

YUEQING HONGYI ELECTRONICS CO., LTD
乐清市宏一电子有限公司

SPECIFICATION FOR APPROVAL

承认书

| | |
|---------------------|-----------------|
| CUSTOMER 客户名称 | |
| DESCRIPRION 产品名称 | GH1.5 系列连接器 |
| ITEM NO 编 号 | HY-B15002 (B39) |
| DATE 日 期 | 2022-8-11 |

CUSTOMER ACKNOWLEDGEMENT SEAL

客户承认印签

| (APPROVAL) 核准 | (ENGINEERING) 工程 | (PURCHASE) 采购 | (QUALITY) 品质 |
|--|------------------|---------------|--------------|
| | | | |
| 承认结果： <input type="checkbox"/> 通过 <input type="checkbox"/> 不通过 <input type="checkbox"/> 重新送样 | | | |

IS09001

IS014001

IS045001

IATF16949 体系认证

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产 品 承 认 书 目 录

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PRODUCT SPECIFICATION

产品规范

1、Scope

适用范围

This specification includes the following specifications, including the specification of 1.50mm pitch GH1.5 series connector

本规范包括下列此种规格包括 1.50mm 间距 GH1.5 系列连接器规格说明

2、Appearance and Dimension

外观及尺寸

2.1 Appearance: Product surface without defect, dirt, crack, and mechanical damage, Contact without rust, plating not oxidized and not peeled.

产品表面不应有对制品有害的缺陷、污垢、裂痕及机械损伤；接触件无锈蚀、镀层氧化脱落等现象

2.2 Dimension: According to drawings

外形尺寸：依照附图

3、Disposal of Material and surface

材料与表面处理

| Specification 规格内容 | Material 材质 | Finish 表面处理 | Environmental protection grade 环保等级 | |
|-----------------------|-------------------------------|---------------------------------------|---|---------------------------------------|
| Terminal 端子 | Phosphor bronze 磷铜厚 0.12mm | Tin Plating: 2.5~5 μm 镀锡: 2.5~5 μm | RoHS2.0 | |
| Housing 胶壳 | PA66 UL94V-0 | Color: White 颜色: 白色 | | |
| Wafer 卧贴针座 | Plastic 塑壳 | LCP UL94V-0 | | Color: Beige 颜色: 米色 |
| | Contact 插针 | Phosphor bronze 磷铜厚 0.20mm | | Tin Plating: 2.5~5 μm 镀锡: 2.5~5 μm |
| | Solder tab 焊护耳 | Phosphor bronze 磷铜厚 0.20mm | | Tin Plating: 2.5~5 μm 镀锡: 2.5~5 μm |
| Wafer 立贴针座 | Plastic 塑壳 | LCP UL94V-0 | | Color: Beige 颜色: 米色 |
| | Contact 插针 | Phosphor bronze 磷铜厚 0.20mm | | Tin Plating: 2.5~5 μm 镀锡: 2.5~5 μm |
| | Solder tab 焊护耳 | Phosphor bronze 磷铜厚 0.20mm | | Tin Plating: 2.5~5 μm 镀锡: 2.5~5 μm |

4、Ratings and applicable wires

额定等级

| Item 项目 | Standard 规格 |
|-------------------------------------|----------------|
| Rated Voltage 额定电压 | 250V AC/DC |
| Rated Current 额定电流 | 1A AC/DC |
| Ambient temperature Range 使用温度范围 | -25°C- +85°C |
| Applicable wire insulation 适用线径 | AWG26#-32# |

