

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 | DF14 (1.25) 系列连接器 |
| ITEM NO 编 号 | HY-A12507 (A20) |
| DATE 日 期 | 2022-8-30 |

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 DF14 series connector

本规范包括下列此种规格包括 DF14 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 锡青磷铜 厚 0.15mm | 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 | PA6T UL94V-0 | | Color: Beige 颜色: 米色 |
| | Contact 插针 | Brass 黄铜 厚 0.30mm | | Tin Plating: 2.5~5 μm 镀锡: 2.5~5 μm |
| | Solder tab 焊护耳 | Brass 黄铜 厚 0.25mm | | 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 | 150V 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 500V 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500V 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 | 500MΩ 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 | AWG#26 wire AWG#26导线 More than 20N ≥20N |
| | | | AWG#28 wire AWG#28导线 More than 13N ≥13N |
| | | 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#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 | 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 | Per contact: 5N Min 单一接触点: 5N 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 | 40℃ 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 | 500MΩ Min |

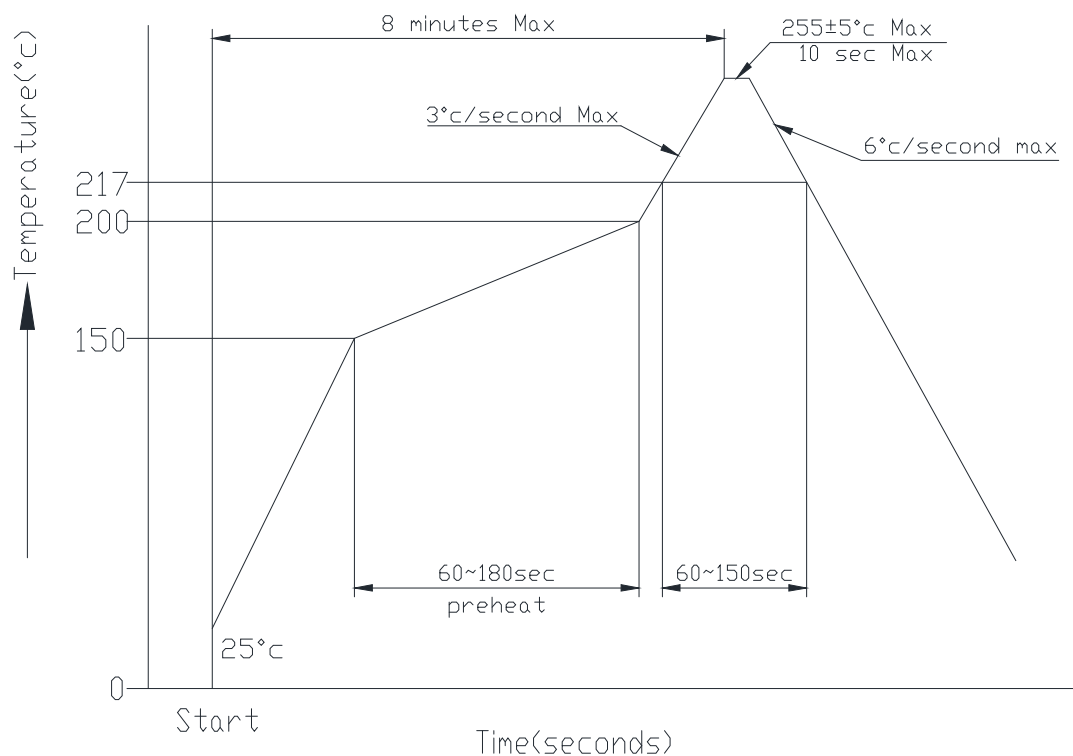
| NO. 序号 | Ltem 项目 | Test mode 试验方法 | Requirement 技术要求 | |
|-----------|--------------------------------|--|-------------------------------|---|
| 7.7 | 温度变化 Temperature Cycling | 5 cycles of: a) -25°C 30 minutes b) +85°C 30 minutes | Appearance 外观 | No damage 无异常 |
| | | 从-25°C持续30 分钟升至+85°C持续30 分钟, 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 |

