



PRODUCT SPECIFICATION

(產品規格書)

產品名稱 Description	產品料號 Part No.	圖號 Drawing No.
9303 Series	9303-1S16P05CB30DLA-A001	9303-D0000-001
	9303-2P05S16CB30PLA-A001	9303-D0000-002

PRODUCT NAME (產品名稱)	DOCUMENT No.: (文件編號)	Rev. (版本)	OUPIIN
9303 Series High Power Card Edge (RoHS)	9303spec	A2(I800)	(歐品)
	Approved (核準)	Checked (審核)	Prepared (製作)
	Q.A. Section Chief	Joseph Yen	APR.06/2017



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1. SCOPE (範圍)

This product specification defines the product performance and the test methods to ascertain the performance of the 9303 Series High Power Card Edge , 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 9303 Series High Power Card Edge 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)
EIA 364	Test method for electrical components.(電子零件測試方法)

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.)

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 參考圖面.)

3.3. 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考附件.)

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。) Tray Packag



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

Rating current: Single Pin 2.5A、Power Pin 65A

額定電流: 信號 Pin 2.5A、電源 Pin:65A

Rating voltage is 48V DC.

額定電壓: 48V DC.

3.7 OPERATING AND STORAGE TEMPERATURE 操作與儲存溫度

Operating Temperature : -20°C~+85°C, 操作溫度範圍

Storage Temperature : 0°C~+40°C, 儲存溫度範圍

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述的機械，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.

(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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Table I: Test Requirements and Procedures

(附錄一:測試要求)

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、尺寸及功能的
2. Contact Resistance 接觸阻抗	Power pin: 10mΩ, Δ 10 mΩ. Signal pin: 20mΩ, Δ 5 mΩ. 初始狀態電源 pin 10mΩ, Δ 10 mΩ. .信號 pin 20mΩ, Δ 5 mΩ.	Subject mated contacts assembled in housing to closed circuit of 15 A max. 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，電流 15 A max。適用：.EIA 364-06。
3. Insulation Resistance 絕緣阻抗	Power pin: 1000 MΩ Min. Signal pin: 500 MΩ Min. 電源 pin 最小 1000 MΩ, 信號 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 364-21。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 2500 VAC RMS for power pin and 1000VAC RMS for signal pin for 1 minute, current leakage must be 1mA Max. 產品電源 pin 必須承受測試電壓 2500 VAC RMS，信號 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。	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: 20mΩ Max after testing. 測試後接觸阻抗最大 20 mΩ。	Repeat mate and unmated for connector 200 cycles, at a speed of 5 cycles per minute. 重復進行配合產品 200 次插拔，速度每分鐘 5 次。



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<p>6. Contact Retention Force 端子保持力</p>	<p>10N/pin min。 每 pin 10N 最小。</p>	<p>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，柔性鋼繩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</p>
<p>7.1 Connector Mating /Un-mating Force 插入力/拔出力</p>	<p>Mating force: 47.2N Max. Un-mating force: 10.4N Min. 插入力最大 47.2N，拔出力最小 10.4N。</p>	<p>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。</p>
<p>7.2 Press In/Retention Force 壓入/拉出 PCB 孔的力量</p>	<p>Press in force per pin: 10N Max. Retention in force per pin: 5N Min. 壓入力最大 10N/PIN,拉出力最小 5 N/PIN.</p>	<p>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。</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: 20 mΩ Max. 不允許出現超過 1 μs 的瞬間斷開，接觸阻抗最大 20mΩ。</p>	<p>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。</p>
<p>9. Thermal Shock 熱衝擊</p>	<p>After testing, no damage,Contact Resistance 20 mΩ Max.Dielectric Strength should be OK, Insulation Resistance: Power pin: 1000 MΩ Min.Signal pin:500 MΩ Min. 電源 pin 最小 1000 MΩ,信號 pin 最小 500 MΩ.測試後產品無損壞，接觸阻抗最大 20 mΩ；耐電壓測試 OK，</p>	<p>Temperature range from -40°C to +125°C. Start from -40°C, after 30 minutes, change to +125°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：-40°C~ +125°C。從 -40°C 開始，30 分鐘後換到+125°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。</p>



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<p>10. Humidity (Steady State) 恆溫恆濕</p>	<p>After testing, no damage, Contact Resistance 20 mΩ Max. Dielectric Strength should be OK, Insulation Resistance: Power pin:1000 MΩ Min. Signal pin:500 MΩ Min. 電源 pin 最小 1000 MΩ, 信號 pin 最小 500 MΩ. 測試後產品無損壞,接觸阻抗最大 20 mΩ;耐電壓測試 OK,絕緣阻抗: 電源 pin 最小 1000 MΩ,信號 pin 最小 500 MΩ。</p>	<p>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。</p>
<p>11. Test temperature rise for rating current 溫昇測試</p>	<p>The temperature rise above ambient shall not exceed 30°C。 Ambient conditions-Still air 25°C。 , 溫度不能超過 30°C, 週圍環境溫度 25°C</p>	<p>Subject mated contacts assembled in housing to closed , Rating current is 90 A. 所述固定在外殼包的端子連接到一個封閉回路中測試, 額定電流 90A。</p>
<p>12. Salt Spray 鹽霧</p>	<p>After testing, no damage, Contact Resistance 20 mΩ Max. Dielectric Strength should be OK,Insulation Resistance: Power pin:1000 MΩ Min. Signal pin:500 MΩ Min. 電源 pin 最小 1000 MΩ, 信號 pin 最小 500 MΩ. 測試後產品無損壞,接觸阻抗最大 20 mΩ;耐電壓測試 OK,絕緣阻抗: 電源 pin 最小 1000 MΩ,信號 pin 最小 500 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>13. High Temperature Life 高溫老化</p>	<p>After testing, no damage, Contact Resistance 20 mΩ Max. Dielectric Strength should be OK, Insulation Resistance: Power pin:1000 MΩ Min. Signal pin:500 MΩ Min. 電源 pin 最小 1000 MΩ, 信號 pin 最小 500 MΩ. 測試後產品無損壞,接觸阻抗最大 20 mΩ;耐電壓測試 OK,絕緣阻抗: 電 源 pin 最小 1000 MΩ,信號 pin 最小 500 MΩ。</p>	<p>Subject product to 105±2°C for 250 hours continuously. MIL-STD-202, Method 108, condition A. 產品置於 105±2°C 連續 250 小時。 適用: MIL-STD-202, 方法 108, 條件 A。</p>