5、Electrical Performance

电气性能

| N0. 序号 | Ltem 项目 | Test mode 试验方法 | Requirement 技术要求 |
|-----------|------------------------------|---|---|
| 5.1 | ContactResistance 接触电阻 | Male female cooperation, open voltage less than 20mV, current 100mA detection connector at both ends 公母配合, 开放电压20mV 以下, 电流100mA 检测连接器连接器两端 | Initial:30mΩ Max 初始: 30mΩ Max After Test: 40mΩ Max 试验后: 40mΩ Max |
| 5.2 | withstandvoltage 耐电压 | Mate connectors, apply 1000V AC for 1 minute between adjacent terminal or ground 公母配合, 在相邻端子, 端子与地片之间, 使用1000V 的交流电1 分钟, 检测连接器 | No Breakdown and Flashover 外观无损伤, 无打火花 |
| 5.3 | InsulationResistance 绝缘电阻 | Mate connectors, apply 500V DC between adjacent terminal or ground 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 | 1000MΩ Min |

6、机械性能

Mechanical Performance

| NO. 序号 | Ltem 项目 | Test mode 试验方法 | | Requirement 技术要求 |
|-----------|--|---|-------------------------|--------------------------------------|
| 6.1 | Terminal crimping wire strength 端子压接导线强度 | Fix the crimped terminal, apply axial pull out force on thewire 固定铆线后的端子, 使电线与端 子分离时所需的最小力量 | AWG#26 wire AWG#26导线 | More than 20N ≥20N |
| | | | AWG#28 wire AWG#28导线 | More than 13N ≥13N |
| | | | AWG#30 wire AWG#30导线 | More than 8N ≥8N |
| | | | AWG#32 wire AWG#32导线 | More than 6N ≥6N |
| 6.2 | Terminal/ Housing Retention Force 端子保持力 | Apply axial pull out force at the speed rate of 25.4±3mm/minute on the terminal assembled in the Housing 以每分25.4±3mm 的速率, 将端子从Housing 内轴 向拔出力 | | Per contact: 8N Min 单一接触点: 8N Min |
| 6.3 | Insertion & withdraw Force 插拔力 | Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute 以每分 25.4±3mm 的速率插入和拔出 | | Refer to paragraph 8 参照第 8 项 |
| 6.4 | Pin Retention Force Pin 针保持力 | Apply axial push force at the speed rate of 25.4±3mm/minute 以每分 25.4±3mm 的速率, 将 PIN 针从 Wafer 内轴向拔出力 | | Per contact: 3N Min 单一接触点: 3N Min |

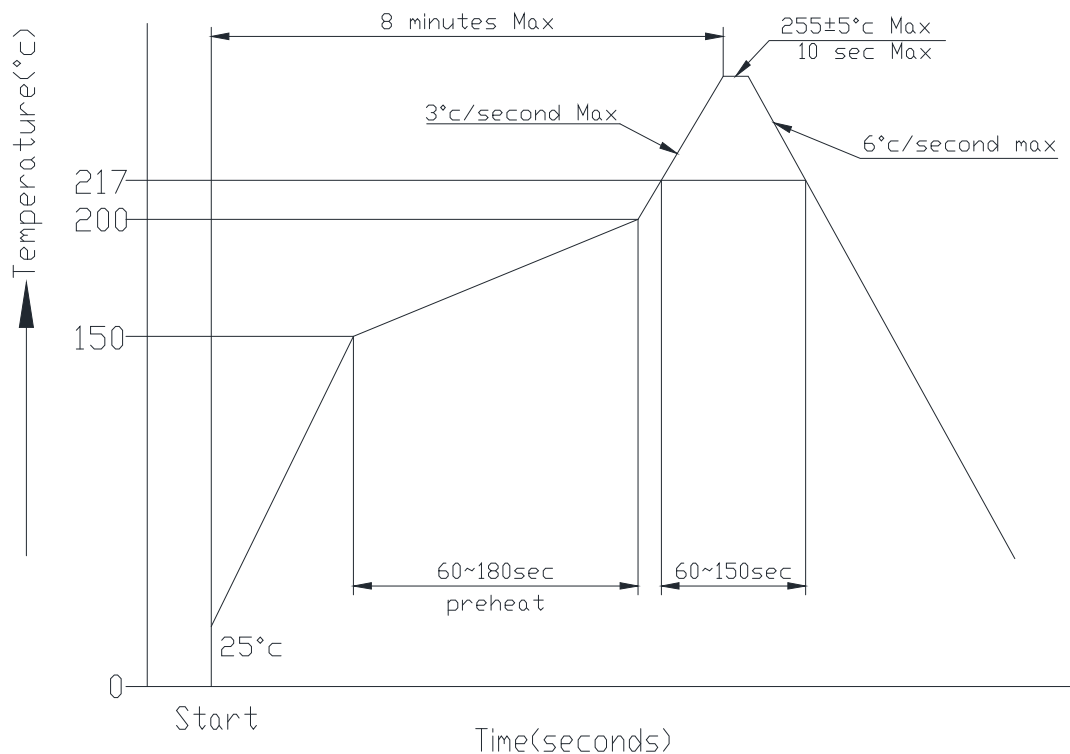
7、Endurance Characteristics:

