

# 产品规格书

## PRODUCT SPECIFICATION

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产品规格: GJ-A2001 系列	No.: EN-004(2019-09)	Date Issued: Sep.20, 2019
Specification: GJ-A2001 Series	Rev. : <b>A.0</b>	Date Revised:
2.0mm pitch/Disconnectable Crimp style connectors		Issued by: Engineering Dept.

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产 品 型 号: <b>A2001</b> 系列 (2.0mm) 无铅环保产品 <b>PART NUMBER: A2001 Series (2.0mm) Lead-free product</b>	版本/Rev.	<b>A.0</b>
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### 【1.范围/Scope】

本产品规格书涵盖 **2.0mm** 间距 (**A2001\*\*** 系列) 连接器的性能测试和要求

**This product specification covers the performance testing and requirements of 2.0 mm Pitch (A2001\*\* series) connectors**

### 【2. 名称和产品料号 / Part name & Part number】

产品名称 <b>Part name</b>	产品料号 <b>Part number</b>
端子 / <b>Terminal</b>	<b>A2001TF</b>
胶壳 / <b>Housing</b>	<b>A2001HF</b>
针座 / <b>Header</b>	<b>A2001WRD</b> <b>A2001WRD-LE</b> <b>A2001WVD</b>

### 【3. 材质结构和表面处理 / Construction, Dimensions, Material & Surface Finish】

产品结构和尺寸符合图纸

**Construction and dimensions shall be in accordance the referenced drawings.**

产品材质和表面处理符合以下规定:

**Material and surface finish shall be as specified below.**

产品名称/Part name		材质/Material	表面处理/Surface Finish
端子 / <b>Terminal</b>		<b>Phosphor bronze</b>	<b>Tin-plated</b>
胶壳 / <b>Housing</b>		<b>Nylon66</b>	<b>Flammability: UL94V-0</b>
针座 <b>Header</b>	针 / <b>Post</b>	<b>Phosphor bronze</b>	<b>Tin-plated</b>
	塑胶 / <b>Wafer</b>	LCP	<b>Flammability: UL94V-0/2</b>

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#### 【4. 规格 / Main Specifications】

- 接触电阻 (Contact resistance) :  $\leq 20\text{m}\Omega$
- 绝缘电阻 (Insulation resistance) :  $\geq 1000\text{M}\Omega$
- 额定电压 (Rated voltage) : 250V AC DC
- 额定电流 (Rated current) : 3.0A AC DC
- 耐 电 压 (Withstand Voltage) : 800V AC/minute
- 温度范围 (Temperature Range) :  $-25^{\circ}\text{C}\sim+85^{\circ}\text{C}$
- 适用线规 (Applicable wire) : AWG#30 to #24
- 线 数 (Poles no) : 6P (2x3) to 40P (2x20)
  
- Conforms to The RoHS Instruction
- Conforms to The REACH Instruction



Recognized on passage

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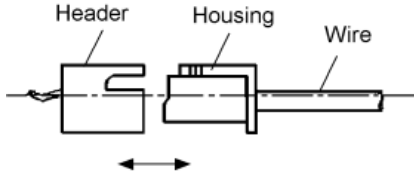
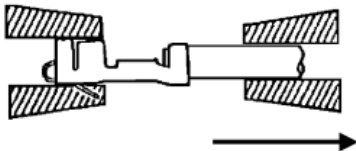
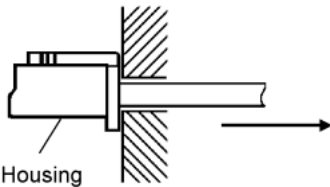
【5. 性能 / Performance】

**5-1 电气性能 Electrical Performance**

项目 / Item		条件 / Test Condition	规格 / Requirement
5-1-1	接触阻抗 <b>Contact Resistance</b>	按下图所示装配的试样 <b>A</b> 点和 <b>B</b> 点之间的接触阻抗。电流: <b>DC 10mA</b> ; 开路电压: <b>20mV(max.)</b> <b>Contact between points A and B of a specimen assembled for actual use as shown in the figure on the below side shall be measured under the following conditions</b> <b>test current: 10mA (DC)</b> <b>open voltage: 20mV(max.)</b>	<b>Initial: 10 mΩ MAX.</b> <b>After test: 20 mΩ MAX.</b>
5-1-2	绝缘阻抗 <b>Insulation Resistance</b>	应在配对试样的相邻触点之间施加 500V 直流电, 以测量绝缘电阻 <b>500V DC shall be applied between adjacent contacts of a mated specimen to measure insulation resistance</b>	<b>Initial: 1000 MΩ MIN.</b> <b>After test:500MΩ MIN.</b>
5-1-3	耐电压 <b>Dielectric Strength</b>	在规定的试验电压应在配对试样的相邻触点之间施加一分钟 <b>800V AC</b> <b>Testing voltage specified below shall be applied between adjacent contacts of a mated specimen for one minute</b>	无击穿、打火 <b>There shall be no breakdown of flashover</b>

