PRODUCT SPECIFICATION

(產品規格書)

產品名稱 Description	產品料號 Part No.	圖號 Drawing No.
4.2mm Connector R/A Wafer	4973-1XxxTRxB	4973D02011

PRODUCT NAME (產品名稱)	**DOCUMENT No.:** (文件編號)	**Rev.** (版本)	**OUPIIN** (歐品)
4.2mm Connector R/A Wafer	4973spec-R	A(I732)	
	Approved (核準)	**Checked** (審核)	**Prepared** (製作)
	Q.A. Section Chief	Nita Lu	DEC.14/2018

1. SCOPE （範圍）

This product specification defines the product performance and the test methods to ascertain the performance of the 4.20 mm Connector R/A Wafer , 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 4.20 mm Connector R/A Wafer 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）

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。)

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

Current Rating : (Used With # 18 AWG.)

Circuite	2	4~6	8~10	12~24
Ampere	9 A	8 A	7 A	6 A

額定電流:使用 18AWG 電子線

3.7 STORAGE AND OPERATING TEMPERATURE *儲存與使用溫度*

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. 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 235~260°C for lead-free products. The tin dip time is duration for 3~5 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235~260°C。浸錫時間控制在3~5秒。)

3. Cool Down （冷卻）

Cool down shall not exceed 6℃ per second.(冷卻速度不超過6℃/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.
(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)	10 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. Dielectric Strength (耐電壓)	Connector must withstand test potential of 1500 V AC for 1 minute. Current leakage must be 0.5 mA max. (樣品必須承受測試電壓 1500V 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. Solder ability (可焊性)	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；)	Soldering time: 3 to 5 Seconds (焊接時間：3~5 秒) Peak Temperature: 240±5°C. (最高溫度：240±5°C.)

Material Housing : 016-PA66

SGS Test Report Click here

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TL/0124/1997.289/UK

TECHNYL ? A 205F

Description	Unreinforced polyamide 66 , high fluidity , fast cycling grade, for injection moulding .
Applications	TECHNYL A 205F offers two main advantages : excellent filling qualities and UL 94 V2 under 0.4 mm. It is particularly suitable for the moulding of long parts with thin wall sections, such as : - cable ties and fasteners, - connectors. This product is available in natural, black and in colours on request .
Processing	The material is supplied in airtight bags, ready for use . In the case that the virgin material has absorbed moisture, it must be dried to a final moisture content of less than 0,2% with a dehumidified air drying equipment at approx 80℃. Recommended moulding conditions : Barrel temperatures : - feed zone 270 - 275℃ - compression zone 280 - 285℃ - front zone 285 - 290℃ Mould temperatures : 60 at 80℃ For more detailed information , please refer to the technical sheet "Injection moulding".
Safety	Please refer to the Material Safety Data Sheet A1

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TECHNYL ? A 205F

Main properties

Values measured at 23 ? The values of properties are for natural grade.

Properties		Standards	Unit	Values	
				EH 0 ? 23 ?	EH 50 ? 23 ?
Physical	Water absorption, 24h in water at 23?	ISO 62	%	1.2	-
	Density	ISO 1183-A	g/cm3	1.14	-
	Moulding shrinkage longitudinal	RHODIA-EP	%	1.9	-
	Moulding shrinkage transverse	RHODIA-EP	%	1.9	-
Mechanical	Tensile Modulus	ISO 527	MPa	3200	1600
	Yield stress	ISO 527	MPa	85	50
	Elongation at yield	ISO 527	%	4	10
	Tensile strain at break	ISO 527	%	25	200
	Stress at 50% elongation	ISO 527	MPa	-	50
	Tensile stress at break	ISO 527	MPa	60	40
	Flexural modulus	ISO 178	MPa	2900	1300
	Flexural strength	ISO 178	MPa	120	50
	Charpy notched impact strength	ISO 179/1EA-1993	kJ/m2	4.5	8
	Charpy notched impact strength ISO179/1A	ISO 179-1982	kJ/m2	5	15
	Charpy impact strength	ISO 179/1EU-1993	kJ/m2	NB	NB
	Charpy impact strength ISO 179/1D	ISO 179-1982	kJ/m2	NB	NB
	Izod notched impact strength	ISO 180	kJ/m2	4.5	6
Thermal	Melt temperature	ISO 3146 - C	?	263	-
	Temper. of dimensional stability 1,8 MPa	ISO 75-2	?	75	-
	Coef. linear expansion longit. 23?-85?	ASTM E 831	E-6 / ?	7	-
	Flammability UL94 thickness 0,4mm	ISO 1210/UL 94	-	V2	-
	Flammability UL94 thickness 0,8mm	ISO 1210/UL 94	-	V2	-
	Flammability UL94 thickness 1,6 mm	ISO 1210/UL 94	-	V2	-
	Glow wire test thickness 1,6 mm	IEC 695-2-1	?	850	960
Electrical	Relative permittivity 1MHz	IEC 250	-	2.9	3.2
	Dissipation factor 1 MHz	IEC 250	-	0.03	0.08
	Volume resistivity	IEC 93	E14.Ohm.cm	10	0.1
	Surface resistivity	IEC 93	E14.Ohm	5	0.1
	Dielectric strength	IEC 243-1	kV/mm	27	26
	Comparative tracking index KC	IEC 112	Volt	600	600
	Comparative tracking index KB	IEC 112	Volt	550	-
Specifical	Limit oxygen index	ISO 4589	%	28.5	-