环境性能

| NO. 序号 | Ltem 项目 | Test mode 试验方法 | Requirement 技术要求 | |
|-----------|---|---|-------------------------------|---|
| 7.1 | Repeated Insertion/ Withdrawal 重复插拔 | When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute 以每分钟不超过 10 次的速率, 将公母插拔 30 次 | Contact Resistance 接触电阻 | 40 mΩ Max |
| 7.2 | Temperature Rise 温升测试 | Mating connectors shall be energized at rating current until thermal stability is achieved, and then measured the 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 | Temperature Rise 温升测试 | 30℃ Max |
| 7.3 | Vibration test 振动测试 | Amplitude: 1.5mm P-P Sweep time: 10~55~10 HZ in 1 minute Duration: 2 hours in each X.Y.Z axials 振幅: 1.5mm P-P 时间: 10~55~10 HZ in 1 minute 持续时间: 每轴向 2 小时 | Appearance 外观 | No damage 无异常 |
| | | | Contact Resistance 接触电阻 | 40 mΩ Max |
| | | | Discontinuity 瞬断 | 1 micro-second Max. |
| 7.4 | Heat Resistance 耐热性 | 85±2℃,96 hours | Appearance 外观 | No damage 无异常 |
| | | | Contact Resistance 接触电阻 | 40 mΩ Max |
| 7.5 | Cold Resistance 耐寒性 | -25±3℃,96 hours | Appearance 外观 | No damage 无异常 |
| | | | Contact Resistance 接触电阻 | 40 mΩ Max |
| 7.6 | Humidity 耐湿性 | Temperature: 60±2℃ Relative Humidity: 90~95% Duration: 96 hours 温度: 60±2℃ 湿度: 90~95%(RH) 持续时间: 96 hours | Appearance 外观 | No damage 无异常 |
| | | | Contact Resistance 接触电阻 | 40 mΩ Max |
| | | | Withstand Voltage 耐电压 | No Breakdown and Flashover 外观无损伤, 无打火花 |
| | | | Insulation Resistance 绝缘电阻 | 1000MΩ Min |

| NO. 序号 | Ltem 项目 | Test mode 试验方法 | Requirement 技术要求 | |
|-----------|--------------------------------|--|-------------------------------|---|
| 7.7 | 温度变化 Temperature Cycling | 5 cycles of: a) -25°C 30 minutes b) +85°C 30 minutes | Appearance 外观 | No damage 无异常 |
| | | 从-25°C持续30 分钟升至+85°C持续30 分钟, 循环5 次 | Contact Resistance 接触电阻 | 40 mΩ Max |
| 7.8 | Salt spray 盐雾 | 24±1 hours exposure to a salt spray from the 5±1% solution at 35±2°C | Appearance 外观 | No damage 无异常 |
| | | 在温度35±2°C, 盐水浓度5±1%下, 盐水 喷雾24±1 小时 | Contact Resistance 接触电阻 | 40 mΩ Max |
| 7.9 | Solderability 焊锡附着性 | Soldering Time: 3-5sec solder Temperature: 245±5°C 焊接时间: 3-5 秒 焊接温度: 245±5°C | Solder Wetting 焊料润湿 | Immersion area above 95% 浸渍面积 95% 以上 |
| 7.10 | Solder- Resistance 焊锡耐热性 | SMT reflow soldering heat resistance range: Soldering time:5~10sec solder. Temperature:255±5°C SMT 型回流焊接耐热范围: 焊接时间: 5~10 秒. 焊接温度: 255±5°C Please refer to the 9.1 solder reflow temperature curve 回流焊请参考 9.1 温度曲线图 | Appearance 外观 | No damage 无异常 |

