



喬訊電子工業股份有限公司

CHYAO SHIUNN ELECTRONIC INDUSTRIAL LTD.

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Type Document	Product Specification	Revised /Edition	E
Date Issued	2010/03/01	Data Revised	2017/06/07
Subject : JS-1138-06 JS-5001-T JS-1139-06 JS-1139-12 JS-1139-06WO/P JS-1139-12WO/P Pitch : 3.96mm Wire to Board Power Connector Series.			Issued By: Engineering Dept.

This specification is referred to 3.96mm DIP series Wire to board Power connector.

本規格書內容係提供 3.96 mm DIP 系列產品相關參考，

其用途為電線端相接於電路板端動力電源連接器

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- 1.0 Product Name/Part Number & Drawing Number.(產品名稱 / 產品型號及圖面型號)
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REV. (版次)	Revision Record (改版變更原因)	Date(日期)	ECN No
B	鹽水噴霧週期以電鍍方式區隔為 8 小時與48 小時	2011/05/17	EC2011-05-027
C	1.增加耐久性測試 2.刪除硫化氫 3.修正(EIA-364) 參考規範 4. 依安規認證增列額定電壓 5.修改 Insertion & Withdrawal Force 單一接觸點插入力最大容許值 Per contact insertion force :0.96 kgf/Max.單一接觸點拔出出力最小容許值 Per contact withdrawal force :0.18 kgf/Min.	2012/05/31	EC2012-05-018
D	1增訂8.7項Cold(Low Temperature)耐寒試驗 ,EIA-364-59A 2增訂3.5項Storage of Package以及 3.6 項Floor Life 3.增訂Wave Peak Soldering In- Process Temperature Profile	2014/12/10	EC2014-12-010
E	1 增訂 8.8 項 Salt Spray 鹽水噴霧 2 修正 8.9 項 Solder Ability 焊錫性 3.刪除BSI標示	2017/6/7	EC2017-06-007



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1.0 Product Name/Part Number & Drawing Number(產品名稱 / 產品型號及圖面型號):

Product Name(產品名稱)		Part Number(產品型號)	Drawing Number(圖面型號)
Crimp Terminal		JS-5001-T	
Housing		JS-1138-06	
Wafer	Straight ; without Peg(直立式 ; 無定位柱)	JS-1139-06WO/P / JS-1139-12WO/P	
	Straight ; with Peg (直立式 ; 有定位柱)	JS-1139-06 / JS-1139-12	

Note: (xx) The number of the circuits.

2.0 Construction/Dimensions/Material & Surface Finish(材質以及,面鍍層):

Part Name(零件名稱)		Material(材質)	Surface Finish(表面鍍層)
Crimp Terminal (柳壓端子)		Brass	先電鍍後衝壓 Stamping after tin plated
Housing(電線端連接器)		Nylon 66	UL 94V-2
Wafer (電路板端連接器)	Contact Pin(導體)	Brass	Tin-Plated
	Base(膠座)	Nylon 66	UL 94V-2

3.0 Characteristic (產品特性):

Item(項目)		Standard(標準規範)	
3.1	額定電流 Rated Current	4A AC/DC	
3.2	額定電壓 Rated Voltage	250 V AC/DC	
3.3	Ambient Temperature Range 環境與操作溫度範圍	(操作使用溫度與濕度範圍) Operating Temp. : -40°C~+85°C ; 85% R.H. Max. Including 30°C Terminal Temperature Rise at rated Current , (包括定額電流內, 端子所產生 30°C以下溫昇)	
3.4	Applicable Wire 適用電線	3.4.1	(金屬導體型號) Conductor Construction Size: AWG #18~#24
		3.4.2	(電線絕緣材質外徑) Wire Insulation O.D.: 1.30mm~2.50mm
3.5	Storage of Package 包裝未拆封之保存	Temperature and Humidity Condition 溫濕度條件	
		Temperature 溫度 : -10°C~+40°C Percentage Humidity 相對濕度 : 70 % Max	
		Term 保存期限	Housing Crimp Terminal & Wafer
3.6	Floor Life 拆封後使用期限	Crimp Terminal & Wafer 3 Months	

Note: 適用電路板厚度 Applicable Printed Circuit Board Thickness: 1.6 mm



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4.0 Specimen(樣本圖示) :

Part Name / Part Number / Picture or Photograph 零件名稱 / 零件型號 / 樣本圖示			
Housing JS-1138-06		Crimp Terminal JS-5001-T	
Wafer Straight With Peg JS-1139-06		Wafer Straight Without Peg JS-1139-06WO/P	

5.0 Applicable Standards(適用規範):

ANSI/EIA 364 ; EIA/ECA 364 Testing method for electrical connectors.