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**5-2 机械性能 Mechanical Performance**

项目 / Item		条件 / Test Condition	规格/Requirement	
5-2-1	插入力 拔出力 <b>Insertion and Withdrawal Force</b>	以每分钟 <b>25mm/min</b> 速度插入和拔出 <b>Insert and withdraw connectors at the speed rate of 25mm/min</b> 	参照第 6 项 <b>Refer to paragraph 6</b>	
5-2-2	抗拉强度 <b>crimp tensile strength</b>	对铆压好的端子和电线施加拉力, 测量将电线拉出端子或电线断开的力 (测试速度: <b>25mm/min</b> ) <b>Pulling load shall be applied to a correctly crimped terminal and a wire. the load to pull the wire out of the terminal or break the wire shall be measured (Testing speed: 25mm/min)</b> 	Wire to be used	Kg/f min.
			AWG #28	1.50
			AWG #26	2.00
			AWG #24	3.00
			AWG #22	4.00
5-2-3	端子插入力 <b>Terminal insertion force</b>	铆压好的端子插入胶壳 <b>Insert the crimped terminal in the housing at a constant speed of 25±3mm per minute</b>	7.8N [ 0.8Kgf ] MAX.	
5-2-4	端子保持力 <b>Contact Retention Force</b>	测量: <b>1~5mm/秒</b> 速度从胶壳中轴向拉出端子线的力 <b>Crimped contact shall be mounted in a housing and pulled in the axial direction. the load to pull the contact out of the housing shall be measured (testing speed: 1 to 5mm/sec.)</b>	10N [ 1.0Kgf ] MIN.	
				

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项目 / Item		条件 / Test Condition	规格/Requirement
5-2-5	<b>Pin 针保持力 Pin Retention Force</b>	以每分钟 <b>25mm/分钟</b> 速度将 Pin 针从胶体内轴向推出的力 <b>The end of a post shall be pushed perpendicularly. The load to make the post start moving from a wafer shall be measured(testing speed:25mm/min.)</b>	<b>10N [ 1.0Kgf ] Min.</b>

**5-3 环境试验 Environmental test**

项目 / Item		条件 / Test Condition	规格/Requirement	
5-3-1	<b>耐久性 Durability</b>	配套插拔 30 次后测量接景电阻 <b>A housing with crimped contacts and a header shall be mated and unmated. After repeated 30 cycles, contact resistance shall be measured</b>	<b>接触阻抗 Contact Resistance</b>	<b>20 mΩ MAX.</b>
5-3-2	<b>耐振动性 Vibration</b>	试样安装在 PCB 板上,在以下条件下振动测试,过程中检查电流的连续性。试验后测量接触电阻 <b>The specimen shall be mounted on a PCB and subjected to a vibration test of the following conditions. During the test, current continuity shall be checked. After the test, contact resistance shall be measured Frequency : 10~55~10 Hz/min. Amplitude : 1.5 mm Direction : each of X Y Z-axis directions period: 2 hours for each direction</b>	<b>外观 Appearance</b>	<b>无异状 No Damage</b>
			<b>接触阻抗 Contact Resistance</b>	<b>20 mΩ MAX.</b>
			<b>瞬断 Discontinuity</b>	<b>1μsec. MAX.</b>

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项目 / Item		条件 / Test Condition	规格/Requirement	
5-3-3	热冲击 Thermal shock	在下列条件下对样品进行热冲击试验, 后测量接触电阻、绝缘电阻及耐电压 <b>The specimen shall be subjected to a thermal shock test of the following conditions. after the test, contact resistance, insulation resistance and dielectric withstanding voltage shall be measured</b> <b>1 Cycle consists of :</b> <b>-25°C for 30 minutes</b> <b>+85°C for 30 minutes</b> <b>total cycles:25cycles</b>	绝缘电阻 <b>Insulation resistance</b>	<b>500MΩ Min.</b>
			接触阻抗 <b>Contact Resistance</b>	<b>20 mΩ MAX.</b>
			耐电压 <b>Dielectric Strength</b>	无击穿和打火 <b>No breakdown flashover</b>
5-3-4	耐热性 Heat Aging	在 <b>85±2°C</b> 环境中放置 <b>96</b> 小时后测试接触电阻 <b>The specimen shall be placed in a heat oven at 85±2°C for 96 hours. after the test, contact resistance shall be measured [ MIL-STD-202 Method 108A Cond. A ]</b>	外观 <b>Appearance</b>	无异状 <b>No Damage</b>
			接触阻抗 <b>Contact Resistance</b>	<b>20 mΩ MAX.</b>
5-3-5	耐湿性 Humidity	暴露在温度 <b>40°C</b> , 湿度 <b>90%~95%</b> 环境下 96 小时后测试 <b>The sample shall be placed for 168 hours at a temperature of 40°C and a humidity of 90%to95%. Measure the contact resistance, insulation resistance and dielectric withstand voltage after the test</b> <b>[ MIL-STD-202 Method 103 Cond. A ]</b>	绝缘电阻 <b>Insulation resistance</b>	<b>500MΩ Min.</b>
			接触阻抗 <b>Contact Resistance</b>	<b>20 mΩ MAX.</b>
			耐电压 <b>Dielectric Strength</b>	无击穿和打火 <b>No breakdown flashover</b>



