



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.
BUSBAR Clip Power Connector	9192-D2P02N1B7PU	9192-D0000-058

PRODUCT NAME 產品名稱	DOCUMENT No.: 文件編號	Rev. 版本	OUPIIN
BUSBAR Clip Power Connector	Q9192-PSS-006	A	歐品電子
	Approved 核准	Checked 審核	Prepared 制作



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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 BUSBAR Clip Power 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 BUSBAR Clip Power Connector 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。



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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, RATING VOLTAGE AND TR 額定電流,額定電壓及溫升

Rating Current: Power Pin 30A, Rating Voltage is 250 V AC RMS.

額定電流: Power Pin 30A, 額定電壓: 250 V AC RMS.

3.9 STORAGE AND OPERATING TEMPERATURE 存貯與使用溫度

Temperature range: $-40^{\circ}\text{C}\sim+105^{\circ}\text{C}$, including terminal temperature rise for rating current.

Storage Temperature : $0^{\circ}\text{C}\sim+40^{\circ}\text{C}$, Humidity: 80%RH under , Time limit is 18 months the products are stored .

溫度範圍： $-40^{\circ}\text{C}\sim+105^{\circ}\text{C}$,包含接觸端子的額定電流溫升.

儲存溫度： $0^{\circ}\text{C}\sim+40^{\circ}\text{C}$ ，濕度：80%RH以下,產品限存時間為18個月.

4. PERFORMANCE AND TEST DESCRIPTION 性能及測試

4.1. 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。

4.2. 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。

4.3. 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。

4.4. 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。



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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	Power pin: 20.0mΩ Max initial. Power pin 初始狀態 20.0mΩ Max Per EIA-364-06 適用：EIA-364-06	Subject mated contacts assembled in housing to closed circuit of 20 mA max. 所述固定端子連結到一個封閉回路中測試,電流 20 mA max,電壓 20 mV max。
3. Insulation Resistance 絕緣阻抗	Power and Signal pin: 5000 MΩ Min. Power and Signal pin: 最小 5000 MΩ. Per EIA-364-21 適用：EIA-364-21	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. (500 V DC±10%). 測試產品相鄰端子間以及端子與接地間的電阻 (500 V DC±10%)。
4. Dielectric Withstanding Voltage 耐電壓	Connector must withstand test potential of 1500 VDC RMS for 1 minute, current leakage must be 0.3mA Max. 產品必須承受測試電壓 1500 VDC RMS，時間 1 分鐘，漏電流不大於 0.3 mA。 Per EIA-364-20 適用：EIA-364-20.	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. 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。
5. Durability (Repeated Mating/Un-mating) 耐久性	After testing :Maximum Change: Power Contact: 0.75 milliohm 測試後：電源 PIN 最大變化 0.75mΩ Per EIA-364-09 適用：EIA-364-09	Repeat mate and unmated for connector 200 cycles, at a speed of 25.4 mm per minute. 重復進行配合產品 200 次插拔，速度 25.4mm/分鐘。