電子連接器，所適用之 ANSI/EIA 364 ; EIA/ECA 364 測試規範

6.0 Mechanical Performance(機械性能):

Item(項目)	Test Condition(測試條件)	Requirement(規格)
Insertion & Withdrawal Force 插入力與拔出力 (JS-5001-T)	Insert and withdrawal with connectors at the speed rate of $25.4 \pm 3\text{mm/minute}$. 連接器兩端勘合，以每一分鐘 $25.4 \pm 3\text{mm}$ 的速率，作嵌入與拔出往返測試 (EIA/ECA 364-13D) (Excluding Thumb Latch 不包含指壓活動卡榫結合力)	單一接觸點插入力最大容許值 Per contact insertion force : 0.96 kgf/Max. 單一接觸點拔出力最小容許值 Per contact withdrawal force : 0.18 kgf/Min.



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Item(項目)		Test Condition(測試條件)		Requirement(規格)
6.2	Wire Pullout Force(Axial) 電線脫離端子包覆之拔出力(軸向)	Pull out the cable from with contact terminal at the speed rate of 25.4±3mm/minute. 對端子所包覆電線，施以每一分鐘 25.4 ± 3 mm 速率之軸向拔出力 (EIA 364-08B)	AWG#18 size wire	9.0kgf/Min.(89N 牛頓)
			AWG#20 size wire	6.7kgf/Min.(66N 牛頓)
			AWG#22 size wire	5.4kgf/Min.(53N 牛頓)
			AWG#24 size wire	3.57kgf/Min.(35N 牛頓)
6.3	Crimp Terminal Retention Force (in Housing) 柳壓端子與膠座間拔出力	Axial pull out force on the terminal in the housing at the speed rate of 25.4 ± 3 mm per minute. 對於已經存在於膠座當中 Terminal，施以每一分鐘 25.4±3 mm 速率之軸向拔出力 (EIA 364-05)		單一接觸點 Per Contact 最小容許值 3.6kgf/Min.
6.4	Contact Pin Retention Force(in Base) 導體與膠座間保持力	Axial pull out force on the Contact pin in the base at the speed rate of 25.4 ± 3 mm per minute. 對於已經存在於膠座當中導體，施以每一分鐘 25.4 ± 3 mm 速率之軸向拔出力 (EIA/ECA 364-29C)		單一接觸點 Per Contact 最小容許值 0.9kgf/Min.

7.0 Electrical Performance(電氣性能) :

Item(項目)		Test Condition(測試條件)		Requirement(規格)
7.1	(Low –Signal Level) Contact Resistance (低階信號) 接觸阻抗	A maximum voltage of 20mV and a maximum current of 100mA are applied to the Mate connector. (EIA/ECA 364-23C) 對組合狀態下連接器，於其兩端施以最大測試電壓 20mV 以及最大測試電流 100mA (Does not include wire resistance 不包含電線阻抗)		Contact Resistance: 10 milliohms Max. 最大容許值. 10 毫歐姆
7.2	Insulation Resistance 絕緣阻抗	Apply 500V D/C for 1 minute between adjacent contacts to measure the insulation resistance. 對相鄰兩接觸導體，於一分鐘時間內施予 500V D/C 電壓，並量測其間絕緣阻抗值 (EIA 364-21C)		Insulation Resistance: Initial 500megohms Min 最初容許值. 500 兆歐姆
7.3	Withstanding Voltage 耐電壓	Apply 1500A/C (rms) for 1 minute and the leakage current shall not exceed 0.5mA to the adjacent terminal and ground of the mate connectors. (EIA 364-20C) 對組合狀態下連接器，於其相鄰兩導體末端各施以電壓 1500A/C(實效值) 時間 1 分鐘，且漏電流必須小於 0.5mA(毫安培)		No breakdown or flashover. 無損毀或者產生火花



