产 品 规 格 书

PRODUCT SPECIFICATION

产品规格： GJ-C2003 系列	No.: EN-103(2019-04)	Date Issued: Sep.05, 2022
Specification: GJ-C2003 Series	Rev. : **A.0**	Date Revised:
Pitch 2.00mm Series Wire to Wire Connector		Issued by: Engineering Dept.

Prepared by:	Checked by:	Reviewed by:	Approved by:
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This specification is referred to 2.00mm DIP series wire to board connector.

本規格書內容係提供 2.00 mm DIP 系列產品相關參考，

其用途為電線端相接於電路板端連接器

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REV. (版次)	Revision Record (改版變更原因)	Date(日期)	ECN No
A	新增上傳	2022/09/14	

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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): Note: (xx) The number of the circuits.

Product Name(產品名稱)	Part Number(零件型號)	Drawing Number(圖面型號)
Crimp Terminal	GJ-A2003TF-PTS	
Housing	GJ-A2003HF-**-A0N	
Crimp Terminal	*GJ-C2003TM-PTS*	
Housing	*GJ-C2003HM-**-AON*	

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

Part Name(零件名稱)		Material(材質)	Surface Finish(表面鍍層)
Crimp Terminal (铆壓端子)	GJ-A2003TF-PTS	Phosphor Bronze	Stamping before tin plated 先衝壓後電鍍
Housing	GJ-A2003HF-**-A0N	Nylon 66	UL 94V-0
Crimp Terminal (铆壓端子)	*GJ-C2003TM-PTS*	Phosphor Bronze	Stamping before tin plated 先衝壓後電鍍
Housing	*GJ-C2003HM-**-AON*	Nylon 66	UL 94V-0

3.0 Characteristic(產品特性):

Item(項目)		Standard(標準規範)						
3.1	額定電流 Rated Current	Conductor Size	AWG	22#	24#	26#	28#	30#
			Area(mm^2)	0.342 mm^2	0.220 mm^2	0.14 mm^2	0.089 mm^2	0.05mm^2
		Amp AC/DC		3 A	2 A	1 A	0.8 A	0.5A
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.: -25℃~+85℃ ； 85% R.H. Max Including 30℃ Terminal Temperature Rise at rated Current , (包括定額電流內 ，端子所產生 30℃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 #24~#30					
		3.4.2	(電線絕緣材質外徑) Wire Insulation O.D.: 1.13mm~1.45mm					
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℃~+40℃ Percentage Humidity 相對濕度 ：70 % Max				
		Term 保存期限	Housing	2 Years				
			Crimp Terminal & Wafer	1 Year				

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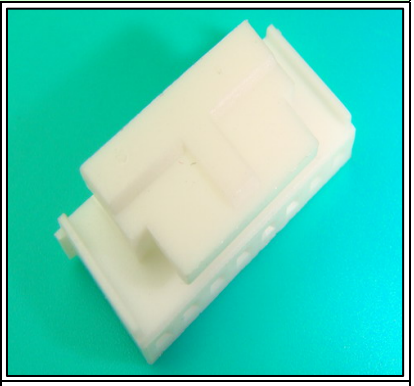
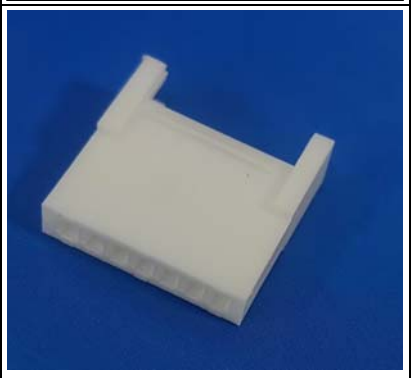
3.6	Floor Life 拆封後使用期限	Crimp Terminal & Wafer	3 Months

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

4.0 Specimen(樣本圖示) :

Part Name / Part Number / Picture or Photograph 零件型號 / 零件名稱 / 樣本圖示			
Crimp Terminal GJ-A2003TF-PTS		Housing GJ-A2003HF-**-A0N	
Crimp Terminal *GJ-C2003TM-PTS*		Housing GJ-C2003HM-**-AON	

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)
6.1	Insertion & Withdrawal Force 嵌入力與拔出力	Insert and withdrawal with connectors at the speed rate of 25 .4 ± 3 mm /minute. (Excluding Thumb Latch 不包含指壓彈簧卡榫結合力) 連接器兩端堪合 ，以每一分鐘 25.4 ± 3mm 的速率 ，作嵌入與拔出往返測試 (EIA/ECA 364-13D)	插入力（最大值）: 0.8KGF /PIN 拔出力（最小值）: 0.05KGF /PIN

