# 产品规格书 PRODUCT SPECIFICATION

## 工程变更记录

| 版本号 | 变更日期 | 变更描述 |
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## 1. 适用范围 SCOPE

本规范适用于 A1004(503764) 系列条形连接器，包含了产品的性能、试验方法和检验要求。
This specification applies to A1004(503764) bar connector series, contains the product performance, test
methods and inspection requirements.

## 2. 适用的标准 APPLICABLE STANDARDS

| | | |
|---|---|---|
| 2.1 | GB/T2421 | 电工电子产品环境试验 第一部分 总则<br>Testing method for Environmental of Electrical Connectors Class 1: general Principles |
| 2.2 | GB/T2423 | 电工电子产品环境试验方法<br>Testing method for Environmental of Electrical Connectors |
| 2.3 | GB/T2424 | 电工电子产品环境试验导则<br>Testing method for Environment of Electrical Connectors |
| 2.4 | GB/T5095 | 电子设备用机电元件基本试验规程及测量方法<br>Testing Procedure/method for Components of Electrical Equipment |

## 3. 外观及尺寸 APPEARANCE AND DIMENSION

3.1 外观 appearance

经目视观察，外观不可有变形，电镀脱落等会降低其功能的异常现象，也不可有严重破裂、刮伤或污损之缺点。
By looking, there shall not be any abnormality such as deformity, exfoliation of plating, etc., which can reduce performance. No defect such as cracks scratches or blemishes.

3.2 尺寸 measure

参照工程图
With reference to engineering drawing

3.3 互换性 interchangeability

互换性：相同规格应能互换
Exchangeable: Exchangeable with same specification products

3.4 建议 PCB LAYOUT 图 Recommended PCB LAYOUT drawing

参照工程图
With reference to engineering drawing

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## 4. 材质 THE MATERIAL

| P/N(零件名称) | TYPE(类型) | Material(材料) | Finish(表面处理) | Explain(说明) |
|---|---|---|---|---|
| A1004RS | Plastic (塑胶) | PA4T(94V-0) 黑色/ Rice Black | | RoHS Compliant |
| | Contact (PIN 针) | Phosphor bronze(磷青铜) | Plated镀金/ Tin-plating镀锡 | |
| | 助焊脚 SolderTAB | Brass (黄铜) | Tin-plating镀锡 | |
| A1004HF | Housing (塑胶) | PA66 (UL94V-0)黑色/ Rice Black | | |
| A1004M | Terminal (端子) | Phosphor bronze(磷青铜) | Tin-plating镀锡/Gold-Plated镀金 | |

## 5. 标准额定值 RATINGS

| 项 目<br>ITEM | 规 格<br>SPECIFICATIONS |
|---|---|
| 额 定 电 压<br>Rated Voltage | 150V |
| 额 定 电 流<br>Rated current | 1.5A~2.5A AC /DC |
| 温 度 范 围<br>Temperature Range | －25℃ ～ ＋105℃ |
| 湿 度 范 围<br>Humidty range | 相对湿度 65％以下<br>Relative humidity 65％ max |
| 保存温度范围<br>Storage temperature range | －10℃ ～ ＋50℃ |
| 保存湿度范围<br>Storage humidity range | 相对湿度 65％以下<br>Relative humidity 65％ max |

## 6. 部件名称&部件编号 Part name & part number

| 部 件 名 称<br>Part name | 部 件 编 号<br>Part number |
|---|---|
| Housing | A1004HF |
| Terminal | A1004M |
| Wafer (DIP) | |
| Wafer (SMT) | A1004RS |

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## 7.电气特性 ELECTRICAL EFFICIENCY

| No.编号 | 项目 Item | 试验方法 Test Method | 性能要求 Requirement |
|---|---|---|---|
| 7.1 | 接触电阻 Contact Resistance | 测量时将连接器插合，两端施以最大测试电压 20mV 以及最大测试电流 100mA ，测量时减去导线电阻值。Mate connectors,load voltage: A maximum voltage of 20mV and a maximum current of 100mA are applied to the Mate connector. | 20mΩ Max. |
| 7.2 | 绝缘电阻 Insulation Resistance | 相邻接触体1 分钟时间内施加500V DC 电压进行测试测量期间的绝缘阻抗值。Mate connectors,Apply 500V DC(rms)for 1minute between adjacent contacts to measure the insulation resistance. | 1000MΩ Min. |
| 7.3 | 耐电压 Withstanding Voltage | 在各相邻接触件间施加 500V AC 之电压持续 1 分钟。Mate connectors, apply 500V AC for 1 minute Between adjacent terminal or ground. | 无击穿或者产生火花 No breakdown or flashover |

## 8.环境特性 ENVIRONMENTAL EFFICIENCY

| No.[编号] | 项目 Item | 试验方法 Test Method | 性能要求 Requirement | |
|---|---|---|---|---|
| 8.1 | 耐热试验 Heat Resistance | 将连接器放在温度为+105±2℃的环境中 96 小时，再置于室温下 1～2 小时。Mated connector shall be placed in an environmental for 96 hours at +105±2℃, Again in 1 ~ 2 hours at room temperature . | 外观 Appearance | 目视外观无任何损坏异状 No Breakdown |
| | | | 接触阻抗 Contact Resistance | 20mΩ Max. |
| 8.2 | 耐冷试验 Cold Resistance | 将连接器放在温度为-25±3℃的环境中 96 小时，再置于室温下 1～2 小时。Mated connector shall be placed in an environmental for 96 hours at -25±3℃ Again in 1 ~ 2 hours at room temperature. | 外观 Appearance | 目视外观无任何损坏异状 No Breakdown |
| | | | 接触阻抗 Contact Resistance | 20mΩ Max. |
| 8.3 | 耐湿性试验 Humidity | 把插合的连接器,温度 25±2℃，相对湿度 60～65%的环境中，持续 96 小时。经试验后，连接器须于室 | 外观 Appearance | 目视外观无任何损坏异状 No Breakdown |