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8.0 Environmental Performance(環境性能) :

Item(項目)	Test Condition(測試條件)	Requirement(規格)
8.1 Durability 耐久性	Mate Connectors up 25 Cycles at a Maximun rate of 10 cycles Per minute prior to environmental test (EIA/ECA 364-09C) 以組合狀態下連接器且未經環境測試，依每分鐘內進行 10 次嵌入與拔出之最大速率，連續 25 次嵌入與拔出往返測試	(After the test) Contact resistance 20 mΩ Max 經耐久性試驗後接觸阻抗： 最大容許值 20 毫歐姆
8.2 Temperature Rise (Via Current Cycling) 溫度上昇 (經由電流循環操作)	Mate connector . measure the temperature rise of contact when the maximum rated current is passed 以組合狀態下連接器，通過最大容許電流 量測其導體溫度上昇值 (EIA 364-70B Conditions 1 . Method 1)	Mate connectors Temperature Rise: +30°C/Max. 組合狀態下之連接器 溫度上昇 最大容許值 +30°C
8.3 Vibration 耐振動	A mated connector shall be mounted on a printed Circuit board and subjected to a vibration test of the following conditions. During the test, test current continuity shall be checked. After the test, contact resistance shall be measured. 以組合狀態下連接器焊接於電路板作為試驗樣品,依照隨附如下規格要求,進行耐振動試驗，試驗過程中確認是否產生不連續電流(斷電)現象，並於試驗過後量測其接觸阻抗。 (EIA/ECA 364-28E-Condition 1) Frequency(頻率) : 10~55~10 Hz/minute. Amplitude (振幅) : 1.5 mm P-P Direction (方向) :1. Axis of up and down.上下軸向(Y 軸) 2. Axis of right the left. 左右軸向(X 軸) 3. Axis of front and back.前後軸向(Z 軸) Period(週期) : 2 hours for each direction.	Initial Contact Resistance : 10 milliohms Max. 接觸阻抗最初容許值 10 毫歐姆 (After the test) Contact Resistance: 20 milliohms Max. 經耐振動試驗後接觸阻 最大容許值 20 毫歐姆 No discontinuity current is longer than 1 microsecond. 電流中斷現象， 時間不可多於 1 微秒



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Item(項目)	Test Condition(測試條件)	Requirement(規格)
8.4 Humidity (Steady State) 恆溫恆濕	<p>A mated connector shall be placed in a humidity chamber of the following conditions. After the test, leave the specimen at room temperature for 1~2 hours before the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured.</p> <p>(EIA 364-31B Conditions II . Method A)</p> <p>以組合狀態下連接器放置於恆定溫度與濕度的空間，依照隨附如下規格要求，進行恆溫恆濕試驗，經試驗過後將樣品置於室溫 1~2 小時，再量測其接觸阻抗、絕緣阻抗、以及耐電壓測試。</p> <p>Temperature(溫度) : 40±2°C. Relative Humidity(相對濕度) : 90%~95% (RH). Period(週期) : 96 hours continuously. (持續 96 小時)</p>	<p>(After the test)</p> <p>Contact Resistance: 20milliohms Max. 經恆溫恆濕試驗後接觸阻抗 最大容許值. 20 毫歐姆</p> <p>(After the test)</p> <p>Insulation Resistance : 250Megohms Min. 經恆溫恆濕試驗後絕緣阻抗 最小容許值. 250 兆歐姆</p> <p>經恆溫恆濕試驗後耐電壓</p> <p>(After the test)</p> <p>Withstanding Voltage: 1500V A/C for 1 minute</p>
8.5 Thermal Shock 冷熱衝擊	<p>A mated connector shall be subjected to a thermal shock test of the following conditions. After the test, leave the specimen at room temperature for 1~2 hours before the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured.</p> <p>以組合狀態下連接器作為試驗樣品，依照隨附如下規格要求，進行冷熱衝擊試驗，經試驗過後將樣品置於室溫 1~2 小時，再量測其接觸阻抗、絕緣阻抗、以及耐電壓測試。</p> <p>(EIA/ECA 364-32D Conditions I . Method A)</p> <p>One Cycle Consists Of: -55°C+0/-3°C for 30 minutes. → Room Temp. 5 minutes 85°C+3/-0°C for 30 minutes. → Room Temp. 5 minutes</p> <p>Total Cycles: 5 Cycles.</p> <p>以-55°C+0/-3°C溫度持續 30 分鐘，經室溫 5 分鐘，而後再以 85°C+3/-0°C溫度持續 30 分鐘，再經室溫 5 分鐘，構成一次冷熱循環，總計循環次數 5 次。</p>	<p>Same as paragraph 8.4 同 8.4 章節</p>



