



# PRODUCT SPECIFICATION

## (產品規格書)

### Ordering information

7902-A 09 F (Y) C 00 R 3 A (-Axxx)

Series Position F : Female Y:With grounding C: Selective00:Gold R:Right 3:Type 3 A: Tray Internal  
M: Male forks with riveted Gold Flash Angle Package code  
threaded inserts andPlated  
with jack screws  
attached

A1:SEP.03/2012.

A2:JAN.08/2013.(增加 Male )

A3:DEC.24/2014.(增加 Table I 附錄一:測試要求-7.Salt Spray (鹽霧)

A4:MAR.22/2017(修改 O/I & 塑料)

PRODUCT NAME (產品名稱)	DOCUMENT No.: (文件編號)	Rev. (版本)	OUPIIN  (歐品)
Slim D-SUB  Right Angle Type  (RoHS)	7902spec-A09FR3	A4(I512)	
	7902spec-A09MR3		
	Approved (核準)	Checked (審核)	Prepared (製作)
	Q.A. Section Chief	Joseph Yen	MAR.22/2017



# PRODUCT SPECIFICATION OF OUPIIN

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# PRODUCT SPECIFICATION OF OUPIIN

## 1. SCOPE (範圍)

This product specification defines the product performance and the test methods to ascertain the performance of the Slim D-SUB Right Angle Type, which is designed and manufactured by Oupiin Electronic Co.,Ltd.

(本產品規格書規定了由歐品電子有限公司生產的 Slim D-SUB Right Angle Type, 型連接器,產品的特性及測試方法.)

## 2. REFERENCE DOCUMENTS (參考文件)

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 包裝



## PRODUCT SPECIFICATION OF OUPIIN

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

Rating current is 1.0A, rating voltage is 150V DC/AC RMS.

額定電流 1.0A，額定電壓 150V DC/AC RMS。

### 3.7 OPERATING TEMPERATURE 使用溫度

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

溫度範圍：-55°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. 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 220~245°C for products with lead, or 230~255°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220~245°C，無鉛產品控制在230~255°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；)

**Table I: Test Requirements and Procedures**

(附錄一:測試要求)

Items (項目)	Requirements (要求)	Test Methods (檢測方法)
1. Confirmation of Product (產品確認)	Product shall be conforming to the requirements of applicable product drawing. (產品必須滿足相關檔的規定)	Check the dimensions and functions per applicable product drawing in your eyes. (目視，尺寸及功能依產品圖面檢查)
2. Contact Resistance (接觸阻抗)	20 mΩ Max. initial (最大.初態)	Subject mated contacts assembled in housing to closed circuit of 100 mA max. at open circuit voltage of 20 mV max. (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，電壓 20 mV max.)
3. Insulation Resistance (絕緣阻抗)	1000 MΩ Min. (最小)	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. MIL-STD-202, Method 302, Condition B (500 V DC±10%). (測試產品端子間以及端子與接地間的電阻，適用：MIL-STD-202,方法 302，條件 B ) (500V DC±10%)
4. Durability (Repeated Mating/Unmated) (耐久性)	Contact Resistance: 50 mΩ Max. after testing. (測試後接觸阻抗最大 50mΩ)	The sample should be mounted the tester and fully mated and unmated 200 cycles specified at the rate of 25mm/min (重復進行配合產品 200 次插拔.)
5. Thermal shock (熱衝擊)	After testing, no damage, Contact Resistance 30 mΩ max.. Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ min. (測試後,產品無損壞，接觸阻抗：30 mΩ 最大；耐電壓測試 OK, 絕緣阻抗 1000MΩ 最小;)	Temperature range from -55°C to +85°C .Start from -55°C, after 30 min. change to +85°C; change time is no more than 30 seconds. Total 5 cycles. MIL-STD-202, Method 107D, condition A. (溫度變化範圍： -55°C~ +85°C；從 -55°C 開始，30 分鐘後換到+85°C；轉換時間不超過 30 秒；共 5 個循環.適用：MIL-STD-202，方法 107D，條件 A.)
6.High Temperature Life (高溫老化)	After testing, no damage, Contact Resistance 30 mΩ max.. (測試後,產品無損壞，	Subject product to 105±3°C for 96 hours continuously. MIL-STD-202, Method 108. (產品置於 125±3°C 連續 96 小時，



