

【1. 適用範圍 SCOPE】

此種規格包括 MX 1.25mm Pitch DIP & SMT 連接器系列
 This Specification Covers the MX 1.25mm Pitch DIP&SMT Connector Series.

【2. 规格与料号 Spec and Part number】

规格内容 / Specification		产品料号 / Production No.
端子/Terminal		A1251-XXX
胶壳/Housing		A1251H-NP
公座/Wafer	90度/Right Angle	A1251WR-NP/A1251WR-S-NP
	180度/Straight	A1251WV-NP/A1251WV-S-NP

【3. 材质与表面处理 Disposal of Material and surface】

规格内容 / Specification	材质 / Materials	规格
端子/Terminal	磷铜/Phosphor Bronze	C5191/C5210
胶壳/Housing	PBT/PA66+15%GF PA66	UL 94V-0
公座/Wafer	Base PA66+30%GF PA6T / PA46 / LCP	UL 94V-0
	PIN 黄铜/Brass	C2680

(上述参数请以工程图为准/Please Refer to the Project drawing for the above Specification)

【4. 额定等级 Ratings and applicable wires】

项目【Item】	规格【Standard】	
额定电压 Rated Voltage (Max.)	125V	[AC/DC]
额定电流 Rated Current (Max.)	1A	
使用温度范围 Ambient temperature Range	-40℃~+105℃	
适用线径 Applicable wire insulation O.D	AWG 28#、30#、32# Insulation O.D. 1.00mm(Max.)	

*升温时含端子. Including terminal temperature rise.

A/1	NEW	TITLE: MX 1.25mm Pitch Connector Series			Sheet: 1 of 7
REV.	DESCRIPTION	WRITTEN BY: Liu jun	CHECKED BY: K B. Sun	APPROVED BY: Succeed. Sun	DATE: YR/MO/DAY 2017/06/25

【5. 性能 PERFORMANCE】

5-1. 電氣的性能 Electrical Performance.

	項 目 【Item】	條 件 【Test Condition】	規 格 【Requirement】
5-1-1	接觸阻抗 Contact Resistance	公母配合, 開放電壓 20mV 以下, 電流 10mA 檢測連接器. Mate connectors, measure by dry circuit, 20mV MAX, 10mA. (Based upon EIA-364-06A).	20 milliohms Max.
5-1-2	絕緣阻抗 Insulation Resistance	公母配合, 在相鄰端子, 端子與地片之間, 使用 500V 的直流電, 檢測連接器. Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon EIA-364-21B / MIL-STD-202 Method 302 Cond. B)	100 Megohms Min.
5-1-3	耐電壓 Dielectric Strength	公母配合, 在相鄰端子, 端子與地片之間, 使用 500V 的交流電 1 分鐘, 檢測連接器. Mate connectors, apply 500V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A / MIL-STD-202 Method 301)	不出現中斷等情況 No Breakdown and Flashover
5-1-4	铆线后端子接觸阻抗 Contact resistance on crimped portion	铆线后之端子, 開放電壓 20mV 以下, 電流 10mA 檢測連接器. Crimp the applicable wire on to the terminal measure by dry circuit 20mV MAX, 10mA.	10 milliohms MAX.

5-2. 機械的性能 Mechanical Performance.

A/1	NEW	TITLE: MX 1.25mm Pitch Connector Series			Sheet: 2 of 7
REV.	DESCRIPTION	WRITTEN BY: Liu jun	CHECKED BY: K B. Sun	APPROVED BY: Succeed. Sun	DATE: YR/MO/DAY 2017/06/25

	項 目 【Item】	條 件 【Test Condition】	規 格 【Requirement】																																								
5-2-1	插拔力 Insertion and Withdrawal Force	以每分鐘 25±3mm 的速率插入和拔出。 Insert and withdraw connectors at the speed rate of 25±3mm/minute.	參照第 6 項 Refer to paragraph 6																																								
5-2-2	端子保持力 Terminal/ Housing Retention Force	以每分 25±3mm 的速率, 將端子從 Housing 內軸向拔出的力量。 Apply axial pull out force at the speed rate of 25±3mm/minute on the terminal assembled in the housing.	4. 9N {0. 5kgf} Min.																																								
5-2-3	端子插入力 Terminal Insertion Force	铆线后之端子插入 Housing 所需最大 力量。 Insert the crimped terminal into the housing.	4. 9N {0. 5kgf} Max.																																								
5-2-4	DIP Pin 针保持力 DIP Pin Retention Force	以每分 25±3mm 的速率, 將 PIN 针從 Wafer 內軸向拔出的力量。 Apply axial push force at the speed rate of 25±mm/minute.	4. 9N {0. 5kgf} Min.																																								
	SMT Pin 针保持力 SMT Pin Retention Force	以每分 25±3mm 的速率, 將 PIN 针從 Wafer 內軸向拔出的力量。 Apply axial push force at the speed rate of 25±mm/minute.	2. 94N {0. 3kgf} Min.																																								
5-2-5	端子压着强度 Tensile strength (Crimped connections)	固定铆线后的端子, 使电线与端子分 离时所需的最小力量。 Fix the crimped terminal, apply axial pull out force on the wire. (Do not crimp insulation part).	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">AWG#</td> <td style="width:5%;">#32</td> <td style="width:5%;">#30</td> <td style="width:5%;">#28</td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td>Spec.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>kgf</td> <td>0. 5</td> <td>0. 8</td> <td>1. 0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Min.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="text-align: center;">Note> As for unspecified wire sizes in this specification define values with clients</p>	AWG#	#32	#30	#28							Spec.										kgf	0. 5	0. 8	1. 0							Min.									
AWG#	#32	#30	#28																																								
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A/1	NEW	TITLE: MX 1. 25mm Pitch Connector Series	Sheet: 3 of 7
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REV.	DESCRIPTION	WRITTEN BY: Liu jun	CHECKED BY: K B. Sun	APPROVED BY: Succeed. Sun	DATE: YR/MO/DAY 2017/06/25
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5-3. 环境性能及其它 Environmental Performance and Others.

