



**PRODUCT SPECIFICATION OF Oupiin**

# PRODUCT SPECIFICATION

## 產品規格書

8208-2X10C30DPT-S-----8208-D0000-001  
 8208-2X20C30DPT-S-----8208-D0000-002  
 8208-2X50C30DPT-S-A001-----8208-D0000-003  
 8208-2XxxCxxDR2PxxT-----8208-D0000-0xx  
 8208-2XxxCxxDP1T-S-----8208-D0000-0xx

### Ordering information

<b>8208- 2X</b>	<b>xx</b>	<b>C</b>	<b>30</b>	<b>D</b>	<b>P</b>	<b>T</b>				
Series	Double Row	Position Per Row	C:Selective Gold Plated	00:00μ ” 10:10μ 15:15μ 30:30μ	D:SMD Type	P:With Post N:W/O Post	T:Tape & Reel package U:Tube Package			
<b>8208- 2X</b>	<b>xx</b>	<b>C</b>	<b>30</b>	<b>DR</b>	<b>1</b>	<b>P</b>	<b>(L)</b>	<b>(1)</b>	<b>T</b>	
Series	Double Row	Position Per Row	C:Selective Gold Plated	00:00μ ” 10:10μ 15:15μ 30:30μ	D:SMD Type R:Right Angle	1:1.0mm 2:1.57mm N:W/o Post	P:With Post N:W/o Post	L:With Lock N:W/O Lock	Blank :W/O Front Key 1:With Front Key	T:Tape&Reel Package U:Tube Package

<b>PRODUCT NAME</b> 產品名稱	<b>DOCUMENT No.:</b> 文件編號	<b>Rev.</b> 版本	<b>OUPIIN 歐品電子</b>
<b>8208 Series Edge Card Connector</b> <b>0.8mm Pitch SMD Type</b>	8208spec-DR	<b>X3(1800)</b>	
	<b>Approved</b> 核准	<b>Checked</b> 審核	
	QA Section Chief	Joseph Yen	2017.08.18



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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 8208 Series Edge Card Connector 0.8mm Pitch SMD Type, 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 8208 Series Edge Card Connector 0.8mm Pitch SMD 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. 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。



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### 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 1.8A, rating voltage is 265V AC RMS.

額定電流 1.8A，額定電壓 265V AC RMS。

### 3.7 STORAGE AND OPERATING TEMPERATURE 存貯與使用溫度

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。

## 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. INFRARED REFLOW 紅外線回流焊接

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。

##### 4.2.1.1. Preheat 預熱

Increase in temperature not to exceed 4°C per second.

溫度增加速度不超過 4°C /秒。

##### 4.2.1.2. Soldering 焊接

Maximum allowable time above reflow temperature of 150°C is 120 seconds. Maximum temperature in this interval is 260°C, duration is 3~5 seconds. 回流焊溫度在 150°C 以上

的時間最長不超過 120 秒。最高溫度 260°C 時間 3~5 秒。



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## 4.2.1.3. Cool Down 冷卻

Cool down shall not exceed 5°C per second.

冷卻速度不超過 5°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	15.8 mΩ Max. Initial. 初始狀態最大 15.8 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	100000 MΩ Min. 最小 100000MΩ。	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector.EIA-364-21,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-364-21，條件 B (500 V DC±10%)。
4. Dielectric Withstanding Voltage 耐電壓	Connector must withstand test potential of 600 VAC RMS for 1 minute, current leakage must be 1.8mA Max. 產品必須承受測試電壓 600 VAC RMS，時間 1 分鐘，漏電流不大於 1.8 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:17.2 mΩ Max after testing. 測試後接觸阻抗 17.2 mΩ。	Repeat mate and unmated for connector 100 cycles.EIA-364-23. 重復進行配合產品 100 次插拔，適用：EIA-364-23。