9、 SMT lead-free process temperature curve SMT 无铅工艺温度曲线



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

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

10、 Caution 注意事项

plastic because of characteristics with water after package is opened should avoid exposure to, the temperature is higher than 30 °C, humidity is higher than 60%RH in the environment, and in the 24 hours after all after use, to prevent subsequent reflow, wave soldering process to produce foaming phenomenon of deformation

塑料因具有吸水之特性包装拆封后应避免暴露于, 温度高于 30°C, 湿度高于 60%RH 的环境中, 并在拆封后 24 小时内全数使用完毕, 防止后续回流焊、波峰焊制程产生起泡变形现象

| | | | | |
|------|------|---------|-------------|-------|
| 版本 | 日期 | ECN NO. | 变更内容 | 制图 |
| REV. | DATE | | DESCRIPTION | DRAWN |

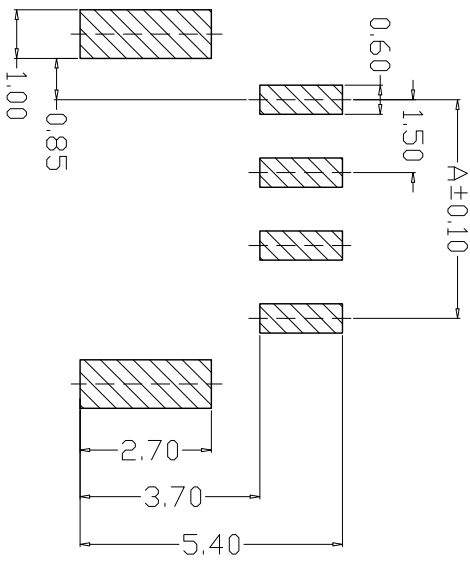
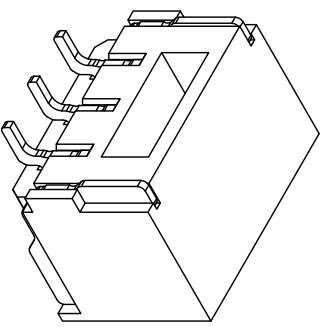
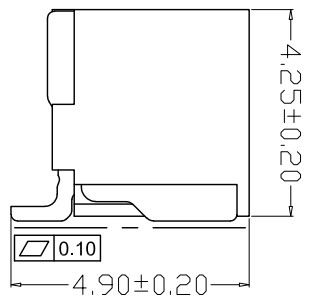
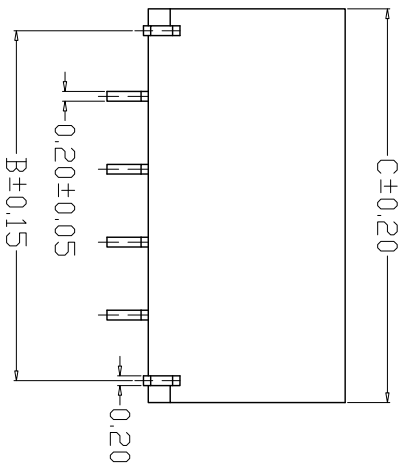
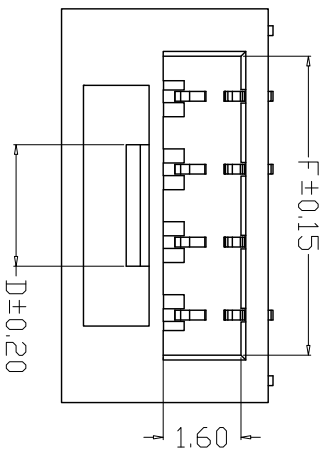
SPECIFICATIONS

