



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.
Right Angle Header w/Guide Pin Signal /Power Dip Type Connector	9391-A1A7S20A5PP4CB30DA-A023	9391-D0000-228
	9391-A2P4PA5S20A7CB30DA-A012	9391-D0000-229

PRODUCT NAME 產品名稱	DOCUMENT No.: 文件編號	Rev. 版本	OUPIIN
Right Angle Header w/Guide Pin Signal /Power Dip Type Connector	9391spec-A1+A2	A	歐品電子
	Approved 核准	Checked 審核	Prepared 制作
	Q.A. anager	Nita	06.21/2018



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1. COPE 適用範圍

This product specification defines the product performance and the test methods to ascertain the performance of the Right Angle Header w/Guide Pin Signal /Power 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Right Angle Header w/Guide Pin Signal /Power 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
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。

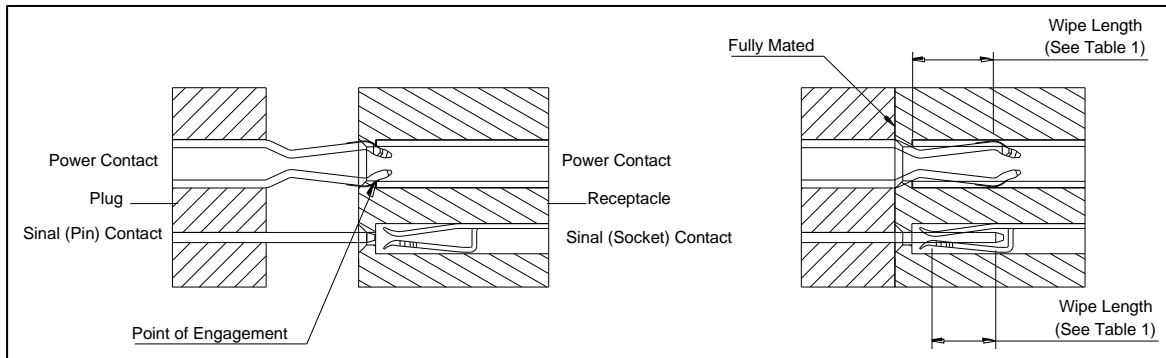
3.2.MALE AND FEMALE PRODUCT 公母產品裝配

3.2.1. Capability for products wipe length

產品接觸長度等級



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CONTACT	MATING LEVEL	WIPE LENGTH(Min)	DESCRIPTION OF DRAWING
High Power	1	4.88	FS
	2	3.61	FM
Low Power	2	3.61	NA
	3	2.59	NA
Signal	1	3.47	F
	2	3.28	G
	3	2.01	E
	4	0.74	H

Table 1

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

Signal Pin rating current: Signal Pin 2.5A、

信號 Pin 額定電流: Signal Pin 2.5A、

Power Pin rating current:

電源 Pin 額定電流:

Power Contacts				
Module (Power Contact Pitch)	Single Power Contact	2 Adjacent Power Contact	4 Adjacent Power Contact	12 Adjacent Power Contact
200 inch [5.08mm]	60A	45A	36A	30A
250 inch [6.35mm]	60A	45A	38A	30A
300 inch [7.62mm]	60A	45A	42A	30A

rating voltage: Signal Pin:50V DC RMS、Power Pin:200V DC RMS.

額定電壓: Signal Pin 50V DC RMS、Power Pin:200V DC RMS.

3.8. STORAGE AND OPERATING TEMPERATURE 存貯與使用溫度

Temperature range: -40°C~+105°C, including terminal temperature rise for rating current.

溫度範圍: -40°C~+105°C, 包含接觸端子的額定電流溫升。

4. Environmental 環境要求

4.1. SOLDERABILITY 可焊性

Connectors meet solder-ability to MIL-STD-202, and 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 SOLDER 波峰焊接

