



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.
USB C Type Receptacle SMD	8975-C24CxxDB5NT	8975D02002

PRODUCT NAME (產品名稱)	DOCUMENT No.: (文件編號)	Rev. (版本)	OUPIIN
USB C Type Receptacle SMD	8975-Cspec-D5	A(I661)	(歐品)
	Approved (核準)	Checked (審核)	Prepared (製作)
	Q.A. Section Chief	Joseph Yen	12.05/2017



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 USB C Type Receptacle SMD , 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 USB C Type Receptacle SMD型連接器,產品的特性及測試方法.)

2. REFERENCE DOCUMENTS (參考文件)

MIL-STD-1344A	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。)Tape & Reel Packag 包裝



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

Current Rating : 5.0A for VBUS and GND(i.e.,Pin A4,A9,B4,B9)
1.25A for Vconn and GND(i.e.,Pin B5,A1,A12,B1,B12)
0.25A for all the others contacts.

Voltage rating : 100V AC / DC

額定電壓 : 100V AC / DC

3.7 STORAGE AND OPERATING TEMPERATURE 儲存與使用溫度

Temperature range: -55°C~+85°C, including terminal temperature rise for rating current.
溫度範圍 : -55°C~+85°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)

INFRARED REFLOW (紅外線回流焊接)

Three cycles. Each cycle consisting of three consecutive phased.
(三個週期，每個週期包括三個連續的階段完成；)

1. Preheat (預熱)

Increase in temperature not to exceed 4°C per second.
(溫度增加不超過 4°C /秒,)

2. Soldering (焊接)

Maximum allowable time above reflow temperature of 150~200°C is 90~120 seconds. Maximum temperature in this interval is 260°C, not to exceed 5 seconds.
(回流焊溫度150~200°C時最長不超過90~120秒. 最高溫度260°C時間不超過5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.)



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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 (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)	40 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)	100 MΩ Min. (最小)	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. (250 V DC±10%). (測試產品端子間以及端子與接地間的電阻)
4. Dielectric Strength (耐電壓)	Connector must withstand test potential of 100 V AC for 1 minute. Current leakage must be 0.5 mA max. (樣品必須承受測試電壓 100V AC，時間一分鐘，漏電流不大於 0.5 mA.)	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. MIL-STD-202, Method 301. (測試產品端子間以及端子與接地間的電壓，適用：MIL-STD-202，方法 301。)
5. Durability (Repeated Mating/Unmated) (耐久性)	Contact Resistance: 40 mΩ Max. after testing. (測試後接觸阻抗最大 40mΩ)	The sample should be mounted the tester and fully mated and unmated 10000 cycles specified at the rate of 200 cycles per hour. (重復進行配合產品 10000 次插拔.)
6. Insertion Force & Withdrawal Force (產品插拔力)	Insertion Force : 5N~20N . Withdrawal Force : 8N~20N, After 10000 Cycles Mating: 6N~20N.	Measure force necessary to unmated between the counterparts connectors.. (軸向力以 25±3mm/分的速度從塑膠本體對插後拔出)
7. Thermal shock (熱衝擊)	After testing, no damage, Contact Resistance 40 mΩ max.. (測試後,產品無損壞，接觸阻抗：40 mΩ 最大)	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. (溫度變化範圍： -55°C ~ +85°C；從 -55°C 開始，



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		30 分鐘後換到+85°C；轉換時間不超過 30 秒；共 5 個循環..)
8. Humidity (恆溫恆濕)	After testing, no damage, Contact Resistance 40mΩ max.. Dielectric Strength should be OK, (測試後,產品無損壞，接觸阻抗：40 mΩ 最大；耐電壓測試 OK)	Temperature :40±2°C 96 hours. (溫度：40±2°C 96 小時) Relative Humidity : 90-95%; (相對濕度：90-95%；) Duration :96 Hours. MIL-STD-202, Method 108, (時間：96 小時；MIL-STD-202，方法 108。)
9.High Temperature Life (高溫老化)	After testing, no damage, Contact Resistance 40mΩ max.. Dielectric Strength should be OK, (測試後,產品無損壞，接觸阻抗：40 mΩ 最大；耐電壓測試 OK)	Subject product to 105±3°C for 120 hours continuously. EIA-364-17, Method A. (產品置於 105±3°C 連續 120 小時，適用 EIA-364-17, 方法 A.)



