



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	9302-2P06S14N117ACB30KA	9302-D0000-017

PRODUCT NAME 產品名稱	DOCUMENT No.: 文件編號	Rev. 版本	OUPIIN
High Power And Signal Edge Card Connector (RoHS)	9302spec-2P06	D	歐品電子
	Approved 核准	Checked 審核	Prepared 制作
	Q.A. Section Chief	Jack Hsing	2020-10-15



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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
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

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.

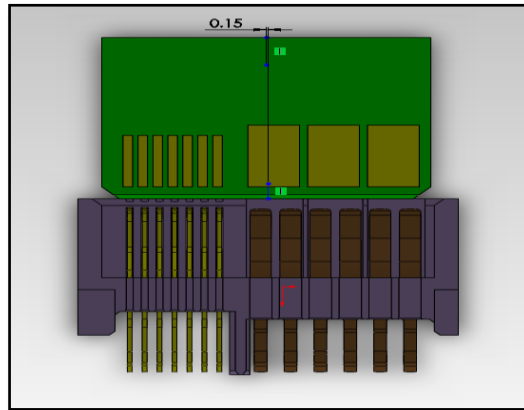
本產品的相關尺寸參見圖面。

3.2. MALE AND FEMALE PRODUCT 公母產品裝配

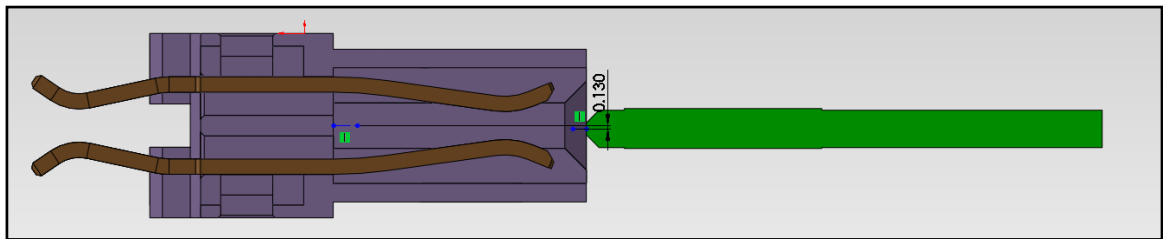
3.2.1. Perpendicular to engaging direction 垂直插入方向

The design of the centering and guiding in the mpc of the free and fixed board connector modules shall accept a misalignment of 0.15MM in transverse and 0.13MM 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 0.15mm 和縱向可接受 0.13mm 的偏差。



allowed misalignment in transverse axes 在橫向方向允許對插偏差量0.15mm最大。

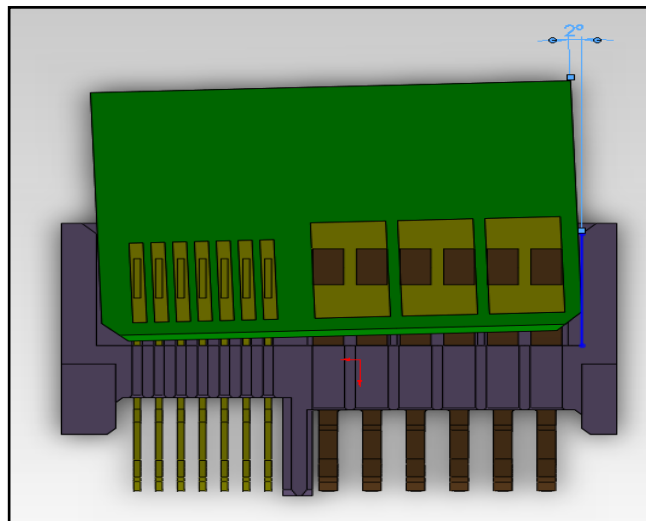
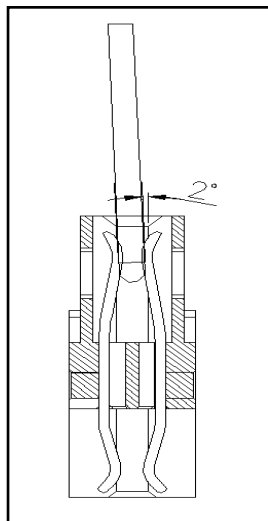


allowed misalignment in longitudinal axes 在縱向方向允許對插偏差量0.13mm最大。

3.2.2 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° Max in the transverse and longitudinal axes