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

每個焊接週期包括三個連續的階段, 見附表二。

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。



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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	Signal Pin:15 mΩ Max. initial. Power Pin:0.7 mΩ Max. initial. Signal Pin:初始狀態最大 15 mΩ。 Power Pin:初始狀態最大 0.7mΩ。	Subject mated contacts assembled in housing to closed circuit of 20mA max.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，電流 20 mA。適用：EIA 364 TP06.
3. Insulation Resistance 絕緣阻抗	Signal Pin:5000 MΩ Min. Power Pin:20000 MΩ Min. Signal Pin:最小 5000 MΩ。 Power Pin:最小 20000 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 TP21，條件 B (500 V DC±10%)。
4. Dielectric Withstanding Voltage 耐電壓	Signal Pin must withstand test potential of 1000 VAC RMS for 1 minute, current leakage must be 1mA Max. Power Pin must withstand test potential of 2500 VAC RMS for 1 minute, current leakage must be 1mA Max. Signal Pin 必須承受測試電壓 1000 VAC RMS，時間 1 分鐘，漏電流不大於 1 mA。 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。	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	Signal Pin Resistance: 20 mΩ Max. after testing. Power Pin Resistance: 0.7mΩ Max. after testing.	Repeat mate and unmated for connector200 cycles, at a speed of 25.4mm per minute. 重復進行配合產品 200 次插拔，速度每分鐘 25.4mm。



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	<p>Signal Pin 測試後接觸阻抗最大 20mΩ。</p> <p>Power Pin 測試後接觸阻抗最大 0.7mΩ。</p>	
<p>6. Contact (lock) Retention Force 端子(耳扣)保持力</p>	<p>Contact : 1.36kg/Pin. Min. Lock:2.5Kg/Pin.Min 1.36Kg/Pin.Min 端子：每支最小 1.36kg 耳扣：每支最小 2.5kg(與 PCB 板孔同軸方向頂退) 每支最小 1.36Kg(與 PCB 板孔不同軸方向拔出)</p>	<p>Apply axial pull out (push) force at a speed of 25.4±3 mm/minute on the contact (Lock) assembled in the housing. 以 25.4±3mm/分鐘的速度施加軸向拉(推)力從塑膠本體上拔出(頂退)端子(耳扣)。</p>
<p>7.1 Mating /Un-mating Force 插入力/拔出力</p>	<p>Mating force Signal Pin:0.102kg/PIN Max. Power Pin:0.709kg/PIN Max Un-mating force: Signal Pin:0.02kg/PIN Min Power Pin:0.227kg/PIN Min 插入力最大 Signal Pin:0.102kg/PIN Max. Power Pin:0.709kg/PIN Max 拔出力最小 Signal Pin:0.02kg/PIN Min Power Pin:0.227kg/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 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>7.2 Every Lock Press in/Retention Force 單只耳扣壓入&拔出 PCB 孔的力量</p>	<p>Press in Force per Pin:1.5Kg/PIN Max Retention in Force per Pin:0.45Kg/PIN Min 壓入力最大：1.5Kg/PIN 拉出力最小：0.45Kg/PIN</p>	<p>At a speed of 25.4±3 mm/minute, apply axial Press in PCB to Right Proston 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 Frequency 正弦振動</p>	<p>No electrical discontinuity greater than 1 μs shall occur, Contact Resistance: Signal Pin:20 mΩ Max Power Pin: 0.7 mΩ Max. 不允許出現超過 1 μs 的瞬間斷開， 接觸阻抗: Signal Pin:最大 20mΩ。 Power Pin:最大 0.7mΩ。</p>	<p>Subject mated connector to 10-500-10 Hz traversed in 1 minute at 1.5 mm amplitude, 4 hours each of 3 mutually perpendicular plane, 10 mA potential applied. EIA 364 TP28 對測試產品，在頻率變化每分鐘從 10-500-10 Hz,振幅 1.5 mm 條件下，在互相垂直的三個面上，每個面 4 小時下測量，電流 10 mA。適用： EIA 364 TP28。</p>
<p>9. Thermal Shock 熱衝擊</p>	<p>After testing, no damage, Contact Resistance :. Signal Pin:20 mΩ Max</p>	<p>Temperature range from -20°C to +80°C. Start from -20°C, after 30 minutes, change to +80°C; change time is no more than 5</p>