## PRODUCT SPECIFICATION OF OUPIIN

	接觸阻抗：30 mΩ最大。)	適用 MIL-STD-202, 方法 108。)
7. Salt Spray (鹽霧)	<p>After the test 20 times magnifying glass observation, blue green corrosion phenomenon, Determining eligibility. 試驗後以 20 倍放大鏡觀察，無藍綠色腐蝕之現象，則判定合格。</p> <p>Test shell plating and terminal gilded oxidation, corrosion, no blistering. Loss and other phenomena, etermining eligibility. 試驗後外殼鍍層及端子鍍金無氧化，腐蝕，無起泡，脫落等現象，則判定合格。</p>	<p>5±1% salt concentration 8 hours 35±2°C MIL-STD-202, Method 101 Condition B. (鹽水濃度（重量比）5±1%，時間 8 小時，溫度 35±2°C；MIL-STD-202，方法 101 條件 B.)</p>
8. Solderability Test (可焊性)	<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. (樣品在測試完成後，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: 3 to 5 Seconds (焊接時間：3~5 秒) Peak Temperature: 255±5°C. (最高溫度：255±5°C.)</p>



PRODUCT SPECIFICATION OF OUPIIN

Material Housing : 066-2-LCP(Black)

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28/August/2015

**Certificate of Analysis**

Sumitomo Chemical Co., Ltd.  
Quality Assurance Office, IT-Related Chemicals

Grade	SUMIKASUPER E6808LHF B Z	Quantity	2,000 kg
Lot No.	15821KD1	Date	29/August/2015

	ITEM	UNIT	Value	Specification	
				Lower Limit	Upper Limit
1	S.G.	-	1.70	1.68	1.72
2	Flexural Strength	MPa	152	125	180
3	Flexural Modulus	GPa	11.5	9.0	15.0
4	DTUL(1.82MPa)	℃	278	260	300
5	Flow Temperature	℃	303	300	315





## PRODUCT SPECIFICATION OF OUPIIN

Housing :UL

Component - Plastics

E249884

### SUMITOMO CHEMICAL CO LTD

ELECTRONIC MATERIALS DIV, TOKYO SUMITOMO TWIN BLDG, 27-1 SHINKAWA 2-CHOME, CHUO-KU TOKYO 104-8360 JP

### E6808LHF(gr)

Liquid Crystal Polymer (LCP), "SUMIKASUPER", furnished as pellets

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
NC, BK	0.30	V-0	-	-	130	130	130

Comparative Tracking Index (CTI): -

Inclined Flame Tracking (IFT): -

Dielectric Strength (kV/mm): -

Volume Resistivity ( $10^6$  ohm-cm): -

High-Voltage Arc Tracking Rate  
(HVTR): -

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

Dimensional Stability (%): -

(gr) - Virgin and Regrind from 1 to 25% by weight incl. have same basic material characteristics. In addition, 26 to 50% regrind by weight incl. have same flammability characteristics in the natural and black colors.

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: 2001-04-04

Last Revised: 2011-07-19

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## IEC and ISO Test Methods


Test Name	Test Method	Unit	Thickness Tested (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.30	V-0 (NC, BK)
Glow-Wire Flammability (GWFI)	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 <sup>2</sup>	-	-
ISO Izod Impact	ISO 180	kJ/m <sup>2</sup>	-	-
ISO Charpy Impact	ISO 179-2	kJ/m <sup>2</sup>	-	-

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Material Contact(Female) : Copper Alloy (Phosphor Bronze)

