PRODUCT SPECIFICATION

產品規格書

產品名稱 Description	產品料號 Part No.	圖號 Dwg. No.
High Speed Board to Board Pitch 0.8mm Connector	2337-xxMCxDxxx-x(-Axxx)	2337-D0000-xxx
	2337-xxFCxDxxx-x(-Axxx)	2337-D0000-xxx
	2337-Zxx MCxDxxx-x(-Axxx)	2337-D0000-xxx

PRODUCT NAME 產品名稱	**DOCUMENT No.** 文件編號	**Rev.** 版本	**OUPIIN** 歐品電子
High Speed Board to Board Pitch 0.8mm Connector	Q2337-PSS-001	D	
	Approved 核准	**Checked** 審核	**Prepared** 制作
		Ruru	2025/04/01’

1. SCOPE 適用範圍

This product specification defines the product performance and the test methods to ascertain the performance of the High Speed Board to Board Pitch 0.8mm Connector, 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 High Speed Board to Board Pitch 0.8mm 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

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。

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 : Signal : 2A,

Rating voltage is 125V AC RMS.

額定電流：信號 Pin 2A ，

額定電壓 125V 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.
Storage Temperature :0°C~+40°C, Humidity: 80%RH under, Time limit is 12 months the products are stored。

溫度範圍：-55°C~+125°C，包含接觸端子的額定電流溫升。
儲存溫度：0°C~+40°C，濕度：80%RH 以下,產品限存時間為 12 個月.

4. Environmental 環境要求

4.1. SOLDERABILITY 可焊性

Connectors meet solder-ability to EIA-364-52, and shall be free of contaminants.
產品可焊性符合 EIA-364-52 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。

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准。

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。

5.4. TEST SEQUENCE 測試順序

Product qualification test sequence as shown in **Table II.**
產品品質測試順序見附表二。

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	Initial： Signal Pin：45 mΩ Max. 初始狀態： 信號 Pin 最大 45 mΩ。	Subject mated contacts assembled in housing to closed circuit of 10 mA max. 20 mV max. Per 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 10 mA max，電壓 20 mV max。適用：EIA-364-06
3. Insulation Resistance 絕緣阻抗	5000 MΩ Min. 最小 5000 MΩ。	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. Per EIA-364-21 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
4. Dielectric Withstanding Voltage 耐電壓	Connector must withstand test potential of 525 VAC RMS for 1 minute, current leakage must be 0.5mA Max. 產品必須承受測試電壓 525 VAC RMS，時間 1 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. Per 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: △15 mΩ Max. after testing. 測試後接觸阻抗變化最大 15 mΩ。	Repeat mate and unmated for connector 250 cycles, at a speed of 25.4 mm per minute. Per EIA-364-09 重復進行配合產品 250 次插拔，速度 25.4mm/分鐘。適用：EIA-364-09
6. Connector Mating /Un-mating Force 產品插入力/拔出力	Signal pin: Mating force: 0.42N/Pin Max. Un-mating force:0.1125N/Pin Min Signal pin: 插入力: 0.42N/Pin Max 拔出力: 0.1125N/Pin Min	At a speed of 25.4 mm/minute, apply axial insert the mating part into fully or pull out from the subject product. Per EIA-364-13 以 25.4 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。適用：EIA-364-13