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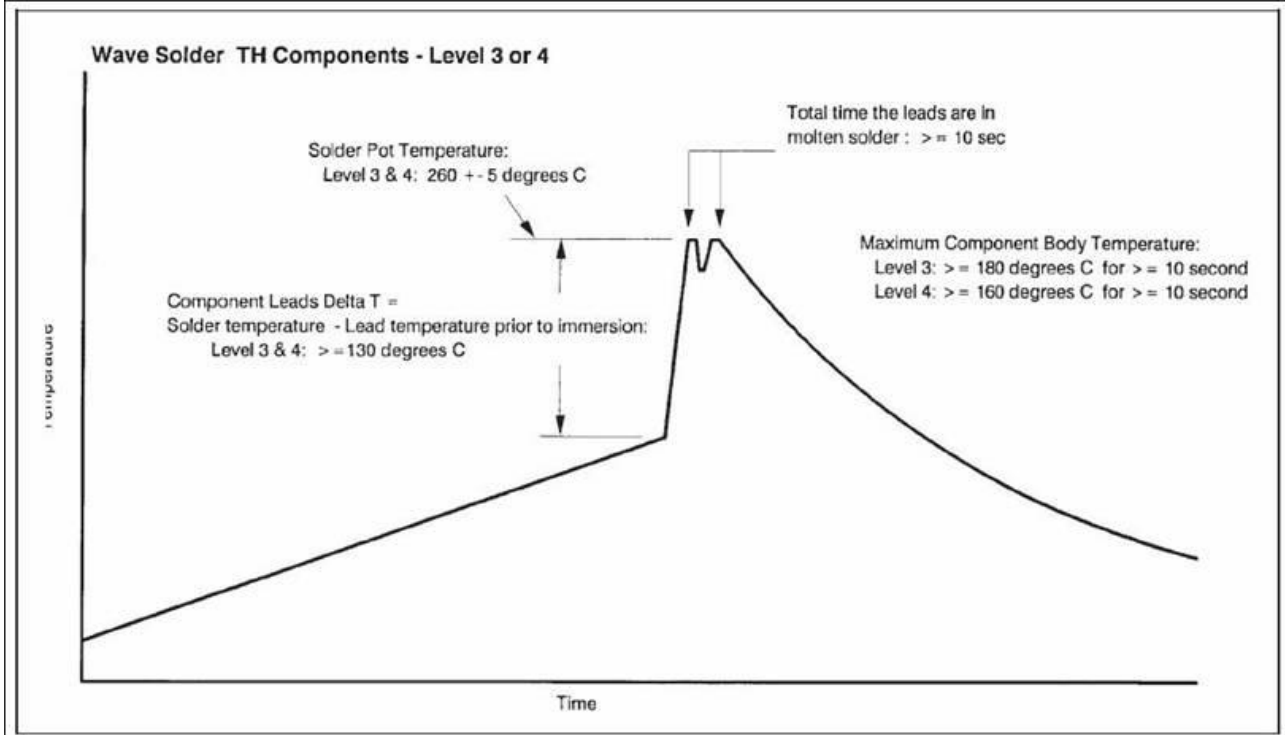
	<p>Power Pin: 0.7mΩ Max. 測試後產品無損壞，接觸阻抗: Signal Pin:最大 20mΩ。 Power Pin:最大 0.7mΩ。</p>	<p>minutes, total 36 cycles. EIA 364 TP 32. 溫度變化範圍： -20°C~ +80°C。從 -20°C 開始，30 分鐘後換到+80°C，轉換時間不超過 5 分鐘，共 36 個循環。適用： EIA 364 TP 32</p>
<p>10. Mechanical Shock 機械沖擊</p>	<p>Electrical discontinuity less than 1μs. 电流瞬断时间小于 1μs.</p>	<p>速度 50G; 半正弦波; 持续 11 毫秒; ±X, ±Y, ±Z, 方向各 3 次; Accelerate Velocity: 50G; Waveform:Half-sine shock plus; Duration:11msec; 3drops each to normal and reversed directions of X,Y and Z axes;</p>
<p>11. Humidity (Steady State) 恆溫恆濕</p>	<p>After testing, no damage, Contact Resistance : Signal Pin:20 mΩ Max Power Pin:0.7 mΩ Max. 測試後產品無損壞，接觸阻抗: Signal Pin:最大 20 mΩ。 Power Pin:最大 0.7mΩ。</p>	<p>Temperature: 40±2°C. Relative Humidity: 90-95%. Duration: 96 Hours. EIA 364 TP 31 溫度：40±2°C。相對濕度：90-95%。持續時間：96 小時。適用：EIA 364 TP 31</p>
<p>12. Solder-ability 可焊性</p>	<p>Appearance of the specimen shall be inspected after the test with the assistance of a magnifier capable of giving a magnification of 10 X for any damage such as pinholes, void or rough surface. 產品在測試完成後，在放大倍數為 10 倍的顯微鏡下，檢查外觀損壞如：小孔，空焊，外觀粗糙度。</p>	<p>Soldering time: Greater than and equal to 10 seconds. Temperature: 260±5°C. MIL-STD-202, Method 208. 焊接時間：>=10 秒。 溫度：260±5°C。 適用：MIL-STD-202，方法 208。 詳見附表四</p>
<p>13. 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 Single Pin 2.5A、Power Pin:30A max. Test Specification BUS-03-601 所述固定在外殼包的端子連結到一個封閉回路中測試，Single Pin 2.5A、Power Pin:30A。參考規範：BUS-03-601</p>
<p>14.High Temperature Life 高溫老化</p>	<p>After testing, no damage, Contact Resistance :. Signal Pin:20 mΩ Max Power Pin: 0.7 mΩ Max. 測試後產品無損壞，接觸阻抗: Signal Pin:最大 20 mΩ。 Power Pin:最大 0.7mΩ。</p>	<p>Subject product to 105±3°C for 504 hours continuously. EIA 364 TP 17 產品置於 105±3°C 連續 504 小時。 適用：EIA 364 TP 17。</p>



