

Type Document	Product Specification	Revised /Edition	0
Date Issued	2004/01/10	Data Revised	2018/11/06
Subject: GJ-A2541HF-**-A0N A2541TF-PTS GJ-A2541WVD-**-A0N Pitch 2.54mm Series Wire to Board Connector			Issued By: Engineering Dept.

产品规格书

PRODUCT SPECIFICATION

产品规格： GJ-A2541 DIP 系列	No.: EN-003(2017-08)	Date Issued: 2017/08/01
Specification: GJ-A2541 DIP Series	Rev. : A.0	Date Revised:
2.54mm DIP series wire to board connector		Issued by: Engineering Dept.

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This specification is referred to 2.54mm DIP series wire to board connector.

本規格書內容係提供 2.54 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

-INDEX-

- 1.0 Product Name/Part Number & Drawing Number. (產品名稱 / 產品型號及圖面型號)
- 2.0 Construction/Dimensions/Material & Surface Finish. (材質以及表面鍍層)
- 3.0 Characteristic. (產品特性)
- 4.0 Specimen.(樣本圖示)
- 5.0 Applicable Standards.(適用規範)
- 6.0 Mechanical Performance.(機械性能)
- 7.0 Electrical Performance.(電氣性能)
- 8.0 Environmental Performance. (環境性能)
- 9.0 Remark (備註).

REV. (版次)	Revision Record (改版變更原因)	Date(日期)	ECN No
D	增加PA46 塑料 ' 鍍金選項 ' 以及10.0 Caution 注意事項	2010/12/30	EC2010-12-013
E	鹽水噴霧週期以電鍍方式區隔為 8 小時與 24 小時	2011/05/30	EC2011-05-085
F	1.增加溫升測試 2.刪除硫化氫 3.修正(EIA-364) 參考規範 4.增列額定電壓 及電流與AWG對照	2012/04/18	EC2012-04-020
G	增列GJS-7001-XX ; GJS-7001-XX(L) 使用材質對照	2 12/08/27	EC2012-08-015
H	參照原廠規格修改 Insertion & Withdrawal Force	2013/02/27	EC2013-02-027
I	參照實測平均值 6.1 Insertion Force 修訂為 0.7kg/f Max	2013/03/22	EC2013-03-022
J	1 增訂Wave Peak Soldering In- Process Temperature Profile 2.修訂Solder Ability 附註Tin Plated : 95% / Gold Plated : 75% 3.修訂 Wire Pullout Force(Axial)規格值	2013/12/09	EC2013-12-009
K	增訂3.5項Storage of Package以及 3.6 項Floor Life	2014/01/13	EC2014-01-013
L	1.修訂8.9.1 項 Temperature Profile / 2增訂8.7 項Cold耐寒試驗	2015/02/24	EC2015-02-024
M	增訂8.1 Durability 耐久性	2016/6/29	EC2016-06-029
N	增訂8.6項Salt Spray鹽水噴霧	2017/10/26	EC2017-10-026
O	2.0項新增Matte-Tin Plated	2018/11/06	EC2018/11-006

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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(零件型號)	Drawing Number(圖面型號)
Crimp Terminal (柳壓端子)		A2541TF-PTS	
		A2541TF-BTP	
Housing (電線端連接器)		GJ-A2541HF-**-A0N	
Wafer (電路板端連接器)	Straight (直立式)	GJ-A2541WVD-**-A0N	
	Right Angle(臥式, 導體右側折彎)	GJ-A2541WRD-**-A0N-HBU	
	Left Angle (臥式, 導體左側折彎)	GJ-A2541WRD-**-A0N-HBD	

Note: (xx) The number of the circuits

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		Phosphor Bronze	先衝壓後電鍍 & 先電鍍後衝壓	
		Brass		
Housing		Nylon 66	UL 94V-0 & UL 94V-2	
Wafer	Square Pin (方型導體)	GJ-A2541WVD-**-A0N	Tin-Plated or Matte -Plated	
		GJ-A2541WRD-**-A0N-HBU		
		GJ-A2541WRD-**-A0N-HBD		
	Base (膠座)	GJ-A2541HF-**-A0N	PA 66	UL 94V-0