8、INSERTION/WITHDRAWAL FORCE

综合插入力及拔出力

| No. of CTK PIN 数 | At Initial 初始值 | | At 30th 插拔 30 次 | No. of CTK PIN 数 | At Initial 初始值 | | At 30th 插拔 30 次 |
|------------------------|---------------------|---------------------|---------------------|------------------------|---------------------|---------------------|---------------------|
| | I. F (N Max) 插入力 | W. F (N Min) 拔出力 | W. F (N Min) 拔出力 | | I. F (N Max) 插入力 | W. F (N Min) 拔出力 | W. F (N Min) 拔出力 |
| 2 | 20 | 5.0 | 4.0 | 12 | 70 | 10.0 | 8.0 |
| 3 | 25 | 5.5 | 4.4 | 13 | 75 | 10.5 | 8.4 |
| 4 | 30 | 6.0 | 4.8 | 14 | 80 | 11.0 | 8.8 |
| 5 | 35 | 6.5 | 5.2 | 15 | 85 | 11.5 | 9.2 |
| 6 | 40 | 7.0 | 5.6 | 16 | 90 | 12.0 | 9.6 |
| 7 | 45 | 7.5 | 6.0 | 17 | 95 | 12.5 | 10.0 |
| 8 | 50 | 8.0 | 6.4 | 18 | 100 | 13.0 | 10.4 |
| 9 | 55 | 8.5 | 6.8 | 19 | 105 | 13.5 | 10.8 |
| 10 | 60 | 9.0 | 7.2 | 20 | 110 | 14.0 | 11.2 |
| 11 | 65 | 9.5 | 7.6 | | | | |

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

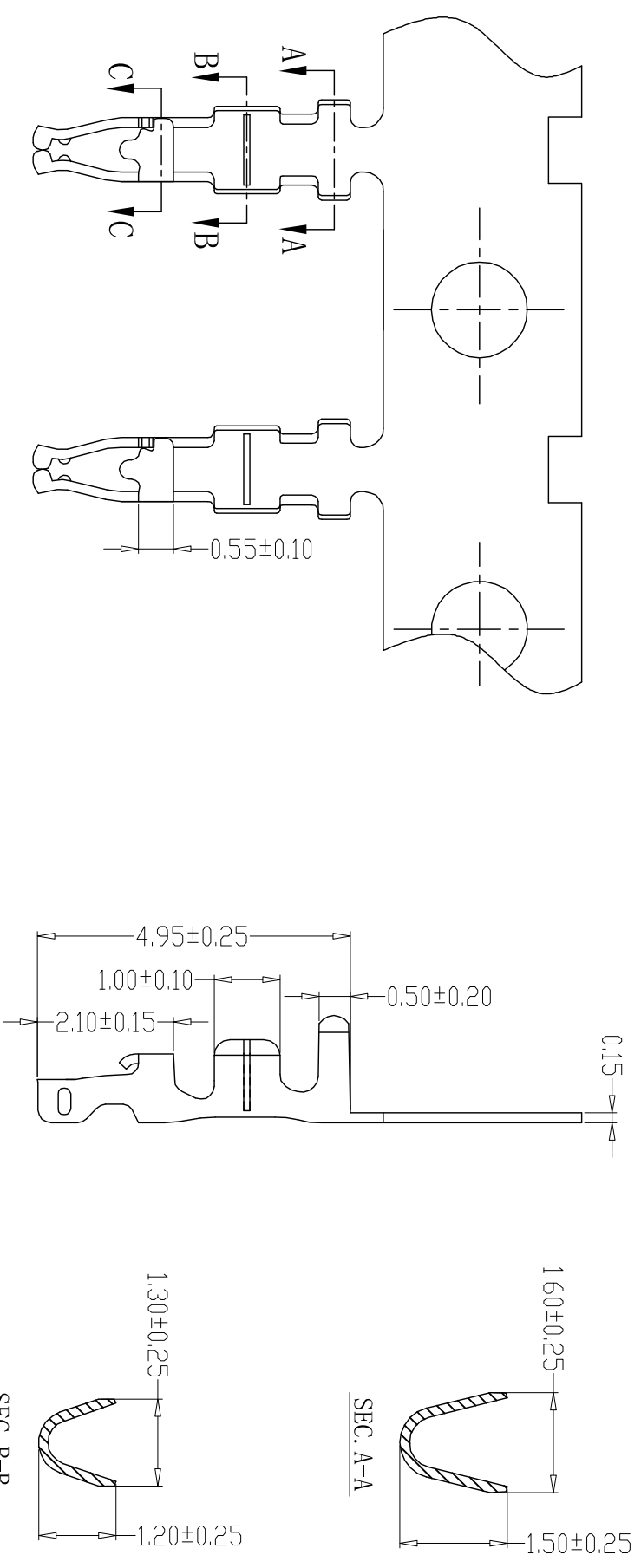
注记: 由于 P.C 板等焊接装置改变条件,所以请预先用自己的装置检查回流焊的条件