7. Contact Retention Force 端子保持力	1.2 N/Pin. Min. 最小 1.2 N/Pin。	Apply axial pull out force at a speed of 25.4 mm/minute on the contact assembled in the housing. Per EIA-364-29 以 25.4mm/分鐘的速度施加軸向拉力從塑膠本體上拔出端子。適用：EIA-364-29
8. Vibration Sinusoidal Low Frequency 低頻正弦振動	No electrical discontinuity greater than 1 μs shall occur, Contact Resistance: △ 15 mΩ Max. 不允許出現超過 1 μs 的瞬間斷開，接觸阻抗變化最大 15 mΩ。	Subject mated connector to 10-55-10 Hz traversed in 1 minute at 1.5 mm amplitude, 15 minutes each of 3 mutually perpendicular plane,10 mA potential applied. Per EIA-364-28 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 15 分鐘下測量，電流 10 mA。適用：EIA-364-28
9. Mechanical Shock 機械衝擊	No electrical discontinuity greater than 1 μs shall occur, Contact Resistance: △ 15 mΩ Max. 不允許出現超過 1 μs 的瞬間斷開，接觸阻抗變化最大 15 mΩ。	Subject mated connector and shock at 50g with 1/2 sine wave（11millsecond）shocks in the 3 axes(18 shocks total). Per EIA-364-27. 加載 50g 半正玄波，持續 11 毫秒，三個方向共 18 次。適用：EIA-364-27
10. Thermal Shock 熱衝擊	After testing, no damage, Contact Resistance △ 15 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 5000 MΩ Min. 測試後產品無損壞，接觸阻抗變化最大 15mΩ；耐電壓測試 OK，絕緣阻抗最 小 5000 MΩ。	Temperature range from -55°C to +85°C. Start from -55°C, after 30 minutes, change to +85°C; change time is no more than 5 minutes, total 5 cycles. Per EIA-364-32 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 5 分鐘，共 5 個循環。適用：EIA-364-32
11. Humidity (Steady State) 恆溫恆濕	After testing, no damage, Contact Resistance △ 15 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 5000 MΩ Min. 測試後產品無損壞，接觸阻抗變化最大 15mΩ；耐電壓測試 OK，絕緣阻抗最 小 5000 MΩ。	Temperature: 25°C to 65°C. Relative Humidity: 90-95%. Duration: 240 Hours. Per EIA-364-31 溫度：25°C 到 65°C。相對濕度：90-95%。持續時間：240 小時。適用：EIA-364-31。

12. 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. 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。	Solder-bath temperature 245±5˚C , duration 5 sec. Per EIA-364-52 錫爐溫度爲 245±5 度，沾錫時間 5 秒 適用：EIA-364-52
13. Test temperature rise for rating current 溫升測試	1.The temperature rise above ambient shall not exceed 30°C 。 溫升不能超過 30°C. Ambient conditions - Still air 25°C。 周圍環境溫度 25°C。	Subject mated contacts assembled in housing to closed circuit of 2A signal contacts ,250V max, Test Specification Per EIA-364-70 所述固定在外殼包的端子連結到一個封閉回路中測試，Signal Pin 2A,250V max。適用：EIA-364-70
14. Salt Spray 鹽霧	After testing, no damage, Contact Resistance △ 15 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 5000 MΩ Min. 測試後產品無損壞，接觸阻抗變化最大 15mΩ；耐電壓測試 OK，絕緣阻抗最小 5000 MΩ。	5±1% salt concentration 48 hours 35±2°C Per EIA-364-26 鹽水濃度 5±1%，時間 48 小時，溫度 35±2°C。 適用：EIA-364-26
15.High Temperature Life 高溫老化	After testing, no damage, Contact Resistance △ 15 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 5000 MΩ Min. 測試後產品無損壞，接觸阻抗變化最大 15mΩ；耐電壓測試 OK，絕緣阻抗最小 5000 MΩ。	Subject product to 105±3°C for 250 hours continuously. Per EIA-364-17 產品置於 105±3°C 連續 250 小時。 適用：EIA-364-17。

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	I	J
1. Conformation of Product 產品確認	1,7	1,4	1,9	1,9	1,9	1,9	1,3	1,9	1,9	1,9
2. Contact Resistance 接觸阻抗	2,6		2,6	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	3,7	3,7
4.Dielectric Withstanding Voltage 耐電壓	4		4,8	4,8	4,8	4,8		4,8	4,8	4,8
5.Durability (Repeated Mating/Un-mating) 耐久性	5									
6. Connector Mating/Un-mating Force 產品插入/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. Mechanical Shock 機械衝擊				5						
10. Thermal Shock 熱衝擊					5					
11. Humidity (Steady State) 恆溫恆濕						5				
12. Solder-ability 可焊性							2			
13. Test temperature rise for rating current 溫升測試								5		
14. Salt Spray 鹽霧									5	
15. High Temperature Life 高溫老化										5