3.0 Characteristic(產品特性):

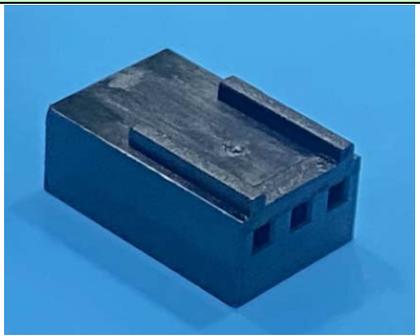
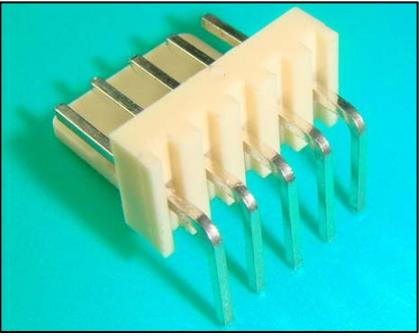
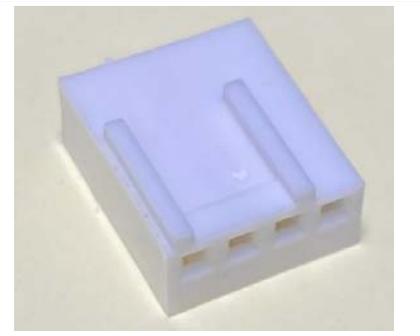
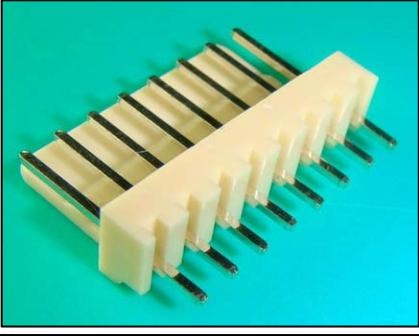
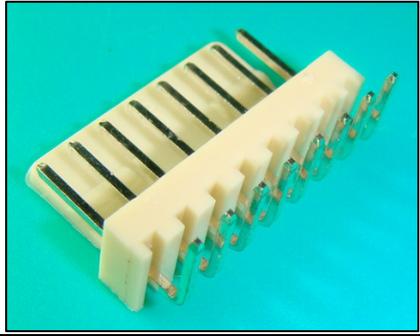
Item(項目)		Standard(標準規範)					
3.1	額定電流 Rated Current	Conductor	AWG	22#	24#	26#	28#
		Size	Area(mm ²)	0.342 mm ²	0.220 mm ²	0.14 mm ²	0.089 mm ²
		Amp AC/DC		3A	2A	1A	0.8A
3.2	額定電壓 Rated Voltage	250 V AC/DC					
3.3	Ambient Temperature Range 環境與操作溫度範圍	(操作使用溫度與濕度範圍) Operating Temp.: -25°C~+85°C ; 85% R.H. 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 #22~#28				
		3.4.2	(電線絕緣材質外徑) Wire Insulation O.D.: 1.15mm~1.90mm				

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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
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 零件名稱 / 零件型號 / 樣本圖示			
Crimp Terminal A2541TF-PTS A2541TF-BTP		Housing GJ-A2541HF-**-A0N	
Right Angle Wafer GJ-A2541WRD 導體右側折彎		Housing GJ-A2541HF-**-A0N 1,3 靠背款	
Straight Wafer GJ-A2541WVD		Left Angle Wafer GJ-A2541WRD 導體左側折彎	