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|---|---|---|---|---|
| | | 温中放置 1～2 小时，再测定其值。<br>Mate connectors,25 ± 2 ℃ in temperature and 60 ～ 65%RH in an environmental for 96 hours. After testing connector shall be left alone for 1 to 2 hours in a room ambient. | 绝缘电阻<br>Insulation Resistance | 100MΩ MIN. |
| | | | 耐电压<br>Withstanding Voltage | 500V AC/minute MIN |
| 8.4 | 温度循环<br>Temperature Cycling | 低温:-25±3℃，30 分钟，放置转换时 10-15 分钟<br>高温:+105±3℃，30 分钟，放置转换时 10-15 分钟<br>5 次循环后放置在正常环境中恢复 2 小时后进行测试.<br>Low temperature:-25±3℃,30min,room temp10-15min<br>high temperature:+105±3℃,30min,room temp10-15min<br>After 5 cycles at the normal environment for testing after 2 hours. | 外观<br>Appearance | 目视外观无任何损坏异状<br>No Breakdown |
| | | | 接触电阻<br>Contact Resistance | 20mΩ Max. |
| 8.5 | 盐雾试验<br>Salt spray | 盐水比重：5±1% 温度：35±2℃<br>试验时间：24 小时，试验结束后用清水将残留盐份清洗并将水滴清除后，才可测量。<br>Salt concentration: 5±1%Temperature: 35±2℃<br>Testing time:24 hours, After salt is removed by running water and a drop is removed, it is measured. | 外观<br>Appearance | 镀层无剥落，无分离,无裂痕起皱,表面的腐蚀面积小于5%<br>No peeling, no separation, no cracking and wrinkling of the coating, the surface corrosion area is less than 5% |
| | | | 接触电阻<br>Contact Resistance | 20mΩ Max. |

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|---|---|---|---|
| 8.6 | Solderability [可焊性试验] | 焊锡时间：2.5±0.5 秒<br>焊锡温度：245±5℃(GB/T5095.6-12a)<br>Soldering time: 2.5±0.5 S<br>Solder Temperature: 245±5℃(GB/T5095.6-12a) | 焊锡面积≥95%<br>95% min. of solder area |
| 8.7 | 耐焊性 Resistance to soldering heat | 将连接器置于 PCB 板上，然后将露出 PCB 板表面的 Pin 脚部分浸入 260 ℃±5 ℃ 的锡炉中 5 ±1 秒。(GB/T5095.6-12a)<br>Place the connector on the P.C.Board, then immerse the solder pin up to the surface of the board in the solder bath at 260℃±5℃ for 5 ±1S .(GB/T5095.6-12a) | 塑胶不得有明显的变形或损坏。<br>1.Without deformation of ease or excessive losses.<br>电气特性必须符合规格<br>2.Electrical characteristics shall be satisfied. |

## 9.机械特性 MECHANICAL EFFICIENCY

| No.[编号] | 项目 Item | 试验方法 Test Method | 性能要求 Requirement | |
|---|---|---|---|---|
| 9.1 | PIN 针固定力Pin retention force | 在针脚前端施加力，以每分钟 25±3mm 的速率，直到针退出针座的拔出力<br>Exerts a force on the pin end,at a rate per minute 25±3mm,until the needle exit seat pull-out force | 单一PIN<br>1N Min.Only per PIN | |
| 9.2 | 端子与孔座固定力 Terminal crimping wire stength | 端子与孔座配合，以每分钟 25±3mm 的速率沿导线方向将端子从孔座中拔出的力。<br>The terminal and hole seat,at a rate per minute to 25±3mm along the wire direction are pulled out from the hole in the seat capacity | 单一端子<br>4N Min.Only per terminal | |
| 9.3 | 机械寿命 Mechanical Life | 1、连接器必须承受 50 次的插拔循环<br>2、测试速度：100mm/分钟<br>1、Connectors shall be subjected to 50 cycle of Insertion and Withdrawal.<br>2、Speed:100mm/minute | 接触电阻 Contact Resistance | 100mΩ Max. |

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| 9.4 | 插入力&拔出力 Insertion force (I.F.)& Withdrawal force (W.F.) | （1）试验方法 Test method：将孔座和端子配合好,与针座在同一轴线上进行插拔测试。(测试速度：20±5 mm/minute)。<br>Housing with crimped terminal and wafer shall be mated and unmated on the same axis. For the measurement of single circuit。(Speed:20±5mm/minute)<br>（2）性能要求 Requirement：(UNITS: N) |

| Number of circuits | At initial | | Number of circuits | At initial | |
|---|---|---|---|---|---|
| | I.F.(max) | W.F.(min) | | I.F.(max) | W.F.(min) |
| 2 | 8.00 | 1.00 | | | |
| 3 | 11.00 | 1.50 | | | |
| 4 | 14.00 | 2.00 | | | |
| 5 | 17.00 | 2.00 | | | |
| 6 | 20.00 | 2.50 | | | |
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