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Item(項目)	Test Condition(測試條件)	Requirement(規格)
8.6 Thermal Aging 高溫老化試驗	<p>A mated connector shall be placed in a heat oven of the following conditions. After the test, leave the specimen at room temperature for 1~2 hours before the contact resistance shall be measured. 以組合狀態下連接器放置於加熱烤箱當中, 依照隨附如下規格要求, 進行高溫老化試驗, 經試驗過後將樣品置於室溫 1~2 小時,再量測其接觸阻抗。</p> <p>(EIA 364-17B Conditions III . Method A)</p> <p>Temperature(溫度): 85±2°C.</p> <p>Period(週期): 96 hours continuously . (持續 96 小時)</p>	<p>Initial Contact Resistance : 10 milliohms Max. 接觸阻抗最初容許值 10 毫歐姆</p> <p>(After the test)</p> <p>Contact Resistance : 20milliohms Max. . 經高溫老化試驗後接觸阻抗 最大容許值.20 毫歐姆</p>
8.7 Cold 耐寒試驗 (Low Temperature)	<p>A mated connector shall be placed in a cold chamber of the following conditions. After the test, leave the specimen at room temperature for 1~2 hours before the contact resistance shall be measured. 以組合狀態下連接器放置於低溫空間內, 依照隨附如下規格要求, 進行耐寒試驗, 經試驗過後將樣品置於室溫 1~2 小時,再量測其接觸阻抗。</p> <p>(EIA 364-59A Condition 3 Procedure 4)</p> <p>Temperature(溫度): -40±3°C.</p> <p>Period(週期): 96 hours continuously . (持續 96 小時)</p>	<p>Initial Contact Resistance : 10 milliohms Max. 接觸阻抗最初容許值 10 毫歐姆</p> <p>(After the test)</p> <p>Contact Resistance : 20 milliohms Max. . 經耐寒試驗後接觸阻抗 最大容許值. 20 毫歐姆</p>
8.8 Salt Spray 鹽水噴霧	<p>A mated connector shall be subjected to a Salt Spray test of the following conditions. After the test , the specimen shall be washed with running water and dried naturally before the measurement of contact resistance. 以組合狀態下連接器作為試驗樣品, 依照隨附如下規格要求, 進行鹽水噴霧試驗, 試驗過後將樣品用清水沖洗並經過自然風乾, 而後量測其接觸阻抗。</p> <p>(EIA 364-26B Conditions B)</p> <p>Density(鹽水密度): 5 % in weight.</p> <p>Temperature(溫度): 35±2°C. Period(週期): 8 hours</p> <p>Salt spray test only define the plating area,without plating area (as copper cross section) will not be defined. 鹽水噴霧測試只判定電鍍區域,無電鍍區域(如折斷面裸銅)則不做判定</p>	<p>Initial Contact Resistance : 10 milliohms Max. 接觸阻抗最初容許值 10 毫歐姆</p> <p>(After the test)</p> <p>Contact Resistance: 20 milliohms Max. 經鹽水噴霧試驗後接觸阻抗 最大容許值. 20 毫歐姆</p>



