



## 1. SCOPE 適用範圍

This product specification defines the product performance and the test methods to ascertain the performance of the (0.635mm Board to Board)Connector ,which si designed and manufactured by JILN 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錦凌電子有限公司設計生產的（0.635mm BTB）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于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 connectors 電子零件測試方法
EIA364	Test method for electrical connectors 電子零件測試方法
JIS C 0051	Test method for electrical connectors 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
UL498	UL standard for safety of attachment plug ang receptacle UL安規要求標準
IEC62321	Determination of total lead &cadmium content 總鉛和總鎘含量測定
IEC62321	Determination of total lead &cadmium content 總鉛和總鎘含量測定
IEC62321	Determination of heavy metals content 重金屬含量測定
IEC62321	Determination of total lead &cadmium content 總鉛和總鎘含量測定

## 3. FEATURE &DIMENSIONS 特征及特性

### 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 印刷電路板布局

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。本產品適用的材料參見圖面。



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### 3.4. MECHANICAL & ELECTRICAL CHARACTERISTIC 機械及電器特性

The connector shall have the mechanical and electrical performance as described in drawing.

本產品的機械及電器特性參見下方附表一（測試要求與方法）。

### 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.

產品可依照客戶指定要求包裝，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 is (0.5)A, rating voltage is (50)V DC/AC RMS.

額定電流 (0.5) A, 額定電壓 (50) V DC/AC RMS.

### 3.7. STORAGE AND OPERATING TEMPERATURE 存儲與使用溫度

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

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

## 4. Environmental 環境溫度

### 4.1. SOLDERABILITY 可焊性

Connectors meet solder-ability to MIL-STD-202, and 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

#### 4.2.1. WAVE SOLDER 波峰焊接

Each cycle consists of three consecutive phases.

每個焊接周期包括三個連續階段。

##### 4.2.1.1. Preheat 預熱

The steady temperature of the preheat zone is  $90 \sim 125^{\circ}\text{C}$

預熱區最終溫度控制在 $90 \sim 125^{\circ}\text{C}$

##### 4.2.1.2. Soldering 焊接

To avoid the secondary tin-melting, the temperature on PCB upper surface is  $160^{\circ}\text{C}$  Max. for products with lead, or  $200^{\circ}\text{C}$  Max. for lead-free products. The temperature of the PCB bottom surface shall not be exceed  $100^{\circ}\text{C}$  more than the temperature of the PCB upper surface. The peak temperature is during  $230 \sim 255^{\circ}\text{C}$  for products with lead, or  $255 \sim 270^{\circ}\text{C}$  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 $160^{\circ}\text{C}$ ，無鉛產品板面溫度不的超過 $200^{\circ}\text{C}$ ，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 $100^{\circ}\text{C}$ 。板下溫度峰值有鉛產品維持在 $230 \sim 250^{\circ}\text{C}$ ，無鉛產品控制在 $255 \sim 270^{\circ}\text{C}$ 。浸錫時間控制在3~10秒。



4. 2. 1. 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性能測試

5. 1. REQUIREMENT 要求

Product is designed to meet electrical, mechanical, and environmental performance requirements specified in Table 1

本產品設計符合附表一所列的機械，電器及環境要求

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，所有測試的室溫條件下完成

5. 3. SAMPLE SELECTION 樣品選擇

Test samples shall be selected at random from current production. Test samples shall be reused. Samples are pre-conditioned with 10 cycles 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。樣品以預先插拔10次，每組測試至少有5個樣品。

Table 1: Test Requirements and Methods

附表一：測試要求與方法

Items	Requirements	Test Methods
項目	要求	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. 依照產品相關圖面，檢查產品的外觀 尺寸及功能