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

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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. 連接器兩端勱合，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) (Excluding Plastic Detent 不包含膠座卡榫結合力)	單一接觸點 Per Contact 嵌入力最大容許值： Insertion Force : 0.7kg/f Max 拔出力最小容許值： Withdrawal Force : 0.06kg/f Min
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 (EIA 364-08B)	AWG#22 size wire 4.48kgf/Min.(44.0N 牛頓)
		AWG#24 size wire 3.57kgf/Min.(35.0N 牛頓)
		AWG#26 size wire 2.65kgf/Min.(26N 牛頓)
		AWG#28 size wire 1.73kgf/Min.(17N 牛頓)
6.3 Crimp Terminal Retention Force (in Housing) 柳線端子與膠座之間 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於當中柳線端子，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 1.8kgf/Min.
6.4 Square Pin Retention Force (in Base) 方型導體與膠座之間 保持力	Axial pullout force on the square 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方型導體，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 1.5kgf/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 (EIA/ECA 364-23C) (Does not include wire resistance 不包含電線阻抗)	Contact Resistance: 20 milliohms Max. 最大容許值. 20 毫歐姆

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Item(項目)	Test Condition(測試條件)	Requirement(規格)
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 1000V A/C (rms) for 1 minute and the leakage current shall not exceed 0.5mA to the adjacent terminal 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 1000V 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 flash over. 無損毀或者產生火花

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 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 (EIA/ECA 364-09C)	(After the test) Contact resistance : 40 milliohms 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°C/Max. 組合狀態下之連接器溫度 上昇最大容許值 +30°C

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Item(項目)	Test Condition(測試條件)	Requirement(規格)
8.3 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.</p> <p>Relative Humidity(相對濕度) : 90%~95% (RH).</p> <p>Period(週期) : 96 hours continuously. (持續 96 小時)</p>	<p>(After the test)</p> <p>Contact Resistance: 40 milliohms Max. 經恆溫恆濕試驗後接觸阻抗 最大容許值. 40 毫歐姆</p> <p>(After the test)</p> <p>Insulation Resistance : 500 Megohms Min. 經恆溫恆濕試驗後絕緣阻抗 最小容許值. 500 兆歐姆</p> <p>經恆溫恆濕試驗後測耐電壓</p> <p>(After the test)</p> <p>Withstanding Voltage: 1000V A/C for 1 minute</p>
8.4 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:</p> <p>-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 8.3 同 8.3 章節</p>

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8.5 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 3 . 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 : 20 milliohms Max. 接觸阻抗最初容許值 20 毫歐姆</p> <p>(After the test)</p> <p>Contact Resistance : 40 milliohms Max. . 經高溫老化試驗後接觸阻抗 最大容許值. 40 毫歐姆</p>
8.6 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>Density(鹽水密度): 5 % in weight. Temperature(溫度): 35±2°C.</p> <p>Period(週期): Terminal or contact (Stamping after tin plated for 8 hours) ; Terminal or contact (Stamping before tin plated for 24 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 24 小時) (EIA 364-26B Conditions B)</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 : 20 milliohms Max. 接觸阻抗最初容許值 20 毫歐姆</p> <p>(After the test)</p> <p>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</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 Procedure 4)</p> <p>Temperature(溫度) : -25±3°C.</p> <p>Period(週期): 96 hours continuously . (持續 96 小時)</p>	<p>Initial Contact Resistance : 20 milliohms Max. 接觸阻抗最初容許值 20 毫歐姆</p> <p>(After the test)</p> <p>Contact Resistance : 40 milliohms Max. . 經耐寒試驗後接觸阻抗 最大容許值. 40 毫歐姆</p>