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Table II: Wave Soldering Profile

附表二：波峰焊接曲線圖





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Material Housing : 074-LCP(Black)

[SGS Test Report Click here](#)

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产品数据表
沃特特种工程塑料



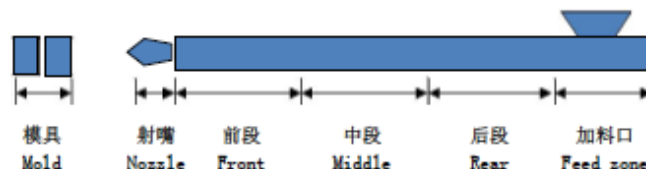
SELCION® KC184BLM

SELCION® LCP KC184BLM is a 40% glass fiber and mineral reinforced LCP for great dimensional stability
SELCION® LCP KC184BLM 是含有 40% 玻纤与矿纤增强的具有优异尺寸稳定性能的 LCP。

性能	PROPERTIES	典型数值 VALUE	单位 UNIT	测试标准 TEST METHOD
机械性能 MECHANICAL				
拉伸强度	Tensile Strength@break	132	MPa	ASTM D638
断裂伸长率	Tensile Elongation@break	1.94	%	ASTM D638
弯曲强度	Flexural Strength	180	MPa	ASTM D790
弯曲模量	Flexural Modulus	14.4	GPa	ASTM D790
IZOD 无缺口冲击强度	IZOD un-notched impact strength	395	J/m	
热性能 THERMAL				
热变形温度	Heat distortion temperature 18.5kgf/cm ²	283	°C	ASTM D648
物理性能 PHYSICAL				
比重	Specific Gravity	1.68		ASTM D792
成型收缩率	MD / TD	0.1 / 0.3	%	In house
烤炉起泡	270°C, 10min	OK		In house
难燃性能	Flame Retardancy	V-0 (0.3 mm)		UL-94

加工性能	PROCESSING CONDITIONS	典型数值 VALUE	单位 UNIT	备注 REMARK
射嘴温度	Nozzle Temp.	345-365	°C	355 is recommended
前段温度	Front Temp.	350-370	°C	360 is recommended
中段温度	Middle Temp.	345-365	°C	355 is recommended
后段温度	Rear Temp.	320-340	°C	330 is recommended
加料口温度	Feed zone Temp.	50-70	°C	60 is recommended
模具温度	Mold Temp.	80-120	°C	100 is recommended
干燥温度	Drying Temperature	140-160	°C	150 is recommended
干燥时间	Drying Time	4-8	h	6 Hr is recommended

※ 成型条件根据不同的机构和操作环境而不同



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Fax: 0515-85390660



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Material Housing :UL

iq.ul.com

Component - Plastics [\[guide info\]](#)

E478701

Jiangsu Wote High Performance Materials Co Ltd

No. 6-3, Weiju RD, Economic development zone, Dongtai 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	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 (10⁴ ohm-cm): -

High Volt, Low Current Arc Resis (D495): 4

(@) - 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

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IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60895-11-10	Class (color)	0.3	V-0 (NC, BK)
			3.0	V-0 (NC, BK)
Glow-Wire Flammability (GWFI)	IEC 60895-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60895-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60895-10-2	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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9391-A1-Material Contact : Copper Alloy (Brass C2680)

