



<b>Product Specification [产品规格书]:</b>	Document No	PS-4001-01
<b>Subject [主题]:</b> 4.00mm Pitch 4001 Series Connector Specification	Date Issued	2014/06/30
	Date Revised	2020/03/23
	Version	A0

This specification is referred to the 4.00mm series board to board connector

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**【1.适用范围 Scope】**

此种规格包括 4.00mm Pitch 4001 Series 连接器规格说明.

This Specification Covers the 4.00mm Pitch 4001 Series Connector Specification.

**【2.规格与料号 Spec and Part number】**

规格内容 Specification	产品料号 Production No.	产品图示 Picture of Product
针座母端/Wafer Female	4001WF-02-LPSN	N/A
针座公端/Wafer Male	4001WM-02-LPSN	N/A

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

规格内容 Specification	材质 Materials	表面处理 Disposal of Surface	
针座/Wafer	Base	High Temperature Plastic	UL 94V-0
	PIN	磷铜/Phosphor Bronze	Over Tin 70μ" Plated Over 30μ" Nickel
	Solder tab	黄铜/Brass	Over Tin 70μ" Plated Over 30μ" Nickel

(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.)	300V	[AC/DC]
额定电流 Rated Current (Max.)	3.0A	
使用温度范围 Ambient temperature Range	-55°C~+105°C	

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



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**【5.性能 PERFORMANCE】**

**5-1. 电气的性能 Electrical Performance.**

项 目 【Item】	条 件 【Test Condition】	规 格 【Requirement】
5-1-1 接触阻抗 Contact Resistance	公母配合,开放电压 20mV 以下,电流 10mA 检测连接器 A~B 区. Mate connectors, measure by dry circuit, 20mV MAX, 10mA. (Based upon EIA-364-06A).	Initial:  20 milliohms Max.  After Test:  40 milliohms Max.
5-1-2 绝缘阻抗 Insulation Resistance	公母配合,在相邻端子,端子与地片之间,使用 500V 的直流电,检测连接器. Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon EIA-364-21B / MIL-STD-202 Method 302 Cond.B)	1000 Megohms Min.
5-1-3 耐电压 Dielectric Strength	公母配合,在相邻端子,端子与地片之间,使用 1700V 的交流电 1 分钟,检测连接器. Mate connectors, apply 1700V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A / MIL-STD-202 Method 301)	不出现中断等情况  No Breakdown  and Flashover



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**5-2. 机械的性能 Mechanical Performance.**

项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】	
5-2-1	插拔力 Insertion & Retention Force	以每分钟 25.4±3mm 的速率插入和拔出。 Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute.	参照第 6 项 Refer to paragraph 6	
5-2-2	Pin 针保持力 Pin Retention Force	以每分 25.4±3mm 的速率,将 PIN 针从 Wafer 内轴向推 出的力量.Apply axial push force at the speed rate of 25.4±3mm/minute.	1.96N {0.20kgf} Min.	

**5-3. 环境性能及其它 Environmental Performance and Others.**

项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】	
5-3-1	重复插拔 Repeated Insertion/ Withdrawal	以每分钟不超过 10 次的速率,将公母插拔 30 次。 When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	接触阻抗 Contact Resistance	40 milliohms Max.
5-3-2	温升测试 Temperature Rise	公母连接器配合后, 加载额定电流直到温度上升到稳定 状态, 然后再测量温升 (EIA364-70,Method 1) Mating connectors shall be energized at rating current until thermal stability is achieved, and then measured the temperature rise. (EIA364-70,Method 1)	温升测试 Temperature rise	30°C Max.
5-3-3	耐振动性 Vibration	振幅: 1.5mm P-P 时间: 20~200~20 Hz in 3minute 持续时间: 每轴向 3 小时 加速度: 44m/S <sup>2</sup> 开放电压: 20mV 以下 开放电流: 10mA 以下 Amplitude: 1.5mm P-P Sweep time: 20~200~20 Hz in 3 minute Duration: 3 hours in each X.Y.Z axials. (Based upon EIA-364-28B/MIL-STD-202 Method 213B Cond.A)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
			瞬断 Discontinuity	1 micro- second Max.