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		<b>REPORT OF MATERIAL TEST</b> <b>材料測試報告</b>		ISO 9001 ISO/TS 16949 IECQ QC080000 ISO 14001 OHSAS 18001 & TOSHMS
No.: 370879		DATE: JUL.11,2014		
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.	鑄造號	35C011A		
(Specification)	產品規格	Standard		
Thickness (mm)	產品厚度		0.300	
Width (mm)	產品寬度		34.500	
Length (mm)	產品長度			
(Chemical Analysis Test)	化性測試			
P(%)	磷	0.030 - 0.350	0.147	
Sn(%)	錫	5.500 - 7.000	6.282	
Cu+Sn+P(%)	銅錫磷	min. 99.500	99.954	
(Mechanical & Physical Test)	物性測試			
Thickness Test (mm)	厚度測試	-	0.301	
Width Test (mm)	寬度測試	-0.10 +0.00	0.000	
Tensile Strength (kgf/mm2)	抗拉強度	58.00 - 65.00	64.31	
Elongation (%)	伸長率	min. 10.00	22.92	
Hardness Test (Hv)	硬度	180.0 - 210.0	198.0 - 199.0	
Grain Size (mm)	結晶粒度	-	0.010	
Electric Conductivity (%)	導電率	-	14.60	
(Other Information)	其他資訊			
Delivery No.	出貨單號	37A038		
Customer Purchase Order	採購單號	PO.B02A14051301		



MINCHALI METAL INDUSTRY CO., LTD.  
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 11,Pei Yuan Road, Chung Li City, Taiwan, R.O.C.  
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 Fax : (03)4529112 (03)4629625

QA Supervisor: 周建偉

A890701 G3500317CH





# PRODUCT SPECIFICATION OF OUPIIN

Material Contact(Male) : Copper Alloy (Brass)

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 <b>REPORT OF MATERIAL TEST</b> <span style="float: right;">DATE: FEB. 11, 2009</span>										
MILL CERTIFICATE										
Customer: 歐品電子有限公司				Commodity: C 2680 R BRASS STRIP ( H )				 ISO 9002:4M8Y035-00 台正字第 3544 號		
Applied Standard: CNS 4383 Brass Sheets, Plates and Strips										
Chemical Analysis Test										
Work No.	Size of Product			Cu(%)	Fe(%)	Pb(%)	Zn(%)			
	Thickness (mm)	Width (mm)	Length (mm)							
	Standard			64.00 - 68.00	max. 0.050	max. 0.014	REM.			
81A414A	0.400	305.000		65.816	0.009	0.006	REM.			
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 <sup>2</sup> )	Elongation (%)			
	Standard			-	(-) 0.10 - (+) 0.00	42 - 55	-	105 - 175	-	-
81A414A	0.400	305.000		GOOD.	GOOD.	49.89	17.36	150.0 - 152.0	-	25.4

QC Supervisor 鄭建益 A920303

**MINCHALI METAL INDUSTRY CO., LTD.**  
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# PRODUCT SPECIFICATION OF OUPIIN

Material Shell : Steel (Shell-Ni)

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## 品質證明書 TEST CERTIFICATE

中國鋼鐵股份有限公司  
CHINA STEEL CORPORATION  
中華民國高雄市小港區中鋼路1號  
1 CHUNG KANG ROAD HSIAO KANG, KAOHSIUNG(K12),  
TAIWAN, REPUBLIC OF CHINA.  
TEL:(07)802-1111 FAX:(07)802-2511,(07)801-9427  
FD112-01 0410