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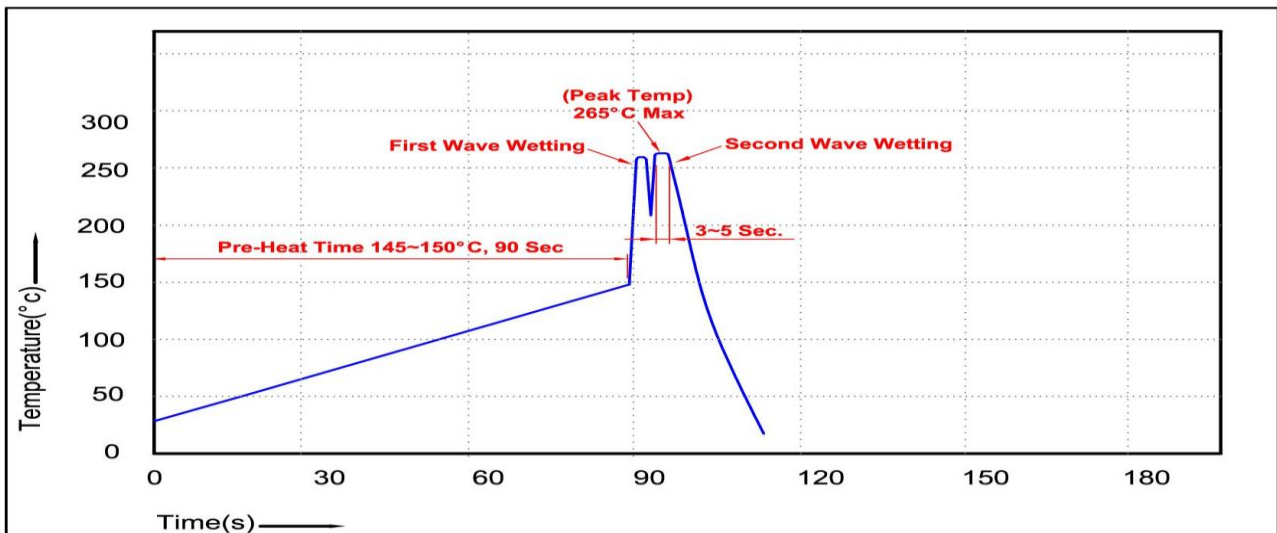
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Subject : JS-1138-06 JS-5001-T JS-1139-06 JS-1139-12 JS-1139-06WO/P JS-1139-12WO/P Pitch : 3.96mm Wire to Board Power Connector Series.			Issued By: Engineering Dept.

Item(項目)	Test Condition(測試條件)	Requirement(規格)
8.9 Solder Ability 焊錫性	Fluxed soldering section of header shall be dipped in solder of the following conditions. 將連接器 pin 針基板嵌入端，接觸熱溶狀錫料，依照隨附如下規格要求，進行焊錫性試驗 (EIA 364-52B) Solder Temperature (焊錫溫度) : 245 ± 5°C Immersion Period (沉浸週期) : 3±0.5 Seconds (操作方式) : 零件焊錫位置，距離導體末端 1.5mm Method : 1.5mm from contact pin tip	Solder entirely 95% of immersed area must show no voids or pinholes. 焊料覆蓋面積必須達到 95%，而且不能產生氣孔或空隙
8.10 Resistance to Soldering Heat 焊錫耐熱性	Resistance to soldering heat 焊錫耐熱範圍 : Refer to Temperature Profile 請參考 8.10.1. 溫度曲線圖 by soldering iron 手工烙鐵焊錫適用溫度範圍 : 350 ± 5°C 3±0.5 Seconds. (操作方式) : 零件焊錫位置，距離導體末端 1.5mm Method : 1.5mm from contact pin tip (EIA/ECA 364-56C Procedure 3. Conditions A)	No deformation or damage. 不可有變形或損壞

Notes : Flowing Mixed Gas (EIA 364-65A) shall be conduct by Customer request 混合流動氣體測試依照客戶需求

8.10.1 Temperature Profile(溫度曲線圖) : Wave Peak Soldering In-Lead Free Process 波峰焊無鉛制程



9.0 Remark(備註) : Any change or revision for the product specification will not be announced in advance.

Please contact our sales representative for the latest information.

有關規格書內容經變更或改版，如未能夠及時發佈與通知，煩請連絡我司業務人員以提供產品最新資訊

Reviewed: J.M.Chang Approved: Peter Chang Verified: Indiana Huang