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REPORT OF MATERIAL TEST 材料測試報告

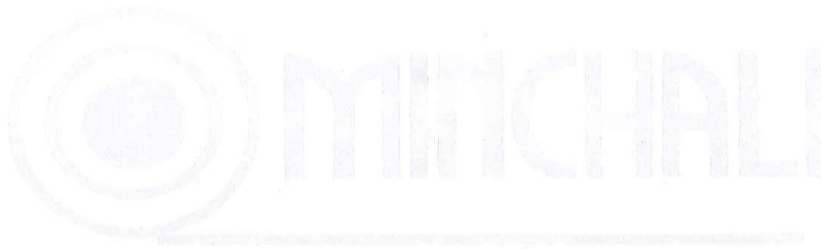
ISO 9001
ISO/TS 16949
IECQ QC080000
ISO 14001
OHSAS 18001 & TOSHMS

No. : 3C1556

DATE: DEC.26,2014

Customer 顧客名稱 : 歐品電子有限公司
Commodity 商品名稱 : C 2680 R BRASS STRIP (H)
Applied Standard 引用標準 : JIS H 3100 Copper and Copper alloy sheets, plates and strips

Manufacture No.	銅捲號	3AA046A	
(Specification)	產品規格	Standard	
Thickness (mm)	產品厚度	0.400	
Width (mm)	產品寬度	27.500	
Length (mm)	產品長度		
(Chemical Analysis Test)	化性測試		
Cu(%)	銅	64.000-68.000	64.947
Fe(%)	鐵	max. 0.050	0.013
Pb(%)	鉛	max. 0.0500	0.0003
Zn(%)	鋅	REM.	REM.
(Mechanical & Physical Test)	物性測試		
Thickness Test (mm)	厚度測試	-0.015 +0.010	0.394
Width Test (mm)	寬度測試	-0.10 +0.00	GOOD
Tensile Strength (kgf/mm2)	抗拉強度	42.00 - 55.00	51.06
Elongation (%)	伸長率	-	17.92
Hardness Test (Hv)	硬度	140.0 - 160.0	158.0 - 160.0
Grain Size (mm)	結晶粒度	-	0.015
Electric Conductivity (%)	導電率	-	26.20
(Other Information)	其他資訊		
Delivery No.	出貨單號	3CA079	
Customer Purchase Order	採購單號	PO.B02A14101603	



QA Supervisor: 周建偉

A980301 G3A00203AH

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Fax : (03)4529112 (03)4629625



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9391-A2-Material : 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									
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

謝國祥

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PRODUCT SPECIFICATION OF Oupiin

Material Power Contact : High Conductivity Copper(C19210)

[SGS Test Report Click here](#)

[如需 SGS 測試報告請點選此處](#)



昆山维迎达电子材料有限公司

KUNSHAN WEI YING DA ELECTRONIC MATERIAL CO., LTD.

产品质量证明书

CERTIFICATE OF QUALITY

客户名称 Customer	欧品	生产日期 Date	2016-04-23
品名 Commodity	C19210	状态 State	H
执行标准 Executive Standard:		JISH3110-2012	

尺寸公差 Size & Tolerance (MM)

规格 Specification	厚度公差 Thickness Tolerance	宽度公差 Width Tolerance
0.50*25.50	±0.01	+0--0.1

化学成份 Chemical Composition (%)

元素 Element	铜 Cu	锡 Sn	磷 P	锌 Zn	铁 Fe	铅 Pb	铜 Cu+锌 Zn+铁 Fe
CAS.NO	7440-50-8	7440-31-5	7723-14-0	7440-66-6	7439-89-6	7439-92-1	---
含量标准 Standard	≥99.0	/	0.015~0.04	/	0.05~0.015	/	≥99.80
实测值 Value	余量	/	0.0330	/	0.1152	/	

机械性能 Mechanical Properties

项目 Item	抗拉强度 Tensile strength (Mpa)	延伸率 Elongatin (%)	硬度 Hardness (HV)	粗糙度 Surface Roughness (μm)	导电率 Electrical Conduc (%IACS)
标准 Standard	≥390	≥4	115-135	---	≥85
实测值 Value	430	7.00	126	0.09	89

审核: 樊美娟

制表: 郑素群