項目 【Item】		條件 【Test Condition】	規格 【Requirement】	
5-3-1	重複插拔 Repeated Insertion/ Withdrawal	以每分鐘不超過 10 次的速率, 將公母插拔 50 次. When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute.	接觸阻抗 Contact Resistance	40 milliohms Max.
5-3-2	溫升測試 Temperature Rise	公母對插後, 在通過額定電流下, 所測定的溫度. Carrying rated current load. (UL 1997)	溫升測試 Temperature rise	30°C Max.
5-3-3	耐振動性 Vibration	振幅: 1.5mm P-P 時間: 10~55~10 HZ in 1 minute 持續時間: 每軸向 2 小時 Amplitude: 1.5mm P-P Sweep time: 10~55~10 HZ in 1 minute Duration: 2 hours in each X. Y. Z axial. (Based upon EIA-364-28B/MIL-STD-202 Method 213B Cond. A)	外觀 Appearance	無異狀 No Damage
			接觸阻抗 Contact Resistance	40 milliohms Max.
			瞬斷 Discontinuity	1 micro-second Max.
5-3-4	耐衝擊性 Shock	在 X. Y. Z 上 6 個方向上, 以 490m/s ² (50g 的力量)各擊下. 490m/s ² {50G}, 3 strokes in each X. Y. Z. axes. (Based upon EIA-364-27B/MIL-STD-202 Method 213B Cond. A)	外觀 Appearance	無異狀 No Damage
			接觸阻抗 Contact Resistance	40 milliohms Max.
			瞬斷 Discontinuity	1 micro-second Max.
5-3-5	耐熱性 Heat Resistance	85±2°C, 96 hours. (Based upon MIL-STD-202 Method 108A Cond. A)	外觀 Appearance	無異狀 No Damage
			接觸阻抗 Contact Resistance	40 milliohms Max.

A/1	NEW	TITLE: MX 1.25mm Pitch Connector Series			Sheet: 4 of 7
		WRITTEN BY: Liu jun	CHECKED BY: K B. Sun	APPROVED BY: Succeed. Sun	DATE: YR/MO/DAY 2017/06/25



項 目 【Item】		條 件 【Test Condition】	規 格 【Requirement】	
5-3-6	耐寒性 Cold Resistance	-25 ± 5 °C , 96 hours. (Based upon EIA-364-105)	外觀 Appearance	無異狀 No Damage
			接觸阻抗 Contact Resistance	40 milliohms Max.
5-3-7	耐濕性 Humidity	溫度: 40±2°C 濕度: 90~95%(RH) 持續時間: 96 hours Temperature: 40±2°C Relative Humidity: 90~95% Duration:96 hours (Based upon EIA-364-31A/MIL-STD-202 Method 103B Cond. B)	外觀 Appearance	無異狀 No Damage
			接觸阻抗 Contact Resistance	40 milliohms Max.
			耐電壓 Dielectric Strength	Must meet 5-1-3
			絕緣阻抗 Insulation Resistance	10 Megohms Min.
5-3-8	溫度變化 Temperature Cycling	從-55°C持續 30 分鐘升至+85°C持續 30 分鐘, 循環 5 次. 5 cycles of: a) -55°C 30 minutes. b) +85°C 30 minutes. (Based upon EIA-364-32B)	外觀 Appearance	無異狀 No Damage
			接觸阻抗 Contact Resistance	40 milliohms Max.
5-3-9	鹽水噴霧 Salt Spray	在溫度 35±2°C, 鹽水濃度 5±1%下, 鹽水噴霧 8±1 小時. 8±1 hours exposure to a salt spray from the 5±1% solution at 35±2°C. (Based upon EIA-364-26A/MIL-STD-202 Method 101D Cond. B).	外觀 Appearance	無異狀 No Damage
			接觸阻抗 Contact Resistance	40 milliohms Max.