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



SPECIFICATIONS

- 1、Current Rating: 1A AC, DC
- 2、Voltage Rating: 150V AC, DC
- 3、Temperature Range: -25°C~+85°C
- 4、Contact Resistance: 30mΩ Max
- 5、Insulation Resistance: 500mΩ Min
- 6、Withstanding Voltage: 500V AC/minute
- 7、Material: Phosphoric bronze Tin-plated
- 8、Applicable Wire Sizes: AWG#26~32#

SEC. C-C

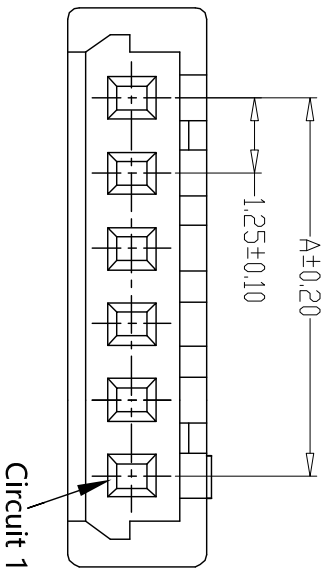
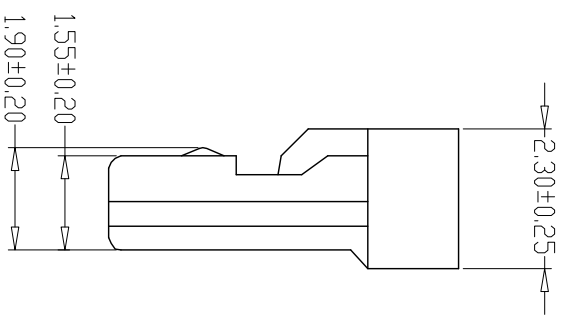
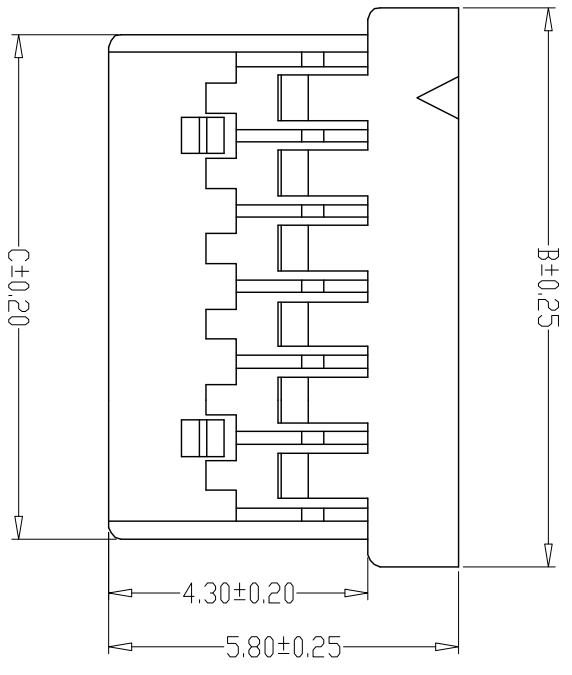
SEC. A-A

SEC. B-B

| | | | | | | | |
|--------------------------|-------|----------|--------------|-----------|----------------|-------|-----|
| GENERAL TOLERANCE | | 制 图 | | 料 号 | | 版 本 | |
| X.X±0.25 | X.±2° | DRAWING | 张迎春 | PART NO. | A12507-T | REV. | A |
| X.XXX±0.10 | | 审 核 | 钱岳生 | TITLE | DFT4端子 | 页 次 | 1/1 |
| X.XX±0.20 | | CHECK | 2022. 08. 29 | 客户料号 | WAFER SMT TYPE | SHEET | |
| | | APPROVAL | 张 名 | CITM. NO. | | | |
| | | 单 位 | 2022. 08. 30 | | | | |
| | | 单 位 | MM | 比 例 | 1:1 | | |
| | | 单 位 | SCALE | | | | |

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Yueding HongYi Electronics Co., Ltd