- Current Rating: 1A AC
- Voltage Rating: 250V AC
- Temperature Range: -25°C~+85°C
- Contact Resistance: 30mΩ Max
- Insulation Resistance: 1000MΩ Min
- Withstanding Voltage: 1000V AC/minute
- Material

Wafer: LCP Beige UL94V-0

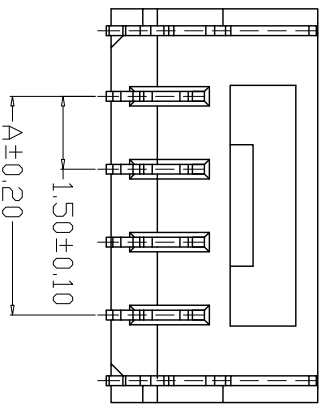
PIN: Phosphoric bronze Tin-plated

Fixing piece: Phosphoric bronze Tin-plated



PCB LAYOUT

| PIN | 尺寸 (mm) | | | | |
|--------|---------|-------|-------|------|------|
| | A | B | C | D | F |
| -02AWB | 1.50 | 3.70 | 4.70 | 0.95 | 3.15 |
| -03AWB | 3.00 | 5.20 | 6.20 | 1.60 | 4.65 |
| -04AWB | 4.50 | 7.20 | 8.10 | 2.50 | 6.15 |
| -05AWB | 6.00 | 8.70 | 9.60 | 2.50 | 7.65 |
| -06AWB | 7.50 | 10.20 | 11.10 | 2.50 | 9.15 |

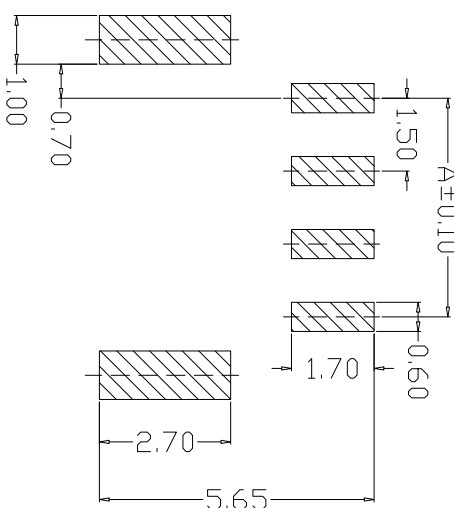
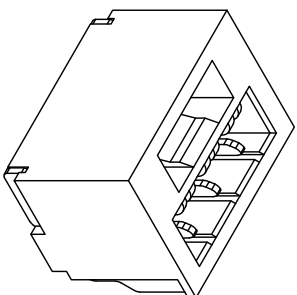
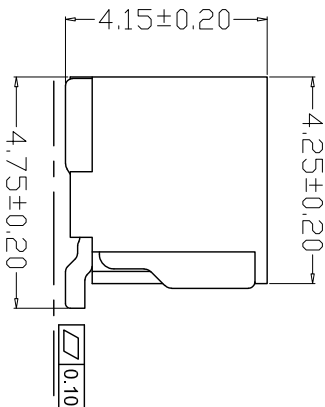
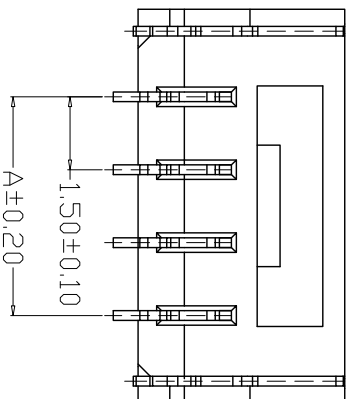
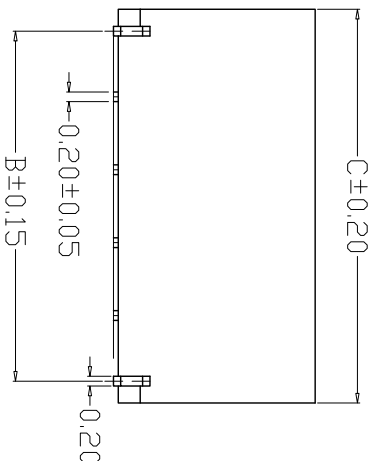
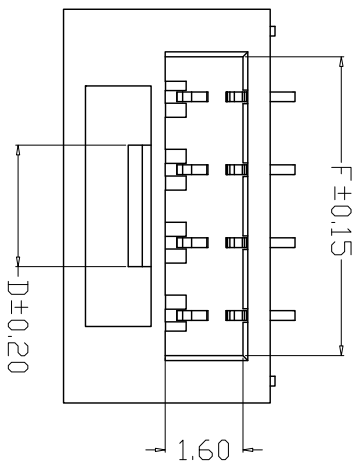