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<p>2 Contact Resistance 接觸抗阻</p>	<p>30 mΩ Max. Initial 初始状态最大30 mΩ</p>	<p>Subject mated contacts assembled in housing to closed circuit of 100 mA max. 20 mV max. MIL-STD-202, Method 307. 所述固定在外殼里的端子連接到一個封閉回路中測試，電流100mA max, 電壓20 mV max. 適用：MIL-STD-202, 方法307.</p>
<p>3 Insulation Resistance 絕緣抗阻</p>	<p>500 MΩ Min 最小 500 MΩ</p>	<p>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%) 測試產品相鄰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(500 V DC ± 10%).</p>
<p>4 Dielectric Withstanding Voltage 耐電壓</p>	<p>Connector must withstand test potential of 200 VAC RMS for 1 minute, current leakage must be 0.3mA Max. 產品必須承受測試電壓200 VAC RMS，時間1分鐘，漏電流不大於0.3mA</p>	<p>Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector . MIL-STD-202, Method 301. 對產品相鄰端子間以及端子與接地間加載電壓，并測試其漏電流。適用：MIL-STD-202, 方法301.</p>
<p>5 Durability (Repeated Mating /Un-mating) 持久性</p>	<p>Contact Resistance: 50 mΩ Max. after testing. 測試后接觸電阻50 mΩ</p>	<p>Repeat mate and unmated for connector 500 cycles, at a speed of 300mm per 重複進行配合產品500次插拔，速度每分鐘300mm</p>
<p>6 Connector Pin Mating/Un-mating Force 單支端子插入/拔出力</p>	<p>Mating force: (80)gf/Pin Max. Un-mating force: (10)gf/Pin Min. 插入力最大 (80) gf/Pin 拔出力最小 (10) gf/Pin</p>	<p>At a speed of 25 ± 3 mm/minute, apply axial insert the mating part into fully or pull out from the subject product. 以25 ± 3mm/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。</p>
<p>7 Contact Retention Force 端子保持力</p>	<p>(0.2) kg/Pin Min. 最小 (0.2) kg/Pin</p>	<p>Apply axial pull out force at a speed of 25 ± 3 mm/minute on the contact assembled in the housing. 以25 ± 3mm/分鐘的速度施加軸向拉力從塑膠本體上拔出端子。</p>
<p>8 Solder-ability 可焊性</p>	<p>Appearance of the specimen shall be inspected after the test with the assistance of a magnification of 10 X for any damage such as pinholes, void or rough surface. 產品在測試完成后，在放大倍數為10倍的顯微鏡下，檢查外觀損壞如：小孔，空焊，外觀粗糙度等。</p>	<p>Soldering time: 4 to 6 seconds. Temperature: 260 ± 5°C MIL-STD-202, Method 208. 焊接時間：4-6秒。 溫度：260 ± 5°C 適用：MIL-STD-202, 方法208.</p>



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<p>9 Salt Spray 鹽霧</p>	<p>After testing, no damage, contact resistance 35 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 500 MΩ Min.</p> <p>測試后產品無損壞，接觸阻抗最大35 mΩ；耐電壓測試 OK，絕緣阻抗最小500 MΩ。</p>	<p>5±1% salt concentration 12 hours 35±2°C MIL-STD-202, Method 101, condition B. 端子鹽水浓度5±1%，時間12小時，溫度35±2°C。 適用：MIL-STD-202，方法101，條件B</p>
<p>10 Humidity (Stead State) 恒溫恒濕</p>	<p>After testing, no damage, contact Resistance 35 mΩ Max. Dielectric Strength should be OK, Insulation Resistance should be 500 MΩ Min.</p> <p>產品測試后無損壞，接觸阻抗最大35 mΩ；耐電壓測試 OK，絕緣阻抗最小500 MΩ</p>	<p>Temperature: 40±2°C Relative Humidity: 90-95%. Duration: 96 Hours MIL-STD-202, Method 103, condition B. 溫度：40±2°C. 相對濕度：90-95%. 持續時間：96 小時. 適用：MIL-STD-202, 方法103，條件B.</p>

6. 包装存储运输要求

- 1) 物料的包装对物料有一定的保护作用 and 密封作用，保证物料在运输过程中不会受到损坏。
- 2) 包装箱应满足防潮，防振、防压和防霉等要求。
- 3) 最小包装单元的标识必须有厂家商标、产品型号、名称、物料编码和数量。
- 4) 包装成箱的产品，应在环境温度为-10℃~+40℃，相对湿度在80%以下，周围空气中无酸性，碱性或其它腐蚀性气体的库房里贮存，在上述条件下，自生产日期能够半年贮存期，在这半年内物料仍为合格品。