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

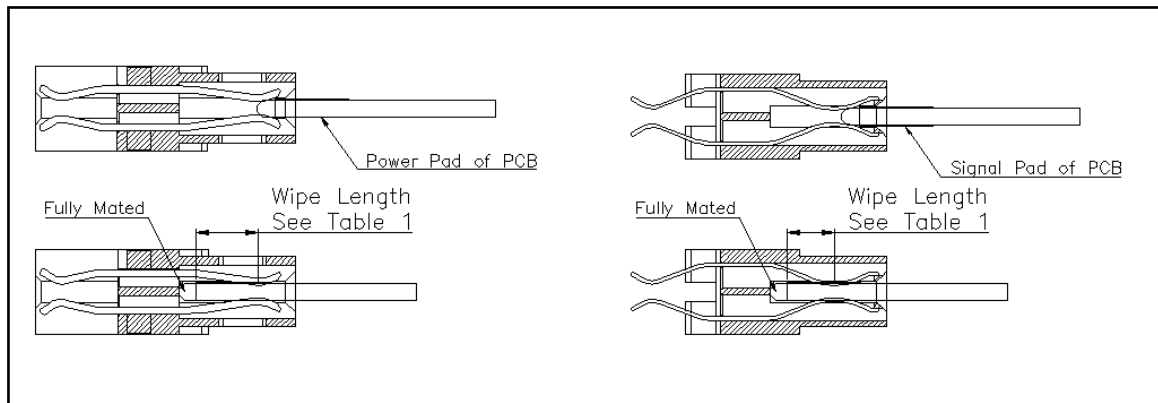




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3.2.3 Capability for products wipe length

產品接觸長度等級



CONTACT	MATING LEVEL	WIPE LENGTH(MIN)
Power Pin	1	5.27mm
Signal Pin	1	4.00mm

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 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。

3.5. 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參見圖面。

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。



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

Rating current: Signal pin 1.5A Power pin 12.5A (UL)

額定電流: Signal pin 1.5A Power pin 12.5A (UL)

Rating voltage : Power pin 250V Signal pin 30V

額定電壓 Power pin 250V Signal pin 30V

3.8. STORAGE AND OPERATING TEMPERATURE 存儲與使用溫度

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 18 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18個月.

4. ENVIRONMENTAL (環境要求)

4.1. SOLDERABILITY (可焊性)

Connectors meet solder ability to EIA-364-52. Finish shall be free of contaminants.

(產品可焊性符合EIA-364-52 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 SOLDER 波峰焊接

Each cycle consists of three consecutive phases. as shown in **Table III**.

每個焊接週期包括三個連續的階段,見附表三。

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述的機械,電氣及環境要求。



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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。

5.4. 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。



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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. Signal pin: 25 mΩ Max.initial. Contact resistance change Δ 10 mΩ Max Power pin 初始狀態 0.6mΩ Max, Signal pin 初始狀態 25mΩ Max, 接觸電阻變化值 Δ 10 mΩ Max	EIA-364-06 Subject mated contacts assembled in housing to closed circuit of 20 mA max. 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。
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.	EIA-364-21 Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. (500 V DC \pm 10%). 測試產品相鄰端子間以及端子與接地間的電阻。
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。	EIA-364-20 Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. 對產品相鄰端子間以及端子與接地間加載電壓，測試其漏電流。



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<p>5. Durability (Repeated Mating / Un-mating) 耐久性</p>	<p>After testing, no damage, Dielectric Strength should be OK; Power contact resistance 0.6mΩ max and signal contact resistance change 10 mΩ max. 測試後產品無損壞，電源針接觸阻抗 最大 0.6mΩ，信號針接觸阻抗比初始 值增大不超過 10 mΩ。</p>	<p>EIA-364-09 Repeat mate and unmated for connector 200 cycles, at a speed of 25.4±3 mm per minute. 重復進行配合產品 200 次插拔，速度 25.4±3mm/ 分鐘。</p>
<p>6. Contact Retention Force 端子保持力</p>	<p>Signal pin: 5N/Pin. Min. Power pin: 32N /Pin. Min. Signal pin 每支最小 5N Power pin 每支最小 32N</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. Mating /Un-mating Force 插入力/拔出力</p>	<p>Power: Mating force: 0.90N/Pin Max. Un-mating force: 0.22N/pin Min. Signal: Mating force: 0.28N /pin pair Min Un-mating force: 0.06N/pin Min. Power 插入力最大: 0.90N/pin Max。 拔出力最小: 0.22N/pin Min. Signal 插入力最大: 0.28N/pin Max。 拔出力最小: 0.06N/pin Min.</p>	<p>EIA-364-13 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>8. Vibration 機械振動</p>	<p>No electrical discontinuity less than 1μs shall occur, Power contact resistance 0.6 mΩ max and signal contact resistance change 10mΩ max. After testing. 不允許出現超過 1 μs 的瞬間斷開 ，測試後電源針接觸阻抗最大 0.6mΩ，信號針接觸阻抗 初始值增 大不超過 10 mΩ。</p>	<p>EIA-364-28 Subject mated connector to 10-500 Hz traversed in 1 minute at 1.5mm amplitude, 2 hours each of 3 mutually perpendicular planes, 10 mA potential applied. 對測試產品，在頻率變化每分鐘從 10-500 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。</p>
<p>9. Thermal Shock 溫度沖擊</p>	<p>After testing, no damage, Dielectric Strength should be OK; Power contact resistance 0.6mΩ max and signal contact resistance change 10 mΩ max. 測試後產品無損壞，電源針接觸阻抗 最大 0.6mΩ，信號針接觸阻抗比初始 值增大不超過 10 mΩ。</p>	<p>EIA-364-32 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. 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 次循環。</p>