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<p>6. Mating /Un-mating Force 插入力/拔出力</p>	<p>Mating force:2x10P 10N Max. 2x20P 17.8N Max. 2x50P 55N Max. Un-mating force: 2x10P 3N Min. 2x20P 8.45N Min. 2x50P 17.9N Min 2x10P 插入力最大 10N。 2x20P 插入力最大 17.8N。 2x50P 插入力最大 55N。 2x10P 拔出力最小 3N。 2x20P 拔出力最小 8.45N。 2x50P 拔出力最小 17.9N。</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.NormalForce-Initial 正向力</p>	<p>0.7116 N/Pin Min. 最小 0.7116 N/Pin。</p>	<p>Exert the axial pressure from carrying the plastics under the sub radian highest point at the speed of 25.4±3mm / minute. 以 25.4±3mm/分鐘的速度施加軸向壓力從端子弧度最高處下壓到塑膠面。</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: 17.1 mΩ Max. 不允許出現超過 1 μs 的瞬間斷開，接觸阻抗最大 17.1 mΩ。</p>	<p>Subject mated connector to 50-2000-50 Hz traversed in 1 minute at 1.5 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 50-2000-50 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：EIA-364-28。</p>
<p>9. Thermal Shock 熱衝擊</p>	<p>After testing, no damage, Contact Resistance 19 mΩ Max. Dielectric Strength should be OK , Insulation Resistance should be 50000 MΩ Min. 測試後產品無損壞，接觸阻抗最大 19 mΩ；耐電壓測試 OK，絕緣阻抗最小 50000 MΩ。</p>	<p>Temperature range from -55°C to +125°C Start from -55°C, after 30 minutes, change to +125°C, total 5 cycles. EIA-364-32. 溫度變化範圍：-55°C~+125°C。從-55°C 開始 30 分鐘後換到+125°C，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 20.5 mΩ Max. Dielectric Strength should be OK , Insulation Resistance should be 50000 MΩ Min. 測試後產品無損壞，接觸阻抗最大 20.5 mΩ；耐電壓測試 OK，絕緣阻抗最小 50000 MΩ。</p>	<p>Temperature: +25°C.to +65°C Relative Humidity: 90-95%. Duration: 240 Hours. EIA-364-31. 溫度：+25°C to +65°C。相對濕度：90-95%。持續時間：240 小時。適用：EIA-364-31。</p>



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<p>11. 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: 4 to 6 seconds. Temperature: 260±5°C. MIL-STD-202, Method 208. 焊接時間：4~6 秒。溫度：260±5°C。 適用：MIL-STD-202,方法 208。</p>
<p>12. Salt Spray 鹽霧</p>	<p>After testing, no damage, Contact Resistance 21.5mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 50000 MΩ Min. 測試後產品無損壞，接觸阻抗最大 21.5 mΩ；耐電壓測試 OK，絕緣阻抗最小 50000 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 19.0mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 50000 MΩ Min. 測試後產品無損壞，接觸阻抗最大 19.0mΩ；耐電壓測試 OK，絕緣阻抗最小 50000MΩ。</p>	<p>Subject product to 125°C for 250 hours continuously. EIA-364-17. 產品置於 125°C 連續 250 小時。適用：EIA-364 17。</p>
<p>14. Impedance (single-ended) 單線特性阻抗</p>	<p>50 ± 10% ohms 50± 10%歐姆</p>	<p>Mate connectors: rise time of 1 ns 配對組連接器：1 ns 的上升時間。</p>
<p>15. Impedance (differential pair) 差分特性阻抗</p>	<p>100 ± 10% ohms 100± 10%歐姆</p>	<p>Mate connectors: rise time of 150 ps。 配對組連接器：150 ps 的上升時間。</p>
<p>16. Differential Insertion Loss (differential pair) 差分插損</p>	<p>Average: 7GHz 平均：7GHz</p>	<p>Mate connectors: -3db 配對組連接器：-3db</p>
<p>17. Differential Insertion Loss (single-ended) 單線插損</p>	<p>Average: 7GHz 平均：7GHz</p>	<p>Mate connectors: -3db 配對組連接器：-3db</p>



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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
1. Conformation of Product 產品確認	1,7	1,4	1,9	1,9	1,9	1,3	1,9	1,9
2. Contact Resistance 接觸阻抗	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
4. Dielectric Withstanding Voltage 耐電壓	4		4,8	4,8	4,8		4,8	4,8
5. Durability(Repeated Mating/Un-mating) 耐久性	5							
6. Connector Pin Mating/Un-mating Force 單支端子插入/拔出力		2						
7. Contact Retention Force 端子保持力		3						
8. Vibration Sinusoidal Low Frequency 低頻正弦振動			5					
9. Thermal Shock 熱衝擊				5				
10. Humidity (Steady State) 恆溫恆濕					5			
11. Solder-ability 可焊性						2		
12. Salt Spray 鹽霧							5	
13. High Temperature Life 高溫老化								5