Identification code >PA66<

Rhodia

Engineering Plastics

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RHODIA ENGINEERING PLASTICS. Soci?? Anonyme au capital de . 71 256 400 F - 393 335 104 RCS Lyon

Material Housing :UL

QMFZ2 Component - Plastics Tuesday, December 13, 2005 E44716

RHODIA ENGINEERING PLASTICS
QUARTIER BELLE-ETOILE AVE RAMBOZ BOITE POSTALE 64 ST FONS CEDEX 69192 FR

Material Designation: **A 205F(r4)**

Product Description: Polyamide 66 (PA66), designated "Technyl" furnished as pellets.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
ALL	0.38	V-2	4	0	105	-	-	-	-
	0.75	V-2	4	0	110	75	85	-	-
	1.5	V-2	3	0	115	75	85	-	-
	3.0	V-2	2	0	120	75	85	-	-
BK	3.0	V-2	2	0	120	85	95	-	-

CTI: 0 **IEC CTI** (V): - **HVTR:** 0 **D495:** 5 **IEC Ball Pressure** (°C): -

Dielectric Strength (kV/mm): - **Volume Resistivity** (10^xohm-cm): - **Dimensional Stability**(%): -
ISO Tensile Strength (MPa): - **ISO Flexural Strength** (MPa): - **ISO Heat Deflection** (°C): -
ISO Tensile Impact (kJ/m^2): - **ISO Izod Impact** (kJ/m^2): - **ISO Charpy Impact** (kJ/m^2): -

(r4) Virgin and regrind up to 50% by weight inclusive have the same basic material.

NOTE Materials designated "Technyl" may be prefixed by the letters "TY".

Report Date: 9/17/1992 Underwriters Laboratories Inc®

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.

PRODUCT SPECIFICATION OF OUPIIN

Material Contact :Copper Alloy

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國 晟 工 業 股 份 有 限 公 司

GWO CHERN INDUSTRIAL CO., LTD.
桃園縣蘆竹鄉海湖村海湖 16 鄰 186 之 28 號
No . 186 – 28 Hai Hu Village . Lu Chu
Hsiang Tao Yuan Hsien Taiwan

電腦分析儀化學成份(Chemical Compositions)測試報告

客戶名稱					
訂單號碼				出貨日期	96/10/24
國際標準	JIS 國際標準	試材品名	C2700W（SBS）	試材規格	1.08m/m ± 0.02
化學試驗	CHEMICAL TESTING				
儀器名稱	X 光電腦分析儀 (VACUUM X RAY SPECTROGRAPH)				
此份材質表僅供參考，不做其他證明使用。					

元素名稱	標準規範 %	實際含量 %	元素名稱	標準規範 %	實際含量 %
銅 (Cu)	63.2-63.8	63.485	鐵 (Fe)	≦ 0.02	0.0017
鋅 (Zn)	Remainder	36.4794	矽 (Si)	—	
鉛 (Pb)	≦ 0.010	≦ 0.01	錳 (Mn)	—	—
錫 (Sn)	Fe+Sn ≦ 0.02	≦ 0.02	銻 (Sb)	—	—
鎳 (Ni)	—	—	鋁 (Al)	≦ 0.005	0.0039
磷 (P)	—	—	其他(other)	—	—

導電率測試值	架橋式					
機械試驗	MECHANICAL TESTING					
試驗方法	油壓拉伸法					
儀器名稱	電腦萬能材料試驗機 (computer universal machine)					
物理性質	拉力(tesile strength)	降伏點(yield strength)	延伸率(elongation)	硬度(hardness)	CD 值 1	CP 值 2
標準要求	— kgf/m ㎡	— gf/m ㎡	15 % 以上	1/4 H	750 m/m 以下	50 m/m 以下
實際數值	36.9 kgf/m ㎡	18.12 kgf/m ㎡	37 %	1/4 H	550 m/m	<5 m/m
製造批號	101821 101822					
單位主管	張 景 松		分 析 員	何 三 吾		