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<p>10. Mechanical Shock 機械沖擊</p>	<p>Electrical discontinuity less than 1us. 電流瞬斷時間小於1us.</p>	<p>Accelerate Velocity:490m/s²; Waveform:Half-sine shock plus; Duration:11msec; 3drops each to normal and reversed directions of X,Y and Z axes; 速度490m/s²; 半正弦波; 持續11毫秒; ±X, ±Y, ±Z, 方向各3次.</p>
<p>11. Humidity-Temperature Cycle 溫濕度循環</p>	<p>After testing, no damage, Dielectric Strength should be OK; Power contact resistance 0.6mΩ max and signal contact resistance change10 mΩ max. 測試後產品無損壞, 電源針接觸阻抗最大 0.6mΩ, 信號針接觸阻抗比初始值增大不超過 10 mΩ。</p>	<p>EIA-364-31 Subject product to -25~65°C, 90-95%.R.H 10Cycles. 產品置於 -25~65°C,相對濕度: 90-95%, 循環 10 次。</p>
<p>12. Test temperature rise for rating current. 溫升測試</p>	<p>The temperature rise above shall not exceed housing's RTI. 溫度不能超過塑膠的 RTI 值 (以 UL 標準執行) Ambient conditions - Still air 25°C。周圍環境溫度 25°C。</p>	<p>EIA-364-70 Subject mated contacts assembled in housing to closed circuit of Power Pin: 12.5A (UL) max. Signal Pin:1.5A max. 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:12.5 A(UL), Signal Pin: 1.5A.</p>
<p>13. Salt Spray 鹽霧</p>	<p>After testing, no damage, Dielectric Strength should be OK; Power contact resistance 0.6mΩ max and signal contact resistance change10 mΩ max. 測試後產品無損壞, 電源針接觸阻抗最大 0.6mΩ, 信號針接觸阻抗比初始值增大不超過 10 mΩ。</p>	<p>EIA-364-26 5±1% salt concentration 48 hours 35±2°C 鹽水濃度 5±1%, 時間 48 小時, 溫度 35±2°C。</p>
<p>14. High Temperature Life 高溫老化</p>	<p>After testing, no damage, Dielectric Strength should be OK; Power contact resistance 0.6mΩ max and signal contact resistance change10 mΩ max. 測試後產品無損壞, 電源針接觸阻抗最大 0.6mΩ, 信號針接觸阻抗比初始值增大不超過 10 mΩ。</p>	<p>EIA-364-17 Subject product to 105±2°C for 240 hours continuously. 產品置於 105±2°C 連續 240 小時。</p>



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15. Solderability 可焊性	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%。	EIA-364-52 Soldering time: 4 to 6 seconds. Temperature: 260±5°C. 焊接時間：4~6 秒。 溫度：260±5°C。
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Table II: Product Qualification Test Sequence