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6. Contact Retention Force 端子保持力	Power pin: 1.0kgf /Pin. Min. Power pin 每支最小 1.0kgf	Apply axial pull out force at a speed of 25.4±3 mm/minute on the contact assembled in the housing.
	Per EIA-364-29 適用：EIA-364-29	以 25.4±3mm/分鐘的速度施加軸向拉力從塑膠本體上拔出端子。
7.1. Mating /Un-mating Force 插入力/拔出力	Power pin: Mating force: 12.5N/pin Max. Un-mating force: 3N/pin Min Power pin: 插入力最大: 12.5N /pin Max 拔出力最小: 3N/pin Min	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。
	Per EIA-364-37 適用：EIA-364-37	
7.2 Connector Pin Press in /Retention Force 單支端子壓入/拉出 PCB 孔的力量	Press in force Power pin 83.2 N Max Retention force Power pin 32.9 N Min 壓入力電源 PIN 最大 83.2 N 拉出力電源 PIN 最小 32.9N	At a speed of 25.4±3 mm/minute, apply axial press in PCB to right position (detail as drawing) or pull out from PCB. 以 25.4±3 mm/分鐘的速度施加軸向壓力將 Press 部分壓入 PCB 孔至適當位置（詳見產品圖面）或從 PCB 孔中拉出。
8. Vibration 機械振動	After testing, no damage. No electrical discontinuity greater than 1μs shall occur, Contact Resistance: Maximum Change: Power Contact: 0.75 mΩ 測試後，產品無損壞。不允許出現超過 1μs 的瞬間斷開，接觸阻抗電源 PIN 最大變化 0.75mΩ。	Subject mated connector to 10-55-10 Hz traversed in 1 minute at 1.5mm amplitude, 15 minutes each of 3 mutually perpendicular planes, 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。
	Per EIA-364-28. 適用：EIA-364-28。	
9. Thermal Shock 溫度沖擊	After testing, no damage, Maximum Change: Power Contact: 0.75 mΩ Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ Min. 試後產品無損壞，接觸阻抗：電源 PIN 最大變化 0.75mΩ；耐電壓測試 OK，絕緣阻抗最小 1000 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. 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。
	Per EIA-364-32 適用：EIA-364-32	



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10. Humidity- Temperature Cycle 溫濕度循環	After testing, no damage, Maximum Change: Power Contact: 0.75 mΩ Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ Min. 測試後產品無損壞，接觸阻抗電源 PIN 最大變化 0.75mΩ；耐電壓測試 OK，絕緣阻抗最小 1000 MΩ。 Per EIA-364-31 適用：EIA-364-31	Subject product to 25~65°C, 50-80%.R.H 24Cycles. 產品置於 25~65°C,相對濕度：50-80%,循環 24 次,
11. Test temperature rise for rating current 溫升測試	The temperature rise above ambient shall not exceed 30 °C。 溫度不能超過 30 °C。 Ambient conditions - Still air 25°C。 周圍環境溫度 25°C。 Per EIA-364-70 參考規範：EIA-364-70	Subject mated contacts assembled in housing to closed circuit of Power Pin: 30A max, 250V max, Test Specification 所述固定在外殼包的端子連結到一個封閉回路中測試，Power Pin:30A max, 250Vmax。
12. Salt Spray 鹽霧	After testing, no damage, Maximum Change: Power Contact: 0.75mΩ Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ Min. 測試後產品無損壞，接觸阻抗電源 PIN 最大變化 0.75mΩ；耐電壓測試 OK，絕緣阻抗最小 1000 MΩ。 Per EIA-364-26 適用：EIA-364-26	5±1% salt concentration(PH=7.0) ,48 hours 35±2°C:. 鹽水濃度 5±1%(PH=7.0),時間 48 小時，溫度 35±2°C。
13.High Temperature Life 高溫老化	After testing, no damage, Maximum Change: Power Contact: 0.75 mΩ Dielectric Strength should be OK, Insulation Resistance should be 1000 MΩ Min. 測試後產品無損壞，接觸阻抗電源 PIN 最大變化 0.75mΩ；耐電壓測試 OK，絕緣阻抗最小 1000 MΩ。 Per EIA-364-17 適用：EIA-364-17	Subject product to 105°C for 180 hours continuously. 產品置於 105°C 連續 180 小時。



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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	I	
1. Conformation of Product 產品確認	1,7	1,4	1,3	1,9	1,9	1,9	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	
3. Insulation Resistance 絕緣阻抗	3			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	
5. Durability 耐久性	5									
6. Contact Retention Force 端子保持力		3								
7.1. Mating/Un-mating Force 插入/拔出力			2							
7.2 Connector Pin Press in/Retention Force 單支端子壓入/拉出 PCB 孔的力量		2								
8. Vibration Sinusoidal Low Frequency 低頻正弦振動				5						
9. Thermal Shock 溫度衝擊					5					
10. Humidity-Temperature Cycle 溫濕度循環						5				
11. Current rating 溫升測試							5			
12. Salt Spray 鹽霧								5		
13. High Temperature Life 高溫老化									5	