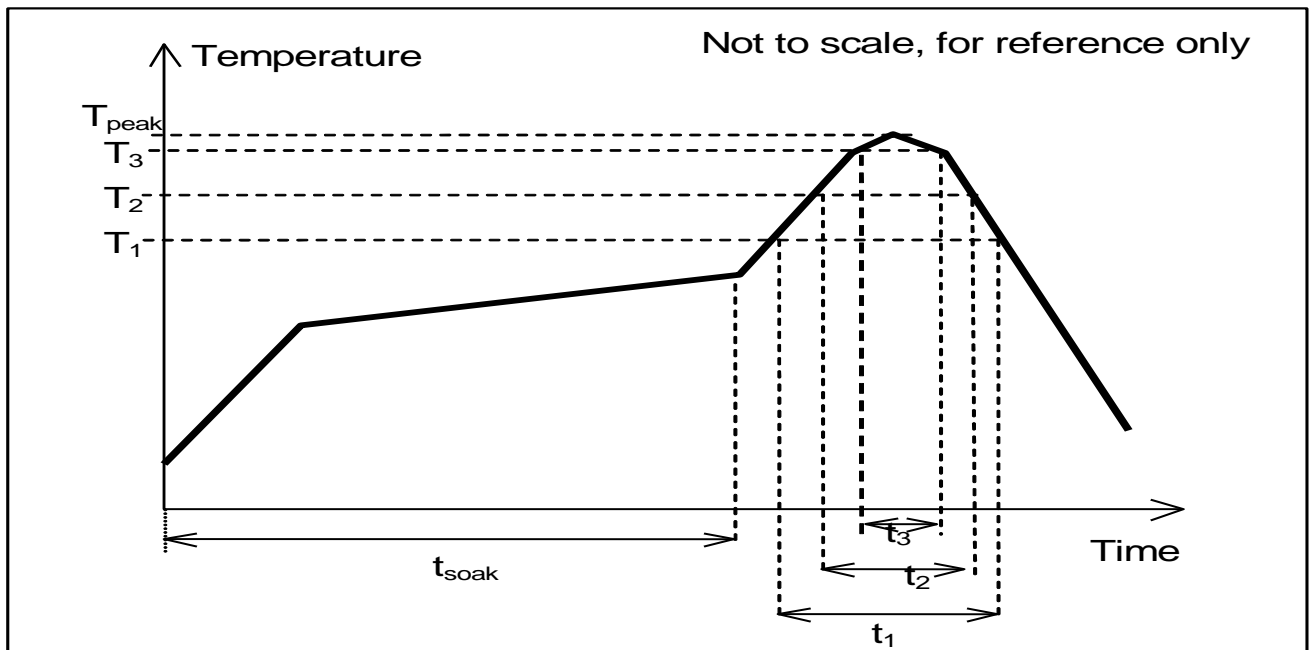
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Table II: Reflow soldering profile

(附錄二:回流焊接曲線圖)

Pb-free reflow profile requirements: (無鉛回流焊接曲線)

Parameter (參數)	Reference (參考)	Specification (規格)
Average Temperature Gradient in Preheating (平均預熱溫度)		2.5°C/s
Soak Time 25~150°C	T_{soak}	60 Seconds (max)
Time Above 150~200°C	t_1	100 Seconds (max)
Time Above 210~230°C	t_2	60 Seconds (max)
Time Above 230~255°C	t_3	10~15 Seconds (max)
Peak temperature in reflow (回流焊接中最高溫度)	T_{peak}	260°C (-5/+0°C)
Temperature Gradient in Cooling (冷卻時溫度幅度)		Max -5°C/s



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.

(這個曲線圖是評估原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 : 017-LCP(Black)

[SGS Test Report Click here](#)

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Liquid Crystalline Polymer VECTRA E130i

(Glass Fiber reinforced)

TYPICAL PROPERTIES

<i>Feature</i>			<i>E130i</i>
<i>PROPERTY</i>	<i>Test Method (ASTM)</i>	<i>Unit</i>	
<i>Specific Gravity</i>	<i>D792</i>	<i>-</i>	<i>1.62</i>
<i>Tensile Strength (3.2mmt)</i>	<i>D638</i>	<i>MPa (kgf/cm²)</i>	<i>167 (1,700)</i>
<i>Tensile Elongation (3.2mmt)</i>	<i>D638</i>	<i>%</i>	<i>1.7</i>
<i>Flexural Strength (3.2mmt)</i>	<i>D790</i>	<i>MPa (kgf/cm²)</i>	<i>221 (2,250)</i>
<i>Flexural Modulus (3.2mmt)</i>	<i>D790</i>	<i>MPa (• 10⁴kgf/cm²)</i>	<i>14,210 (145,000)</i>
<i>Izod Impact Strength (Notched)</i>	<i>D256</i>	<i>J/m (kgf•cm/cm)</i>	<i>128 (13)</i>
<i>Deflection Temperature under load (at 1.82MPa)</i>	<i>D648</i>	<i>• •</i>	<i>230</i>
<i>Flammability</i>	<i>UL94</i>	<i>-</i>	<i>V-0</i>