客戶名稱 SOLD TO		產品名稱 PRODUCT		CR SHEET-COIL																			
規格名稱 SPEC		發票號碼 INVOICE NO.		證明書編號 CERTIFICATE NO.																			
R-35		RW67381406		960103F0112																			
TWSA63		客戶編號 CUSTOMER NO.		中鋼訂單編號 CSC ORDER NO.																			
		35489006		DC3255D																			
檢驗 INSP.		交運日期 SHIPPING DATE		證明書日期 T/C ISSUE DATE																			
CSC MILL INSPECTION		JAN. 02, 2007		JAN. 03, 2007																			
T/C 02		客戶訂單編號 CUST ORDER NO.																					
項目 ITEM NO.	產品序號 LABEL NO.	尺寸 MATERIAL DESCRIPTION			爐號 HEAT NO.	鋼捲號碼 COIL NO.	試片編號 SAMPLE ID.	拉伸試驗 T.S. T.S. EL.		#05 硬度 RB	化學成份 CHEMICAL ANALYSIS %						備註 REMARK						
		厚度 THICK	寬度 WIDTH	長度 LENGTH				數量 QTY	重量 WGT		Y.S.	T.S.	C	Mn	P	S		Si	Cu	Ni	Cr	Mo	Al
		MM	MM	MM				N/MM2	%		%	%	%	%	%	%	%	%	%	%			
01E	F008384	0.40	1218	COIL	10.0206S205	331867	331867	165	32344.8	37	4	17	11	7	1						4.1		
	F009109				6.45Q4345	082832	082832	171	32043.6	36	3	16	11	6	0							4.1	
	F009111				11.18Q4345	082832	082832	171	32043.6	36													
	F009574				7.29S4345	0828302	0828302	146	29046.5	35													
	F009575				7.41S4345	0828302	0828302	146	29046.5	35													
	F878674				7.83S451	081385	081385	156	30045.1	33	3	16	11	8	1							5.3	
	F878675				7.81S451	081385	081385	156	30045.1	33													
	F878923				5.43S4344	082831	082831	157	31044.8	36	2	15	10	9	1							5.6	
	F878924				6.71Q4344	082831	082831	157	31044.8	36													
					TOTAL:			9	70.15C														
註釋 NOTES		*01 拉伸試驗 *05 硬度試驗		TENSILE TEST HARDNESS TEST																			
SURVEYOR TO		茲證明本表所列產品，均依材料規格製造及試驗，並符合規格之要求。 WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENT OF THE ABOVE MATERIAL SPECIFICATION.										Y.C. Huang 冶金技術處處長 GENERAL MANAGER, METALLURGICAL DEPARTMENT											





# PRODUCT SPECIFICATION OF OUPIIN

Material Lock : Copper Alloy (Brass)

[SGS Test Report Click here](#)

[如需 SGS 測試報告請點選此處](#)

 <b>REPORT OF MATERIAL TEST</b> <span style="float: right;">DATE: FEB. 11, 2009</span>										
MILL CERTIFICATE										
Customer: 歐品電子有限公司				Commodity: C 2680 R BRASS STRIP ( H )				 ISO 9002:4M8Y035-00 台正字第 3544 號		
Applied Standard: CNS 4383 Brass Sheets, Plates and Strips										
Chemical Analysis Test										
Work No.	Size of Product			Cu(%)	Fe(%)	Pb(%)	Zn(%)			
	Thickness (mm)	Width (mm)	Length (mm)							
	Standard			64.00 - 68.00	max. 0.050	max. 0.014	REM.			
81A414A	0.400	305.000		65.816	0.009	0.006	REM.			
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 <sup>2</sup> )	Elongation (%)			
	Standard			-	(-) 0.10 - (+) 0.00	42 - 55	-	105 - 175	-	-
81A414A	0.400	305.000		GOOD.	GOOD.	49.89	17.36	150.0 - 152.0	-	25.4

QC Supervisor 鄭建益 A920303

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# PRODUCT SPECIFICATION OF OUPIIN

Material SCREW : Copper Alloy (C3604)

[SGS Test Report Click here](#)

[如需 SGS 測試報告請點選此處](#)

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## 試驗報告表

CE/2007/41609

廠商名稱					日期	2007年04月18日
試材名稱	銅合金 (Copper Alloys)	合金編號	C3604-3A	炉次編號	20070402AB05	
化學試驗 (Chemical Testing)						
試驗方法	X-線光譜分析法					
使用儀器名稱	X光電腦分析儀 (VACUUM X RAY SPECTROGRAPH)					
元素名稱	標準含量(%)	試片含量(%)	元素名稱	標準含量(%)	試片含量(%)	
銅 (Cu)	57.0-61.0	58.8	錫 (Sn)	Fe+Sn<1.2	0.3	
鋅 (Zn)	REM	REM	鐵 (Fe)	<0.5	0.3	
鉛 (Pb)	<3.5	2.5	錳 (Mn)	————	————	
鎘 (Cd)	<0.0050	<0.0050	銻 (Sb)	————	————	
汞 (Hg)	<0.0075	<0.0075	鋁 (Al)	————	————	
六價鉻 (Cr <sup>6+</sup> )	<0.0075	<0.0075	其他(Others)	————	————	
備註	DIA. 13.0 mm (C3604BD)					
分析員	蔡聰銘		主管	張國桐		