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5-3-4	耐冲击性 Shock	在 X.Y.Z 上 6 个方向上,以 490m/s <sup>2</sup> (50g 的力量)冲击下各 3 回.490m/s <sup>2</sup> {50G}, 3 strokes in each X.Y.Z. axes. (Based upon EIA-364-27B/MIL-STD-202 Method 213B Cond.A)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
			瞬断 Discontinuity	1 micro-second Max.
5-3-5	耐热性 Heat Resistance	105±2°C,96 hours. (Based upon MIL-STD-202 Method 108A Cond.A)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
5-3-6	耐寒性 Cold Resistance	-55±5°C,96 hours. ( Based upon EIA-364-105)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.

项目 【Item】		条件 【Test Condition】	规格 【Requirement】	
5-3-7	耐湿性 Humidity	温度: 40±2°C 湿度: 90~95%(RH) 持续时间: 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)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
			耐电压 Dielectric Strength	Must meet 5-1-3
			绝缘阻抗 Insulation Resistance	500 Megohms Min.
5-3-8	温度变化 Temperature Cycling	从-55°C持续 30 分钟升至+105°C持续 30 分钟,循环 5 次. 5 cycles of: a) -55°C 30 minutes. b) +85°C 30 minutes. (Based upon EIA-364-32B)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
5-3-9	盐水喷雾 Salt Spray	在温度 35±2°C,盐水浓度 5±1%下,盐水喷雾 24±1 小时. 24±1 hours exposure to a salt spray from the 5±1% solution at 35±2°C. (Based upon EIA-364-26B/MIL-STD-202 Method 101D Cond.B).	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.



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5-3-10	焊锡附着性 Solder-ability	焊接时间: 3~5 秒. 焊接温度: 245±5℃. Soldering Time: 3~5second. Solder Temperature: 245±5℃. (Based upon EIA-364-52)	Solder Wetting	浸渍面积需 95% 以上 95% of immersed area must show no voids, pin holes.
5-3-11	焊锡耐热性 Solder-Resistance (By Reflow Soldering)	焊接时间: 5~10 秒. 焊接温度: 260+0/-5℃. Soldering time:5~10 sec solder. Temperature:260+0/-5℃.	外观 Appearance	无异状 No Damage
	焊锡耐热性 Solder-Resistance (By Soldering iron)	焊接时间: 3 秒. 焊接温度: 350℃. Soldering time:3 sec solder. Temperature:350℃.	外观 Appearance	无异状 No Damage



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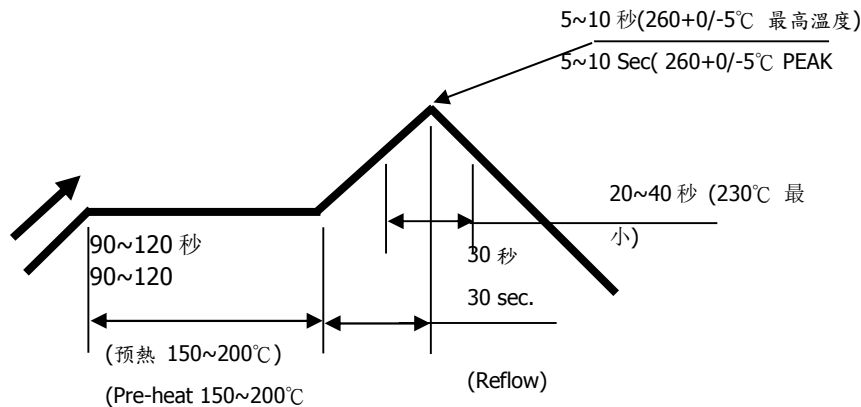
**【6.综合插入力及拔出力 INSERTION/WITHDRAWAL FORCE】 <Connector mating force>**

PIN 数 No. of CKT	初次插入力(最大值) First Insertion (kgf Max.)	30 次拔出力(最小值) 30 <sup>th</sup> Withdrawal (kgf Min.)	PIN 数 No. of CKT	初次插入力(最大值) First Insertion (kgf Max.)	30 次拔出力(最小值) 30 <sup>th</sup> Withdrawal (kgf Min.)
02	1.50	0.05			

注: 以上插拔次数为 30 次

Note: Insertion and Withdrawal for 30Cycles

**【7. SMT 红外线回流条件 SMT INFRARED REFLOW CONDITION】**



温度条件曲线图/ 基板上温度

TEMPERATURE CONDITION GRAPH/ (TEMPERATURE ON BOARD PATTERN SIDE)

注记: 由于 P.C 板等焊接装置改变条件,所以请预先用自己的装置检查回流焊的条件.

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.