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



Circuit 1

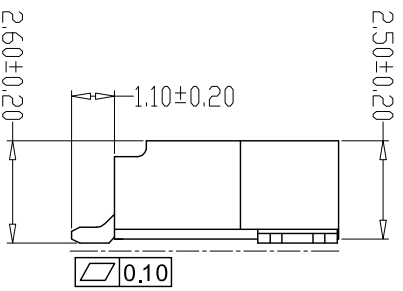
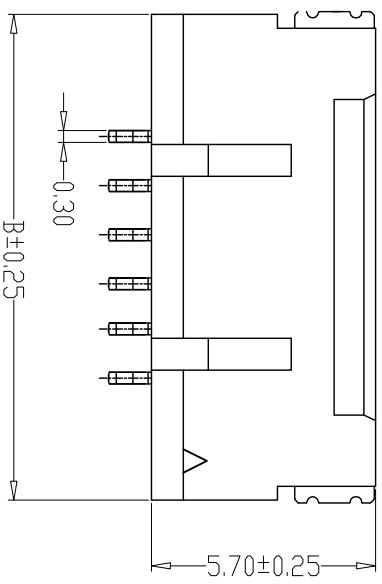
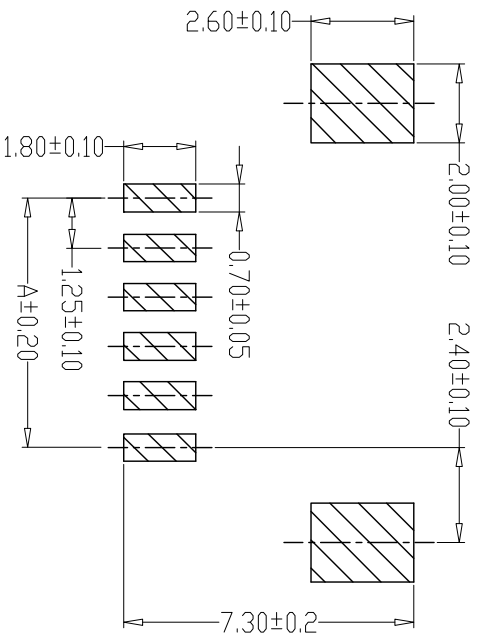
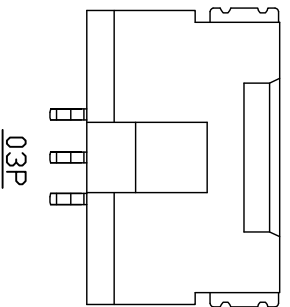
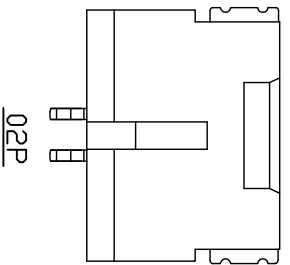
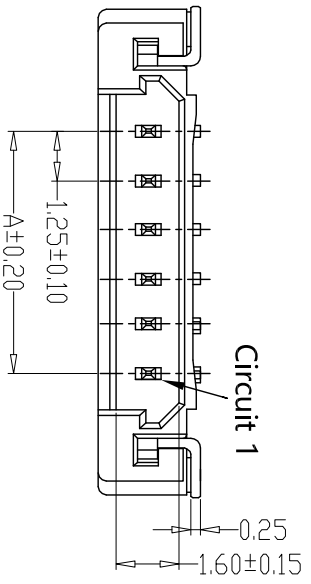
SPECIFICATIONS

- 1、Current Rating: 1A AC, DC
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- 3、Temperature Range: -25°C~+85°C
- 4、Contact Resistance: 30mΩ Max
- 5、Insulation Resistance: 500MΩ Min
- 6、Withstanding Voltage: 500V AC/minute
- 7、Material: PA66, UL94V-0

