

# 产品规格书

## PRODUCT SPECIFICATION

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产品规格: GJ-A1004 系列	No.: EN-103(2019-04)	Date Issued: Sep.05, 2022
Specification: GJ-A1004 Series	Rev. : <b>A.0</b>	Date Revised:
1.00mm pitch/Disconnectable Crimp style connectors		Issued by: Engineering Dept.

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产 品 型 号: <b>A1004</b> 系列 (1.00mm) 无铅环保产品 <b>PART NUMBER: A1004 Series (1.00mm) 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 1.00mm 间距 (A1002\*\*系列) 连接器的性能测试和要求

**This product specification covers the performance testing and requirements of 1.00 mm Pitch (A1002\*\* series) connectors**

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

产品名称 Part name	产品料号 Part number
端子 / Terminal	<b>A1002TM-PTS</b>
胶壳 / Housing	<b>A1004HM</b>
针座 / Wafer (SMT TYPE)	<b>A1004WVS</b>
	<b>A1004WRS</b>

### 【3. 材质结构和面处理 / 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 / Terminal		<b>Phosphor bronze</b>	<b>Tin-plated</b>
胶壳 / Housing		<b>Nylon66</b>	<b>Flammability: UL94V-0</b>
针座 Header	针 / Post	<b>Phosphor bronze</b>	<b>Tin-plated</b>
	塑胶 / Wafer	LCP	<b>Flammability: UL94V-0</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) :  $\geq 100\text{M}\Omega$
- 额定电压 (Rated voltage) : 50V AC DC
- 额定电流 (Rated current) : 1.0A AC DC
- 耐 电 压 (Withstand Voltage) : 500V AC/minute
- 温度范围 (Temperature Range) :  $-25^{\circ}\text{C}\sim+85^{\circ}\text{C}$
- 适用线规 (Applicable wire) : AWG#36 to #32
- 线 数 (Poles no) : 4 to 60P
  
- 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
<b>5-1-1</b>	接触阻抗 <b>Contact Resistance</b>	装配的试样, 两端施以最大测试电压 20mV, 最大电流 10mA, 测量 <b>Mate connectors, and measure by dry circuit, 20mV MAX., 10mA MAX.</b>	<b>30 mΩ MAX.</b>
<b>5-1-2</b>	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 【MIL-STD-202 302】</b>	<b>100MΩ MIN.</b>
<b>5-1-3</b>	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 500V AC <b>Testing voltage specified below shall be applied between adjacent contacts of a mated specimen for one minute 500V AC</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>25±3mm/min</b> 速度插入和拔出 <b>Insert and withdraw connectors at the speed rate of 25±3mm/min</b>	<b>Plug-in force ≤ 3N</b> (Per pin)
			<b>Plug-out force ≥ 0.3N</b> (Per pin)
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>25±3mm/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: 25±3mm/min)</b>	<b>4.9N [ 0.5Kgf ] MAX</b>

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**5-3 环境试验 Environmental test**

项目 / Item		条件 / Test Condition	规格/Requirement	
5-3-1	耐久性 <b>Durability</b>	配套插拔 30 次后测量接触电阻 <b>A housing with crimped contacts and a header shall be mated and unmated. After repeated 30 cycles, contact resistance shall be measured</b>	接触阻抗 <b>Contact Resistance</b>	<b>20 mΩ MAX.</b>
5-3-2	耐振动性 <b>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</b> <b>Frequency : 10~55~10 Hz/min.</b> <b>Amplitude : 1.5 mm</b> <b>Direction : each of X Y Z-axis directions</b> <b>period: 2 hours for each direction</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>
			瞬断 <b>Discontinuity</b>	<b>1μsec. MAX.</b>
5-3-3	耐热性 <b>Heat Aging</b>	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>

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项目 / Item		条件 / Test Condition	规格/Requirement	
5-3-4	热冲击 <b>Thermal shock</b>	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>-55 for 30 minutes</b> <b>+85 for 30 minutes</b> <b>total cycles:25cycles</b>	绝缘电阻 <b>Insulation resistance</b>	<b>100MΩ 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>
5-3-5	耐湿性 <b>Humidity</b>	暴露在温度 40℃, 湿度 90%~95%环境下 96 小时后测试 <b>The sample shall be placed for 96 hours at a temperature of 40℃ 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>100MΩ 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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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>