Table III: Reflow Soldering Profile

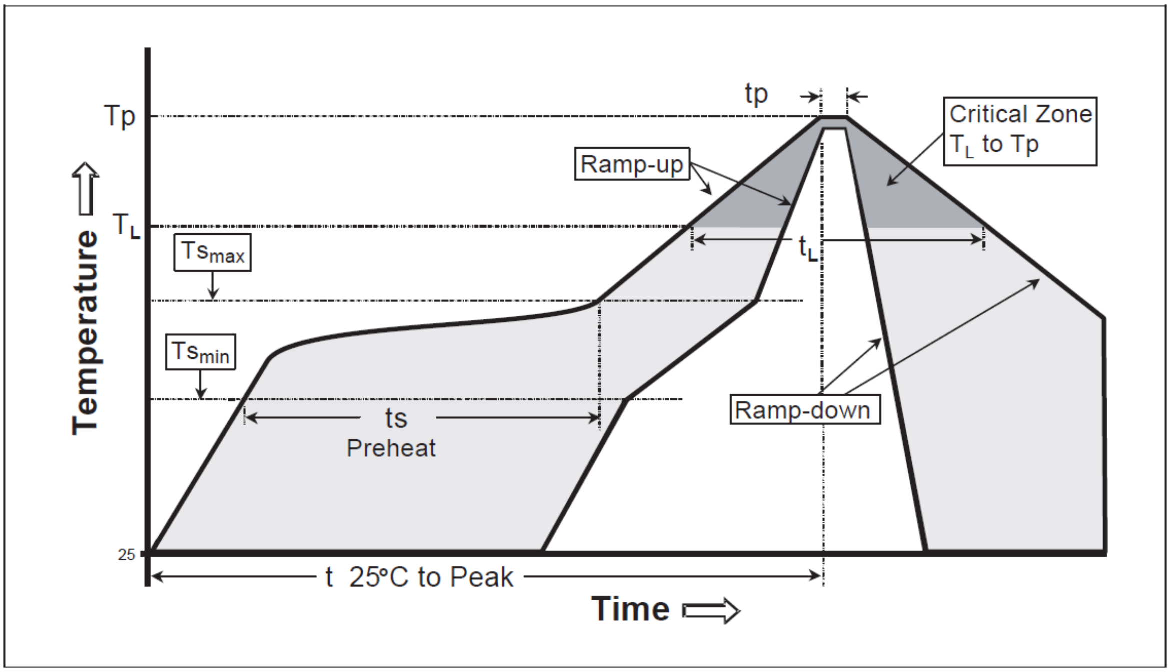
附表三**:** 回流焊接曲線圖

Lead-free reflow profile requirements:

Lead-free reflow profile requirements:

無鉛回流焊接曲線

Parameter 参数	Reference 参考	Specification 规格
升溫區 Ramp-up	25℃ ~150℃	3°C /S Max
預熱區(Pre-heatimg) Temperature Min(Ts_{min}) Temperature Max(Ts_{max}) Time(Ts_{min} to ts_{max})	150℃ ~200℃	60~180sec
Time maintained above(保持时间) Temperature(T_L)	217℃	60~150sec
Time within 5°C of actual peak Temperature(tp)	260-/+5℃	20~40sec
冷卻區 Cooling	Ramp-Down Rate	6°C /S(Max)
Time 25°C to Peak Temperature	25°C ~ Peak Temp.	8 minutes maximum



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件器件焊接抗熱的基本要求。應用在對焊接中的熱傳遞方式是熱氣對流。達到特定曲線圖地實際溫度主要依賴與回流焊接設備。