附表二：產品測試順序

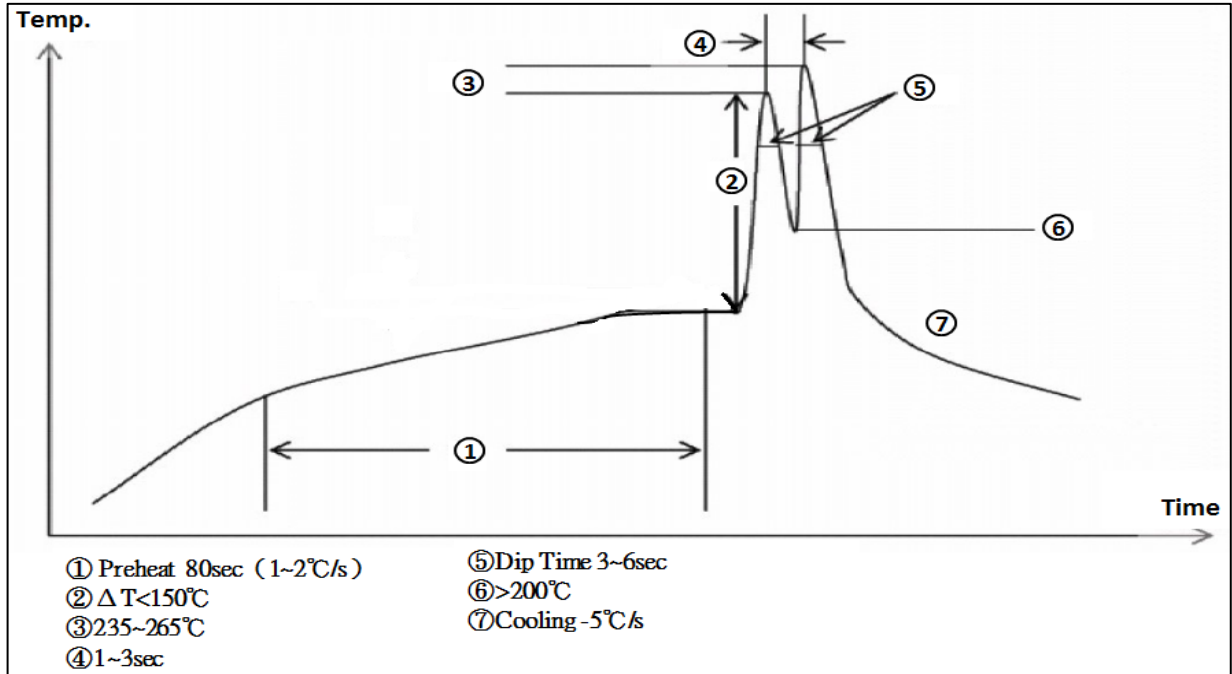
Test Description 測試描述	Test Group 測試分組									
	A	B	C	D	E	F	G	H	I	J
1. Conformation of Product 產品確認	1,7	1	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1
2. Contact Resistance 接觸阻抗	2,6		2,6	2,6	2,6	2,6	2,6	2,6	2,6	
3. Insulation Resistance 絕緣阻抗	3		3,7	3,7	3,7	3,7	3,7	3,7	3,7	
4. Dielectric Withstanding Voltage 耐電壓	4		4,8	4,8	4,8	4,8	4,8	4,8	4,8	
5. Durability 耐久性	5									
6. Contact Retention Force 端子保持力		3								
7. Mating/Un-mating Force 插入/拔出力		2								
8. Vibration 機械振動			5							
9. Thermal Shock 溫度衝擊				5						
10. Mechanical Shock 機械沖擊					5					
11. Humidity-Temperature Cycle 溫濕度循環						5				
12. Current rating 溫升測試							5			
13. Salt Spray 鹽霧								5		
14. High Temperature Life 高溫老化									5	
15. Solder-ability 可焊性										2



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Table III : Weld the curve graph in crest

附表三：波峰焊曲線圖





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Material Housing :I800-LCP KC184

[SGS Test Report Click here](#)


[如需 SGS 測試報告請點選此處](#)

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): 周洁		
<p>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.</p> <p>除非另有说明, 以上数据是我司实验室在特定条件下列出的参考数据, 本报告未经本公司书面许可, 不可复制或部分复制</p>					



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Material Housing :UL

ig.lsi.com

Component - Plastics (guide info) E478701

Jiangsu Wote High Performance Materials Co Ltd
 No. 0-3, Weijiu RD, Economic development zone, Dongtai CN

KC184(2)
 Liquid Crystal Polymer (LCP), "SELCION", furnished as pellets

Color	Min Thick (mm)	Flame Class	HFI	HA1	RTI Elec	RTI Imp	RTI Str
NC, BK	0.3	V-0	4	4	130	130	130
	3.0	V-0	0	4	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 (10¹² ohm-cm): -
 High Volt, Low Current Arc Resis (D485): 4

(2) - Represented by one, two or three numbers or letters.
 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: 2006-12-13
 Last Revised: 2016-02-26 © 2016 UL LLC

UL
 C US

IEC and ISO Test Methods	Test Method	Units	Thick (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.3 3.0	V-0 (NC, BK) V-0 (NC, BK)
Glow-Wire Flammability (GWI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWI1)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 30112	Value (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 9295	kJ/m ²	-	-
ISO Izod Impact	ISO 180	kJ/m ²	-	-
ISO Charpy Impact	ISO 179-2	kJ/m ²	-	-