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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 contact terminal at the speed rate of 25.4± 3 mm/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 (CSA C22.2 No.182.3)	AWG#22 size wire	3.63kgf/Min. (35.6N 牛頓)
			AWG#24 size wire	2.73kgf/Min. (26.7N 牛頓)
			AWG#26 size wire	1.82kgf/Min. (17.8N 牛頓)
			AWG#28 size wire	0.91kgf/Min. (8.9N 牛頓)
			AWG#30 size wire	0.46kgf/Min. (4.4N 牛頓)
6.3	Crimp Terminal Retention Force (in Housing) 铆線端子與膠座之間拔出力	Axial pullout 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铆線端子，施以每一分鐘 25 .4± 3 mm 速率之軸向拔出力		單一接觸點 Per Contact 最小容許值 1.0kgf/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. 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) (EIA/ECA 364-23C)	Contact Resistance: 30 milliohms Max. 最大容許值. 30 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 1000 megohms Min 最初容許值. 1000 兆歐姆
7.3	Withstanding Voltage 耐電壓	Apply 1000 A/C (rms) for 1 minute and the leakage current shall not exceed 0.5mA to the adjacent contacts and ground of the mate connectors. 對組合狀態下連接器，於其相鄰兩導體末端各施以電壓 1000 A/C (實效值) 時間 1 分鐘，且漏電流必須小於 0.5mA(毫安培) (EIA 364-20C)	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 50 Cycles at a Maximun rate of 10 cycles Per minute prior to environmental test 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50次嵌入與拔出往返測試 (EIA/ECA 364-09C)	(After the test) Contact resistance 40 mΩ Max 經耐久性試驗後接觸阻抗 最大容許值 40 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℃/Max. 組合狀態下之連接器溫度 上昇最大容許值＋30℃
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 Ⅰ) 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. (每一個軸向持續 2 小時)	Initial Contact Resistance : 20 milliohms Max. 接觸阻抗最初容許值 20 毫歐姆 (After the test) Contact Resistance: 40 milliohms Max. 經耐振動試驗後接觸阻抗 最大容許值 40 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	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. (EIA 364-31B Conditions II. Method A) 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。 Temperature(溫度) : 40±2℃. Relative Humidity(相對濕度) : 90%~95% (RH). Period(週期) : 96 hours continuously. (持續 96 小時)	(After the test) Contact Resistance : 40milliohms Max. 經恆溫恆濕試驗後接觸阻抗 最大容許值. 40 毫歐姆 (After the test) Insulation Resistance : 500Megohms Min. 經恆溫恆濕試驗後絕緣阻 最小容許值. 500 兆歐姆 經恆溫恆濕試驗後測耐電壓 (After the test) Withstanding Voltage: 1000V A/C for 1 minute
8.5	Thermal Shock 冷熱衝擊	A mated connector shall be subjected to a thermal shock test of the following conditions. After the test, eave the specimen at room temperature for 1~2 hours before the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured. 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。 (EIA/ECA 364-32D Conditions I . Method A) One Cycle Consists Of: -55℃+0/-3℃ for 30 minutes. → Room Temp. 5 minutes 85℃+3/-0℃ for 30 minutes. → Room Temp. 5 minutes Total Cycles: 5 Cycles. 以-55℃+0/-3℃溫度持續 30 分鐘 ，經室溫 5 分鐘 ，而後再以 85℃+3/-0℃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。	Same as paragraph 8.4 同 8.4 章節

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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	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。(EIA 364-17B Conditions 4 . Method A) Temperature(溫度) : 105±2℃ Period(週期): 96 hours continuously . (持續 96 小時)	Initial Contact Resistance : 30 milliohms Max. 接觸阻抗最初容許值 30 毫歐姆 (After the test) Contact Resistance : 40milliohms Max. 經高溫老化試驗後接觸阻抗最大容許值.40 毫歐姆
8.7	Cold 耐寒測試 (Low Temperature)	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。(EIA 364-59A Condition D ; Condition 4) Temperature(溫度) : -25±3℃. Period(週期): 96 hours continuously . (持續 96 小時)	Initial Contact Resistance : 30 milliohms Max. 接觸阻抗最初容許值 30 毫歐姆 (After the test) Contact Resistance : 40 milliohms Max. 經耐寒試驗後接觸阻抗最大容許值. 40 毫歐姆
8.8	Salt Spray 鹽水噴霧	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。(EIA 364-26B Conditions B) Density(鹽水密度): 5 % in weight. Temperature(溫度): 35±2℃. Period(週期): Terminal or contact (Stamping after tin plated for 8 hours) ; Terminal or contact (Stamping before tin plated for 48 hours) 端子或導體(先電鍍後沖壓 8 小時) ; 端子或導體 (先沖壓後電鍍 48 小時) 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	Initial Contact Resistance : 30 milliohms Max. 接觸阻抗最初容許值 30 毫歐姆 (After the test) Contact Resistance : 40 milliohms Max. 經鹽水噴霧試驗後接觸阻抗最大容許值. 40 毫歐姆

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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: *Liangdong.Yi* ***Approved:*** *James.Kang* ***Verified:*** *James.Kang*