% by weight inclusive has an Impact RTI of 180C at thicknesses greater than 1.5mm.

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.

ANSI/UL94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL94 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: 1992-08-19

Last Revised: 2014-08-22

IEC and ISO Test Methods

Test Name	Test Method	Units	Thickness Tested (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.75	V-0 (NC, BK)
			1.5	V-0 (NC, BK)
			3.0	V-0 (NC, BK)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	0.75	960
			1.5	960
			3.0	960
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	0.75	850
			1.5	850
			3.0	900
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

9114 Series Material Contact ：Copper Alloy (C19210)

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MINCHALI

REPORT OF MATERIAL TEST
材料測試報告

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

No.: 410497 DATE: JAN.12,2015

Customer 顧客名稱 : 弘振企業股份有限公司
Commodity 商品名稱 : C 1921R LEAD FRAME CU-FE METAL (H)
Applied Standard 引用標準 : JIS H 3100 Copper and Copper alloy sheets, plates and strips

Manufacture No.	鋼捲號		39W077A
(Specification)	產品規格	Standard	
Thickness (mm)	產品厚度		0.500
Width (mm)	產品寬度		20.000
Length (mm)	產品長度		
(Chemical Analysis Test)	化性測試		
Cu(%)	銅	-	99.878
Pb(%)	鉛	-	0.0000
Fe(%)	鐵	0.050 - 0.150	0.093
Zn(%)	鋅	-	0.000
P(%)	磷	0.015 - 0.050	0.019
(Mechanical & Physical Test)	物性測試		
Thickness Test (mm)	厚度測試	-0.008 +0.008	0.500
Width Test (mm)	寬度測試	-0.10 +0.00	GOOD
Tensile Strength (kgf/mm2)	抗拉強度	34.00 - 42.00	36.56
Elongation (%)	伸長率	min. 5.00	10.66
Hardness Test (Hv)	硬度	-	113.0 - 115.0
Grain Size (mm)	結晶粒度	-	0.025
Electric Conductivity (%)	導電率	min. 85.00	86.40
(Other Information)	其他資訊		
Delivery No.	出貨單號		410240

黃 105-1-15 核准

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