A/1	NEW	TITLE: MX 1.25mm Pitch Connector Series			Sheet: 5 of 7
REV.	DESCRIPTION	WRITTEN BY: Liu jun	CHECKED BY: K B. Sun	APPROVED BY: Succeed. Sun	DATE: YR/MO/DAY 2017/06/25

項 目 【Item】		條 件 【Test Condition】	規 格 【Requirement】	
5-3-10	焊錫附著性 Solder-ability	焊接時間: 5±0.5 秒. 焊接溫度: 250±5°C. Soldering Time: 5±0.5second. Solder Temperature: 250±5°C. (Based upon EIA-364-52)	Solder Wetting	浸漬面積需 95%以上 95% of immersed area must show no voids, pin holes.
5-3-11	焊錫耐熱性 Solder-Resistance	焊接時間: 10±0.5 秒. 焊接溫度: 260±5°C. Soldering time:10±0.5sec solder. Temperature:260±5°C. (Based upon EIA-364-56A)	外觀 Appearance	無異狀 No Damage

(): 參考規格: Reference Standard { }: 參考單位: Reference Unit

【6. 綜合插入力及拔出力 INSERTION/WITHDRAWAL FORCE】 <Connector mating force>

PIN 數 No. of CKT	插入力(最大) Insertion (kgf Max.)	拔出力(最小) Withdrawal (kgf Min.)	PIN 數 No. of CKT	插入力(最大) Insertion (kgf Max.)	拔出力(最小) Withdrawal (kgf MinN.)
Single	0.5	0.06	9	3.7	0.64
2	1.6	0.36	10	4.0	0.68
3	1.9	0.40	11	4.3	0.72
4	2.2	0.44	12	4.6	0.76
5	2.5	0.48	13	4.9	0.80
6	2.8	0.52	14	5.2	0.84
7	3.1	0.56	15	5.5	0.88
8	3.4	0.60	空 白		

A/1	NEW	TITLE: MX 1.25mm Pitch Connector Series	Sheet: 6 of 7
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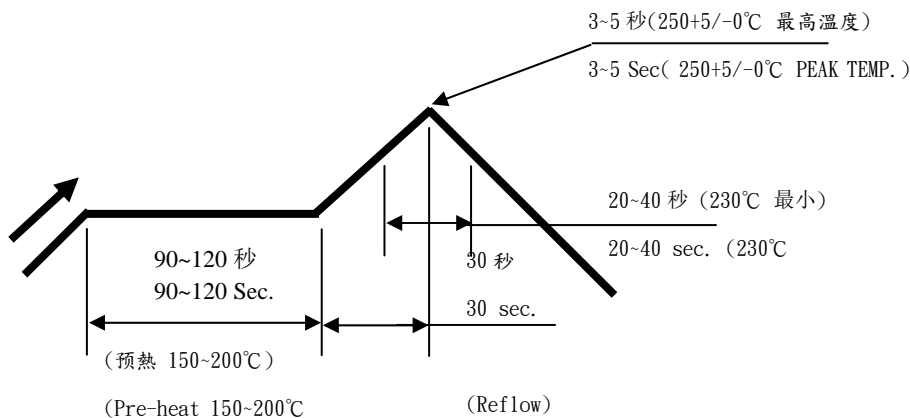
REV.	DESCRIPTION	WRITTEN BY: Liu jun	CHECKED BY: K B. Sun	APPROVED BY: Succeed. Sun	DATE: YR/MO/DAY 2017/06/25
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【7. 端子压著模具尺寸与压著规范 Dimension of die-compaction with terminal and Specification of die-compaction】

冲模规格 (mm) Die Specification T × W	压著宽度 (mm) 【Die-compaction width】	压著高度 (mm) 【Die-compaction height】		
		AWG#28	AWG#30	AWG#32
上心: 1.0 × 0.9	0.90~1.00	依端子与线材保持力而定/ Alluding the Retention for Terminal with wire		
下心: 1.1 × 0.9				
上皮: 1.2 × 1.2				
下皮: 1.2 × 1.2				

(端子压著模具尺寸与压著规范供参考用! / Dimension of die-compaction with terminal and Specification of die-compaction Supply Reference!)

【8. SMT 紅外線回流條件 SMT INFRARED REFLOW CONDITION】



溫度條件曲線圖 / 基板上溫度

TEMPERATURE CONDITION GRAPH / (TEMPERATURE ON BOARD PATTERN SIDE)

注記: 由於 P.C 板等焊接裝置改變條件, 所以請預先用自己的裝置檢查回流焊的條件。

Notes: Please check the reflow soldering condition by your own devices beforehand. Because the condition changes by the soldering devices, P.C. boards, and so on.

A/1	NEW	TITLE: MX 1.25mm Pitch Connector Series			Sheet: 7 of 7
REV.	DESCRIPTION	WRITTEN BY: Liu jun	CHECKED BY: K B. Sun	APPROVED BY: Succeed. Sun	DATE: YR/MO/DAY 2017/06/25