| PIN | 尺寸 (mm) | | |
|------|---------|-------|-------|
| | A | B | C |
| -02Y | 1.25 | 4.60 | 3.55 |
| -03Y | 2.50 | 5.85 | 4.80 |
| -04Y | 3.75 | 7.10 | 6.05 |
| -05Y | 5.00 | 8.35 | 7.30 |
| -06Y | 6.25 | 9.60 | 8.55 |
| -07Y | 7.50 | 10.85 | 9.80 |
| -08Y | 8.75 | 12.10 | 11.05 |
| -09Y | 10.00 | 13.35 | 12.30 |
| -10Y | 11.25 | 14.60 | 13.55 |
| -11Y | 12.50 | 15.85 | 14.80 |
| -12Y | 13.75 | 17.10 | 16.05 |
| -13Y | 15.00 | 18.35 | 17.30 |
| -14Y | 16.25 | 19.60 | 18.55 |
| -15Y | 17.50 | 20.85 | 19.80 |
| -16Y | 18.75 | 22.10 | 21.05 |
| -17Y | 20.00 | 23.35 | 22.30 |
| -18Y | 21.25 | 24.60 | 23.55 |
| -19Y | 22.50 | 25.85 | 24.80 |
| -20Y | 23.75 | 27.10 | 26.05 |
| -21Y | 25.00 | 28.35 | 27.30 |
| -22Y | 26.25 | 29.60 | 28.55 |
| -23Y | 27.50 | 30.85 | 29.80 |
| -24Y | 28.75 | 32.10 | 31.05 |
| -25Y | 30.00 | 33.35 | 32.30 |
| -26Y | 31.25 | 34.60 | 33.55 |
| -27Y | 32.50 | 35.85 | 34.80 |
| -28Y | 33.75 | 37.10 | 36.05 |
| -29Y | 35.00 | 38.35 | 37.30 |
| -30Y | 36.25 | 39.60 | 38.55 |

| | | | | | | | |
|-------------------|-------|----------|------------|-----------|-----------|-------|-----|
| GENERAL TOLERANCE | | 张迎春 | | 料号 | | 版本 | |
| X.X±0.25 | X.±2° | DRAWING | 2022.08.29 | PART NO. | A12507-nY | REV. | A |
| X.XXX±0.10 | | CHECK | 钱岳生 | TITLE | DF14孔座 | SHEET | 1/1 |
| X.XX±0.20 | | APPROVAL | 张名 | CITM. NO. | | | |
| | | 单位 | 2022.08.30 | 比例 | 1:1 | | |
| | | MM | SCALE | | | | |

乐清市宏一电子有限公司
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SPECIFICATIONS

- 1、Current Rating: 1A AC, DC
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 - 3、Temperature Range: -25°C~+85°C
 - 4、Contact Resistance: 30mΩ Max
 - 5、Insulation Resistance: 500mΩ Min
 - 6、Withstanding Voltage: 500V AC/minute
 - 7、Material: Wafer PA6T, UL94V-0
- PIN Brass Tin-plated
Solder tad Brass Tin-plated

| PIN | 尺寸 (mm) | | | A12507-mAWB | 版本 |
|--------|---------|-------|--------|-------------|-------|
| | A | B | | | |
| -02AWB | 1.25 | 7.45 | -16AWB | 18.75 | 24.95 |
| -03AWB | 2.50 | 8.70 | -17AWB | 20.00 | 26.20 |
| -04AWB | 3.75 | 9.95 | -18AWB | 21.25 | 27.45 |
| -05AWB | 5.00 | 11.20 | -19AWB | 22.50 | 28.70 |
| -06AWB | 6.25 | 12.45 | -20AWB | 23.75 | 29.95 |
| -07AWB | 7.50 | 13.70 | -21AWB | 25.00 | 31.20 |
| -08AWB | 8.75 | 14.95 | -22AWB | 26.25 | 32.45 |
| -09AWB | 10.00 | 16.20 | -23AWB | 27.50 | 33.70 |
| -10AWB | 11.25 | 17.45 | -24AWB | 28.75 | 34.95 |
| -11AWB | 12.50 | 18.70 | -25AWB | 30.00 | 36.20 |
| -12AWB | 13.75 | 19.95 | -26AWB | 31.25 | 37.45 |
| -13AWB | 15.00 | 21.20 | -27AWB | 32.50 | 38.70 |
| -14AWB | 16.25 | 22.45 | -28AWB | 33.75 | 39.95 |
| -15AWB | 17.50 | 23.70 | -29AWB | 35.00 | 41.20 |
| | | | -30AWB | 36.25 | 42.45 |

| | | | | | | | |
|--------------------------|-------|----------|------------|-------------------------------------|----------------|-------|-----|
| GENERAL TOLERANCE | | 制图 | | 料号 | | 版本 | |
| X.X±0.25 | X.±2° | DRAWING | 张迎春 | PART NO. | A12507-mAWB | REV. | A |
| X.XXX±0.10 | | CHECK | 钱岳生 | TITLE | 贴片 | SHEET | 1/1 |
| X.XX±0.20 | | APPROVAL | 张名 | 客户料号 | WAFER SMT TYPE | | |
| | | UNIT | 2022.08.30 | CITL. NO. | | | |
| | | MM | 比例 | 乐清市宏一电子有限公司 | | | |
| | | SCALE | 1:1 | YueQing HongYi Electronics Co., Ltd | | | |