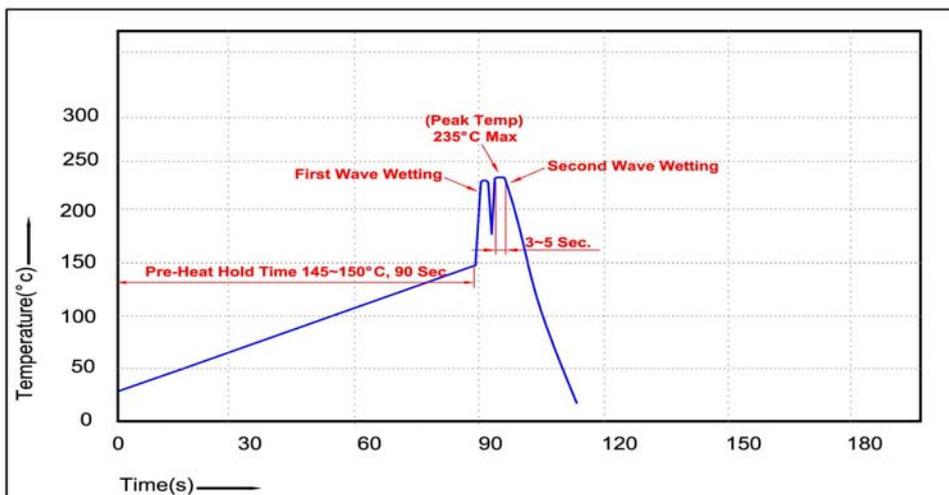
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Item(項目)	Test Condition(測試條件)	Requirement(規格)
8.8 Solder Ability 焊錫性	Fluxed soldering section of header shall be dipped in solder of the following conditions. 將連接器 pin 針基板嵌入端，接觸熱溶狀錫料，依照隨附如下規格要求，進行焊錫性試驗 Solder Temperature (焊錫溫度) : 245 ± 5°C. Immersion 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 square pin tip (EIA 364-52B)	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
8.9 Resistance to Soldering Heat 焊錫耐熱性	Resistance to Wave soldering heat when using PA 66 V2 : 使用 Nylon 66V2 塑料，能夠承受波焊耐熱範圍： Refer to Temperature Profile 請參考 8.9.1.1 溫度曲線圖 Resistance to Wave soldering heat when using PA 46 : 使用 PA46 塑料，能夠承受波焊耐熱範圍： Refer to Temperature Profile 請參考 8.9.1.2 溫度曲線圖 (EIA-364-71B) 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 square 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 混合流動氣體測試遵照客戶需求

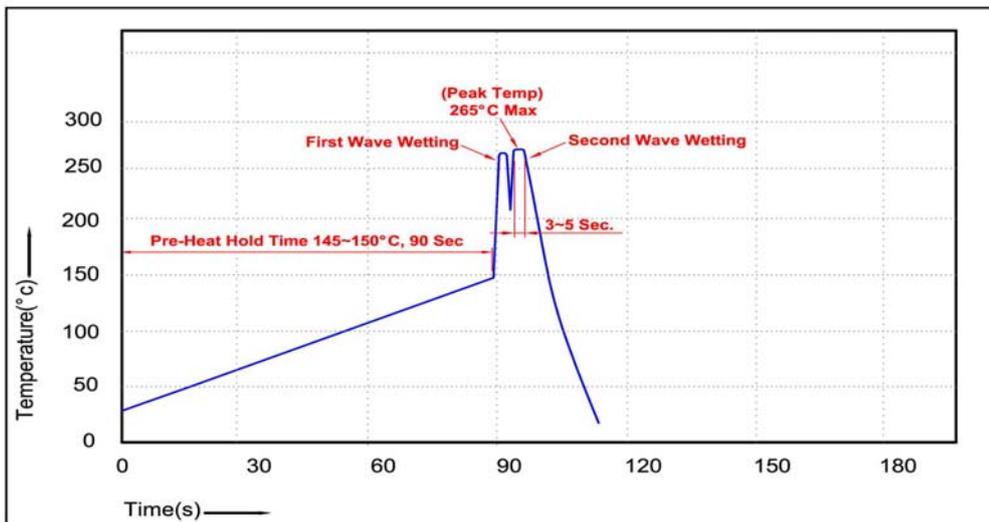
8.9.1 Temperature Profile(溫度曲線圖) :

8.9.1.1 Wave Peak Soldering In- General Process 波焊一般制程



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8.9.1.2 Wave Peak Soldering In-Lead Free Process 波焊無鉛制程



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: James.Hang Approved: James.Hang Verified: Liangdong.Yi