**Table III: Reflow Soldering Profile**

附表三：回流焊接曲線圖

**Lead-free reflow profile requirements:**

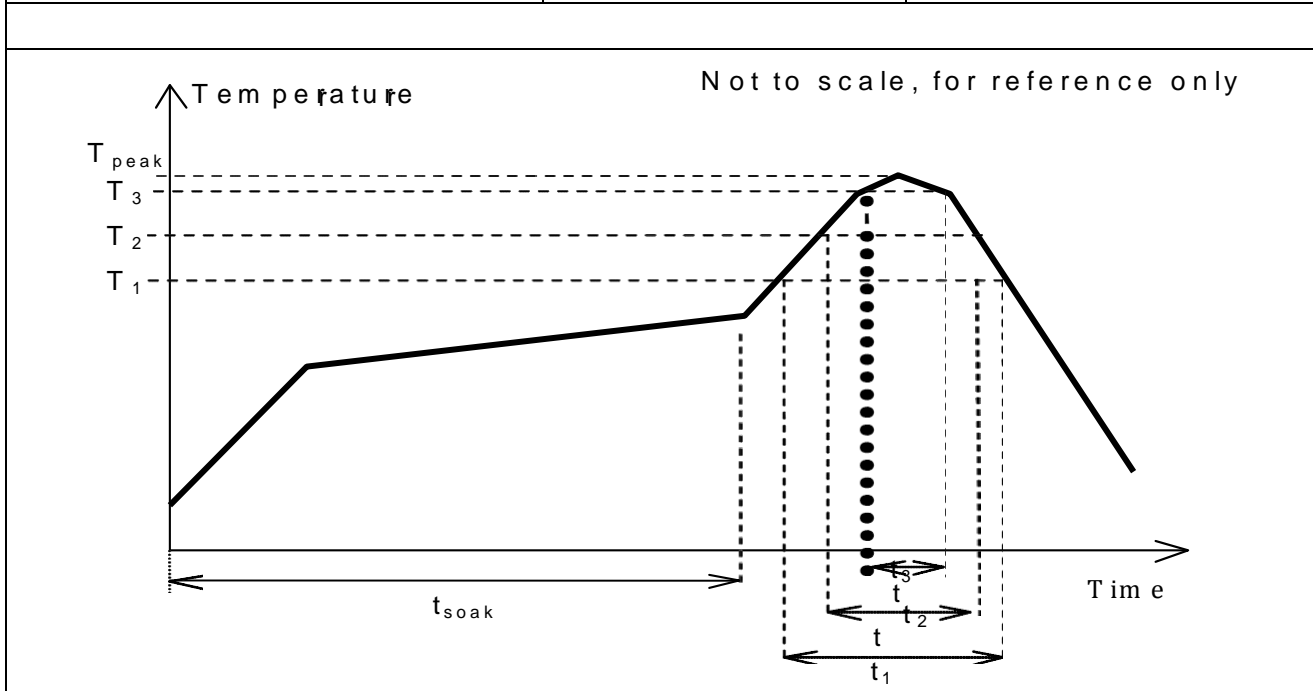
無鉛回流焊接曲線





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Parameter 參數	Reference 參考	Specification 規格
Average temperature gradient in preheating 平均預熱速度		2.5°C/s
Soak time 25~150°C	$t_{soak}$	60 Seconds (Max)
Time above 150°C	$t_1$	120 Seconds (Max)
Time above 200°C	$t_2$	50 Seconds (Max)
Time above 230°C	$t_3$	10 Seconds (Max)
Peak temperature in reflow 回流焊接中最高溫度	$T_{peak}$	260°C ( $\pm 5^\circ\text{C}$ ) For 5s (Max)
Temperature gradient in cooling 冷卻時溫度幅度		-5°C/s (Max)



This profile is the minimum requirement for evaluating soldering heat resistance of components. Heat transfer method used for reflow soldering is hot air convection. The actual air temperatures used to achieve the specified profile largely dependent on the reflow equipment.

這個曲線圖是評估元器件焊接抗熱的基本要求。應用在對流焊接中的熱傳遞方式是熱氣對流。達到特定曲線圖的實際溫度主要依賴於回流焊接設備。



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Material Housing : 049-LCP

[SGS Test Report Click here](#) 如需 SGS 測試報告請點選此處

Nippon Petrochemicals Co. LTD.  
Xydar Business Group

## TYPICAL PROPERTIES OF XYDAR<sup>®</sup> MG-350PRL

Properties	Method	Unit	MG-350PRL
Tensile strength 引張強さ	ASTM D638	MPa	116
Elongation 引張破壊伸び	ASTM D638	%	3.0
Flexural strength 曲げ強さ	ASTM D790	MPa	160
Flexural modulus 曲げ弾性率	ASTM D790	GPa	13.3
Izod impact strength (unnotched) アイゾッド衝撃強度	ASTM D256	KJ/m <sup>2</sup>	42
DTUL 荷重たわみ温度 18.5 kgf/cm <sup>2</sup>	ASTM D648	°C	275
Oven Blister Test <sup>1)</sup> オーブンブリストア試験 1mm dumbbell, 60min	NPCC original	°C	310
Mold Shrinkage <sup>2)</sup> 成形収縮率	NPCC original	%	MD: 0.06
			TD: 0.55

1) Minimum oven temperature of blister breaking out on the specimen.