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项目 / Item		条件 / Test Condition	规格/Requirement	
5-3-6	盐水喷雾 <b>Salt Spray</b>	在温度 $35 \pm 2^\circ\text{C}$ , 盐水浓度 5% 下, 盐水喷雾 $24 \pm 1$ 小时 <b>the specimen shall be subjected to a salt spray test of the following conditions. after the test, it shall be washed with running water and dried naturally before the measurement of contact resistance</b> <b>NaCl solution:</b> <b>1). Concentration: <math>5 \pm 1\%</math></b> <b>2). Spray time: <math>24 \pm 1</math> hours</b> <b>3). Ambient temperature: <math>35^\circ\text{C}</math></b> <b>[ EIA-364-26A/MIL-STD-202 Method 101D Cond.B ]</b>	外观 <b>Appearance</b>	无异状 <b>No Damage</b>
			接触阻抗 <b>Contact Resistance</b>	<b>20 mΩ MAX.</b>
5-3-7	可焊性 <b>Solderability</b>	将样品焊接部位按以下条件浸入锡炉 <b>Fluxed soldering section of a specimen shall be dipped in solder of the following conditions</b> <b>Solder: Sn-3Ag-0.5Cu</b> <b>Flux: activation flux</b> <b>Solder temperature: <math>245 \pm 5^\circ\text{C}</math></b> <b>Immersion period: <math>3 \pm 0.5</math> Sec.</b> <b>[ EIA-364-52 ]</b>	浸渍面积需 95% 以上 <b>95% of immersed area must show no voids, pin holes</b>	

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项目 / Item		条件 / Test Condition	规格/Requirement	
5-3-8	耐焊性 <b>Resistance to Soldering Heat</b>	样品安装在 <b>PCB</b> 板上, 并在下列条件下进行试验 <b>The specimen shall be mounted on a PCB and subjected to a resistance to soldering heat test of the following conditions Solder: Sn-3Ag-0.5Cu Flux: activation flux Solder temperature: 260±5°C Immersion period: 5±0.5 Sec. [ EIA-364-56A ]</b>	外观 <b>Appearance</b>	无异状 <b>No Damage</b>

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**【6. 插入力及拔出力 / Insertion & Withdrawal Force】**

**UNIT: N**

Number of circuits	At initial		Number of circuits	At initial	
	I.F. (max)	W.F. (min)		I.F. (max)	W.F. (min)
<b>Single</b>	<b>4.00</b>	<b>1.50</b>	<b>09</b>	<b>52.00</b>	<b>16.50</b>
<b>02</b>	<b>24.00</b>	<b>6.00</b>	<b>10</b>	<b>56.00</b>	<b>18.00</b>
<b>03</b>	<b>28.00</b>	<b>7.50</b>	<b>11</b>	<b>60.00</b>	<b>19.50</b>
<b>04</b>	<b>32.00</b>	<b>9.00</b>	<b>12</b>	<b>64.00</b>	<b>21.00</b>
<b>05</b>	<b>36.00</b>	<b>10.50</b>	<b>13</b>	<b>68.00</b>	<b>22.50</b>
<b>06</b>	<b>40.00</b>	<b>12.00</b>	<b>14</b>	<b>72.00</b>	<b>24.00</b>
<b>07</b>	<b>44.00</b>	<b>13.50</b>	<b>15</b>	<b>76.00</b>	<b>25.50</b>
<b>08</b>	<b>48.00</b>	<b>15.00</b>	<b>16</b>	<b>80.00</b>	<b>27.00</b>

注: 以上插拔次数为 30 次

**Note: Insertion and Withdrawal for 30 cyc**



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