PRODUCT SPECIFICATION OF OUPIIN

Material Housing(Male & Female) : 069-LCP(Black)

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長春人造樹脂廠股份有限公司

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No.301, SONGKIANG ROAD, 7TH FL.,
TAIPEI, 10477 TAIWAN

TEL: (02)2503-8131 (REP)
FAX: (02)2503-3378

Technical Data

Liquid Crystalline Polymer Compound

LONGLITE® LCP 270B3G / 270N3G

LCP-270B(N)3G is liquid crystalline polymer which contains 30% glass fiber.
LCP-270B(N)3G has advantages of high heat resistance, strength and good flowability.

Physical Properties :

Items	Unit	Test Method	270B3G* 270N3G
Features	heat resistance/low warpage		
Filler	%	---	Glass Fiber
Filler Content		ASTM	30
Specific Gravity	---	D792	1.62
Water Absorption	%	D570	0.04
Shrinkage	MD	CCP method	0.19
	TD		0.39
Tensile Strength(RT)	MPa	D638	122
Tensile Elongation(RT)	%		1.8
Flexural Strength (RT)	MPa	D790	190
Flexural Modulus (RT)	GPa		12.5
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
Dielectric Constant / Dk	---	10 ⁶ Hz (1 MHz)	4.5
Dielectric Tangent / Df	---	10 ⁶ Hz (1 MHz)	0.036

* Typical data : Not to be constructed as specification

LCP-270B(N)3G B : Black N : Natural color



PRODUCT SPECIFICATION OF OUPIIN

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	HAI	RTI Elec	RTI Imp	RTI Str
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 (10^x 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 (Male) : 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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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

Material Signal Pin (Female) : Copper Alloy (Phosphor Bronze C5191)

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 GUO CHING PRECISION CO., LTD

試驗成績表

REPORT OF MATERIAL TEST

客戶： 歐品電子有限公司	國慶精密股份有限公司
Customer	桃園縣龜山鄉大崗村大湖路2-17號
品名： C5191-H	尺寸： 0.300x 28.0x C
Product	Size
料號： 1020301020	日期： 102/03/26
Lot No	Date
	TEL : 03-2115391~8
	FAX : 03-2115399

化學成份

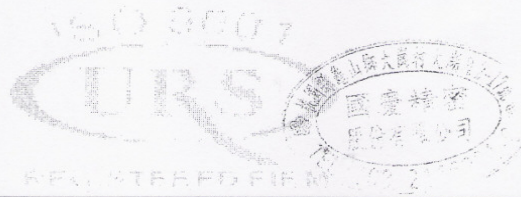
CHEMICAL COMPOSITION

元素 ELEMENT		Cu	P	Sn
規範	MAX	-	0.350	7.000
SPEC	MIN	93.400	0.030	5.500
分析值 ANALYSIS VALUE		94.203	0.125	5.626

試驗

TEST RESULT

項目 ITEM	抗張 Tensile Strength kgf/mm2	伸長 Elongation %	硬度 Hardness Test o	結晶粒度 Grain Size µm	導電率 Electric Conductivity	
規範	CONDITION	-	HV	-	-	
SPEC	MAX	70.000	200.000	-	-	
	MIN	58.000	180.000	-	-	
測驗值 MEASURE-MENT VALUE		59.710	22.040	194.000	0.010	14.500



Approved by:



Checked by:



Material Power Pin (Male & Female) : Copper Alloy (C18400)

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[如需 SGS 測試報告請點選此處](#)



INSPECTION REPORT

客戶名稱 CUSTOMER	歐品電子有限公司(弘振)
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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/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 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
		



PRODUCT SPECIFICATION OF OUPIIN

Material Lock : Copper Alloy (Phosphor Bronze C5191)

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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.: 372102

DATE: JUL.30,2014

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.	銅捲號	37C009A	
(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		
P(%)	磷	0.030 - 0.350	0.142
Sn(%)	錫	5.500 - 7.000	5.682
Cu+Sn+P(%)	銅錫磷	min. 99.500	99.952
(Mechanical & Physical Test)	物性測試		
Thickness Test (mm)	厚度測試	-	0.500
Width Test (mm)	寬度測試	-0.10 +0.00	GOOD
Tensile Strength (kgf/mm2)	抗拉強度	58.00 - 65.00	64.98
Elongation (%)	伸長率	min. 10.00	20.10
Hardness Test (Hv)	硬度	180.0 - 210.0	197.0 - 199.0
Grain Size (mm)	結晶粒徑	-	0.010
Electric Conductivity (%)	導電率	-	14.50
(Other Information)	其他資訊		
Delivery No.	出貨單號	37A110	
Customer Purchase Order	採購單號	PO.B02A14051301	



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