2) Mold: size 100\*100\*1mm, film gate

The data shown in this paper are based on our laboratory data, and not always directly applicable to your products used under different conditions.

XYDAR<sup>®</sup> is a trademark of Solvay Advanced Polymers, L.L.C.



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SMD Straight Type Material Contact : Phosphor Bronze C5210

[SGS Test Report Click here](#)

[如需 SGS 測試報告請點選此處](#)

MINCHALI		REPORT OF MATERIAL TEST 材料測試報告		ISO 9001 ISO/TS 16949 IECQ QC080000 ISO 14001 OHSAS 18001 & TOSHMS
No. : 251197		DATE: MAY.21,2013		
Customer 顧客名稱 : 名佳利金屬工業股份有限公司 Commodity 商品名稱 : C5210R PHOSPHOR BRONZE FOR SPRING ( EH ) Applied Standard 引用標準 : CNS 9503 Phosphor Bronze Sheets, Plates and Strips				
Manufacture No.	銅捲製號	24M007A		
(Specification)	產品規格	Standard		
Thickness (mm)	產品厚度		0.300	
Width (mm)	產品寬度		622.000	
Length (mm)	產品長度			
(Chemical Analysis Test)	化性測試			
P(%)	磷	0.030 - 0.350	0.128	
Sn(%)	錫	7.000 - 9.000	7.938	
Cu+Sn+P(%)	銅錫磷	min. 99.700	99.942	
(Mechanical & Physical Test)	物性測試			
Thickness Test (mm)	厚度測試	-	0.292	
Width Test (mm)	寬度測試	-0.10 +0.00	GOOD	
Tensile Strength (kgf/mm2)	抗拉強度	min. 65.00	72.26	
Elongation (%)	伸長率	min. 10.00	23.54	
Hardness Test (Hv)	硬度	200.0 - 230.0	224.0 - 226.0	
Grain Size (mm)	結晶粒度	-	0.010	
Electric Conductivity (%)	導電率	-	12.10	
(Other Information)	其他資訊			
Delivery No.	出貨單號			



QA Supervisor: 周建偉

A980301 S1800901ME

MINCHALI METAL INDUSTRY CO., LTD.  
名佳利金屬工業股份有限公司  
11,Pei Yuan Road, Chung Li City, Taiwan, R.O.C.  
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[SGS Test Report Click here](#)

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**INSPECTION REPORT**

客戶名稱 CUSTOMER	弘振企業股份有限公司
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鏡蔚企業有限公司  
**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	C7025-TM03	原料號碼 LOT NO	A10114-2	日期 DATE	2016/02/26
規格 SIZE	0.2 X 385	重量 QUANTITY	1470 KG	序號 NO.	151000010

**化學成份 CHEMICAL COMPOSITION**

成分符號 ELEMENT	Cu	FE	PB	MG	NI	ZN	MN	SI		
規格 SPEC (%)	MIN			0.05	2.2			0.25		
	MAX		0.2	0.05	0.3	4.2	1	0.1	1.2	
分析值 ANALYSIS VALUE	balance	0.0128	<0.0001	0.077	2.249	0.114	0.0183	0.438		

**機械特性試驗 MECHANICAL TESTING**

項目 ITEM	抗拉強度 Tensile Strength N/mm <sup>2</sup>	屈服強度 Yield Strength N/mm <sup>2</sup>	伸長率 Elongation %	導電率 Electrical Conductivity %IACS	硬度 Hardness (for reference only) HV
規格 SPEC	MIN	690	655	5	40
	MAX	800			260
實測值 MEASURED VALUE	723	694	8.2	48.3	221

**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	0.190	384		
	MAX	0.210	385	0.15	
實測值 MEASURED VALUE	0.200	385.01-385.02	0.117-0.121		

**備註 REMARKS**

\*厚度≤0.12T以下者,硬度僅供參考.



責任者



品質擔當者