NOTE:

- ◇ *These property values are typical values obtained under varying conditions prescribed by certain standards and test methods and therefore are not the minimum values of the material specifications*



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Material Housing :UL

UL iQ™

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Component - Plastics

E106764

POLYPLASTICS CO LTD

18-1 KONAN 2 CHOME, MINATO TOKYO 1088280 JP

E130i(d)(e)(f1)

Liquid Crystal Polymer (LCP), thermotropic aromatic polyester, "VECTRA" or "LAPEROS", furnished as pellets

Color	Min Thk (mm)	Flame Class	HWM	HAI	RTI Elec	RTI Imp	RTI Str
NC, BK	0.75	V-0	2	0	240	220	240
	1.5	V-0	1	0	240	220	240
	3.0	V-0	0	0	240	220	240

Comparative Tracking Index (CTI): 4

Dielectric Strength (kV/mm): 39

High-Voltage Arc Tracking Rate (HVTR): 0

Dimensional Stability (%): 0

Inclined Plane Tracking (IPT): -

Volume Resistivity (10¹² ohm-cm): 16

High Volt, Low Current Arc Resis (D495): 5

(d) - Virgin and regrind up to 50% by weight incl., have the same basic material characteristics in NC and BK with a minimum thickness of 0.75mm.

(e) - Regrind from 26-50% by weight inclusive has an Impact RTI of 180C at thicknesses greater than 1.5mm.

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.

ANSI/UL94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL94 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: 1992-08-19

Last Revised: 2014-08-22

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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)	0.75	V-0 (NC, BK)
			1.5	V-0 (NC, BK)
			3.0	V-0 (NC, BK)
Glow-Wire Flammability (GWF1)	IEC 60695-2-12	C	0.75	960
			1.5	960
			3.0	960
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	0.75	850
			1.5	850
			3.0	900
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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The materials covered in this database are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. THE FINAL ACCEPTANCE OF THE COMPONENT IS DEPENDENT UPON ITS INSTALLATION AND USE IN COMPLETE PRODUCTS SUBMITTED TO UNDERWRITERS LABORATORIES.



PRODUCT SPECIFICATION OF OUPIIN

Material : Copper Alloy (Phosphor Bronze C5191)

[SGS Test Report Click here](#)

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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

曹保祥

4020303



PRODUCT SPECIFICATION OF OUPIIN

Material Shell : Metal(Steel)

[SGS Test Report Click here](#)

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产品质量证明书

深圳市铭丰金属材料有限公司

Shenzhen Ming Fung Metal Materials Co., Ltd.

深圳市宝安区沙井镇后亭第二工业区

Houting Industrial Zone, Shajing Town, Bao'an District, Shenzhen

TEL: 0755-8168753 FAX: 0769-29691026

CERTIFICATE OF QUALITY

客户名称 Customer		合同号 Contract No.		重量(Kg) Weight (Kg)		签发日期 Date of Issue			
		2010-5-21		9541		2010-05-21			
牌号 Brand	标准 Standard No.	规格 (mm) Dimension		状态 Temper		表面质量 Surface Quality			
Spcc	JIS G3141 SPCC-SD	0.3X750				OK			
化学成份 Chemical composition				尺寸公差 (mm) Size Tolerance					
	C	Si	Mn	S	P	厚度Thickness	宽度Width	长度Length	
标准 Spec	Min					标准 Spec	0.30±0.01	750±0.5	/
	Max					Min	0.29	749.5	/
实测 Actual	Actual	199	7	194	68	Max	0.31	750.5	/
机械性能 Mechanical properties									
项目 Item	抗拉强度(N/mm2) Tensile Strength		延伸率(%) Elongation		硬度(HV) Hardness				
标准 Spec	Min	400		50		280			
	Max	300		/		220			
实测 Actual	Actual	349		41		248			

注：本证明书请妥善保管，本产品经检验符合标准，所提供的数据均为测试值，如有质量异议，请于七天内提出，本公司将竭诚为您服务。
如经贵司冲压变形及电镀后我司不承担相关责任。