| | | | | | | | |
|-------------------|-------|----------|------------|-------------------|-------------|-------|-----|
| GENERAL TOLERANCE | | 制 图 | | 料 号 | | 版 本 | |
| X.X±0.25 | X.±2° | DRAWING | 2022-08-09 | PART NO. | B15002-1AWB | REV. | A |
| X.XX±0.20 | | 审 核 | 钱岳生 | 品 名 | GHI. 5脚贴片 | 页 次 | 1/1 |
| X.XXX±0.10 | | CHECK | 2022-08-10 | TITLE | 客户料号 | SHEET | |
| | | 核 准 | 张 名 | WAIVER SHEET TYPE | | | |
| | | APPROVAL | 2022-08-11 | CITM. NO. | | | |
| | | 单 位 | 单 位 | 比 例 | 1:1 | | |
| | | UNITS | MM | SCALE | | | |

乐清市宏一电子有限公司
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SPECIFICATIONS

- 1、Current Rating: 1A AC
- 2、Voltage Rating: 250V AC
- 3、Temperature Range: -25°C~+85°C
- 4、Contact Resistance: 30mΩ Max
- 5、Insulation Resistance: 1000MΩ Min
- 6、Withstanding Voltage: 1000V AC/minute
- 7、Material
Wafer: LCP Beige UL94V-0
PIN: Phosphoric bronze Tin-plated
Fixing piece: Phosphoric bronze Tin-plated



PCB LAYOUT

| PIN | 尺寸 (mm) | | | | |
|-------|---------|-------|-------|------|------|
| | A | B | C | D | F |
| -02AB | 1.50 | 3.70 | 4.70 | 0.95 | 3.15 |
| -03AB | 3.00 | 5.20 | 6.20 | 1.60 | 4.65 |
| -04AB | 4.50 | 7.20 | 8.10 | 2.50 | 6.15 |
| -05AB | 6.00 | 8.70 | 9.60 | 2.50 | 7.65 |
| -06AB | 7.50 | 10.20 | 11.10 | 2.50 | 9.15 |

| GENERAL TOLERANCE | | 制 图 | | 料 号 | | 版 本 | |
|-------------------|-------|----------|------------|----------|------------|-------|-----|
| X.X±0.25 | X.±2° | DRAWING | 2022、08、09 | PART NO. | B15002-nAB | REV. | A |
| X.XX±0.20 | | CHECK | 钱岳生 | TITLE | GH1.5V贴片 | 页次 | 1/1 |
| X.XXX±0.10 | | APPROVAL | 张名 | CUSTOMER | | SHEET | |
| | | UNIT | 2022、08、11 | SCALE | 1:1 | | |

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