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Power Contacts :C18400

[SGS Test Report Click Here](#)

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宁波博威合金板带有限公司 Ningbo Powerway Alloy Plate and Strip Co., Ltd 质量证明书 CERTIFICATE OF QUALITY							
客户名称 Customer	欧派电子(昆山)有限公司	生产批号 Batch number	ZW1808037 0208	出货日期 Delivery Date	2019/10/14	执行标准 Standard	GB/T 5231-2012
产品名称 Product	铜铬合金	牌号 Grade	C18400	状态 Temper	R540	规格 Specifications	0.5*17 重量 Weight 93.8kg
检验和测试项目 Inspect And Test Items							
化学成分 Chemical composition%							
化学元素 Chemical Element	Cu	Si	Cr	Zn	Fe	P	
标准要求 Required Value	余量 Remainder	≤0.1	0.4-1.2	≤0.7	≤0.15	≤0.05	
实测值 Actual	余量 Remainder	0.0005	0.829	0.0138	0.0162	0.0084	
物理及机械性能 physical & Mechanical Properties							
物理性能 Mechanical Properties	抗拉强度 (MPa) Tensile Strength	延伸率% Elongation (A50)	维氏硬度 (HV) Vickers Hardness	屈服强度 (MPa) yield Strength	导电率 %IACS Conductivity		
标准要求 Customer Requirement	540-630	/	150-180	/	/		
实测值 Actual Value	552	9.5	162	515	88.05		
外观尺寸 Appearance And Dimensions							
尺寸 Dimensions	厚度公差 (mm) Thickness Tolerance	宽度公差 (mm) Width Tolerance	表面质量 Surface Quality				
标准要求 Customer Requirement	±0.02	-0.1	合格Qualified				
实测值 Actual Value	0.4990/0.502	36.96/36.97	合格Qualified				
备注 Remark	1. 本证书涂改、复印无效。 The altered or copied certificate is invalid. 2. 表内一律为法定计量单位。 The units in this form are all legal unit of measurement. 3. 所提供的数据均为测试值，如有质量异议时，请在收货后三个月内提出，需来写明批号。 All the provided values are measured ones. If you have any quality questions, please contact us within three months with batch number.						
本产品已按上述要求制造和检验，其结果符合要求，特此证明。 We hereby certify that material described herein has manufactured and tested with satisfactory results in accordance with requirements of the above material specification.							
Checker (Seal) 检验员签字(盖章)				Quality Department (Seal) 质量管理部门			
地址: 中国浙江省宁波市鄞州区洪海工业园区 Address: Binhai Industry Zone, Yinzhou District, Ningbo City Zhejiang Province, China http://www.powerway.com Tel: +86-574-89016078 Fax: +86-574-89016059							



PRODUCT SPECIFICATION OF Oupin

Signal Contacts :C5191

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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.: 561621		DATE: JUN.28,2016		
Customer 顧客名稱 : 歐品電子有限公司				
Commodity 商品名稱 : C 5191 R PHOSPHOR BRONZE STRIP (H)				
Applied Standard 引用標準 : JIS H 3110 Phosphor bronze sheets, plates and strips				
Manufacture No.	鑄造號	55C049B		
(Specification)	產品規格	Standard		
Thickness (mm)	產品厚度	0.800		
Width (mm)	產品寬度	17.000		
Length (mm)	產品長度			
(Chemical Analysis Test)	化性測試			
P(%)	磷	0.030 - 0.350	0.096	
Pb(%)	鉛	max. 0.0200	0.0031	
Zn(%)	鋅	max. 0.200	0.008	
Fe(%)	鐵	max. 0.100	0.004	
Sn(%)	錫	5.500 - 7.000	5.897	
Cu+Sn+P(%)	銅錫磷	min. 99.500	99.962	
(Mechanical & Physical Test)	物性測試			
Thickness Test (mm)	厚度測試	-0.010 +0.010	0.796	
Width Test (mm)	寬度測試	-0.10 +0.00	G000	
Tensile Strength (kgf/mm ²)	抗拉強度	60.00 - 70.00	60.57	
Elongation (%)	伸長率	min. 8.00	22.12	
Hardness Test (Hv)	硬度	180.0 - 200.0	186.0 - 188.0	
Grain Size (mm)	結晶粒徑	-	0.010	
Electric Conductivity (%)	導電率	min. 13.00	15.40	
Camber (mm/M)	彎曲度	-	-	
(Other Information)	其他資訊			
Delivery No.	出貨單號	560586		