

SPECIFICATION FOR APPROVAL

承 认 书

|                     |              |
|---------------------|--------------|
| CUSTOMER<br>客户名称    |              |
| DESCRIPRION<br>产品名称 | 1.25 超薄系列连接器 |
| ITEM NO<br>编 号      |              |
| DATE<br>日 期         | 2022-8-24    |

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 |                  |               |              |

## 修订履历

[illegible]

# 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 1.25 ultra-thin series connector

本规范包括下列此种规格包括 1.25 超薄 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 damang,Contactwithout rust,plating not oxided 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<br>规格内容 |                   | Material<br>材 质                  | Finish<br>表面处理                         | Environmental<br>protection grade<br>环保等级 |
|-----------------------|-------------------|----------------------------------|----------------------------------------|-------------------------------------------|
| Terminal<br>端 子       |                   | Phosphor bronze<br>锡青磷铜 厚 0.15mm | Tin Plating:2.5~5 μ m<br>镀锡： 2.5~5 μ m | RoHS2.0                                   |
| Housing<br>胶 壳        |                   | PBT UL94V-0                      | Color: White<br>颜色： 白色                 |                                           |
| Wafer<br>卧贴针座         | Plastic<br>塑 壳    | PA9T UL94V-0                     | Color: Beige<br>颜色： 米色                 |                                           |
|                       | Contact<br>插 针    | Phosphor bronze<br>磷铜 厚 0.30mm   | Gold Plating:0.5~1 μ<br>镀金： 0.5~1 μ    |                                           |
|                       | Solder tab<br>焊护耳 | Phosphor bronze<br>磷铜 厚 0.20mm   | Tin Plating:2.5~5 μ m<br>镀锡： 2.5~5 μ m |                                           |

4、Ratings and applicable wires

额定等级

| Item<br>项 目                         | Standard<br>规 格 |
|-------------------------------------|-----------------|
| Rated Voltage<br>额定电压               | 125V AC/DC      |
| Rated Current<br>额定电流               | 1A AC/DC        |
| Ambient temperature Range<br>使用温度范围 | -25℃- +85℃      |
| Applicable wire insulation<br>适用线径  | AWG28#-32#      |

5、Electrical Performance

电 气 性 能

| N0.<br>序号 | Ltem<br>项 目                  | Test mode<br>试验方法                                                                                                                                 | Requirement<br>技术要求                                                           |
|-----------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 5.1       | ContactResistance<br>接触电阻    | Male female cooperation, open voltage less than 20mV, current 100mA detection connector at both ends<br><br>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:20mΩ Max<br>初始: 20mΩ Max<br><br>After Test: 30mΩ Max<br>试验后: 30mΩ Max |
| 5.2       | withstandvoltage<br>耐电压      | Mate connectors, apply 500V AC for 1 minute between adjacent terminal or ground<br><br>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<br><br>外观无损伤, 无打火花                                 |
| 5.3       | InsulationResistance<br>绝缘电阻 | Mate connectors, apply 500V DC between adjacent terminal or ground<br><br>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                                | 100MΩ Min                                                                     |

6、机械性能

Mechanical Performance

| N0.<br>序号 | Ltem<br>项 目                                      | Test mode<br>试验方法                                                                                                                                           |                          | Requirement<br>技术要求                  |
|-----------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------------|
| 6.1       | Terminal crimping<br>wire strength<br>端子压接导线强度   | Fix the crimped terminal,<br>apply axial pull out force on<br>thewire<br><br>固定铆线后的端子，使电线与端<br>子分离时所需的最小力量                                                  | AWG#28 wire<br>AWG#28 导线 | More than 13N<br>≥13N                |
|           |                                                  |                                                                                                                                                             | AWG#30 wire<br>AWG#30 导线 | More than 8N<br>≥8N                  |
|           |                                                  |                                                                                                                                                             | AWG#32 wire<br>AWG#32 导线 | More than 6N<br>≥6N                  |
| 6.2       | Terminal/<br>Housing<br>Retention Force<br>端子保持力 | Apply axial pull out force at the speed rate<br>of25.4±3mm/minute on the terminal assembled<br>in the Housing<br><br>以每分25.4±3mm 的速率,将端子从Housing 内轴<br>向拔出力 |                          | Per contact: 8N Min<br>单一接触点: 8N Min |
| 6.3       | Insertion &<br>withdraw Force<br>插拔力             | Insert and withdraw Connectors at the speed<br>rate of 25.4±3mm/minute<br><br>以每分 25.4±3mm 的速率插入和拔出                                                         |                          | Refer to paragraph 8<br>参照第 8 项      |
| 6.4       | Pin Retention<br>Force<br>Pin 针保持力               | Apply axial push force at the speed rate of<br>25.4±3mm/minute<br><br>以每分 25.4±3mm 的速率,将 PIN 针从 Wafer<br>内轴向拔出力                                             |                          | Per contact: 2N Min<br>单一接触点: 2N Min |

## 7、Endurance Characteristics:

### 环境性能

| N0.<br>序号 | Ltem<br>项 目                                  | Test mode<br>试验方法                                                                                                                                                                             | Requirement<br>技术要求              |                                                 |
|-----------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------|
| 7.1       | Repeated<br>Insertion/<br>Withdrawal<br>重复插拔 | When mated up to 30 cycles repeatedly<br>by the rate of 10 cycles per minute<br><br>以每分钟不超过 10 次的速率, 将公母插<br>拔 30 次                                                                           | Contact<br>Resistance<br>接触电阻    | 30 mΩ Max                                       |
| 7.2       | Temperature Rise<br>温升测试                     | Mating connectors shall be energized<br>at rating current until thermal<br>stability is achieved, and then<br>measured the termperature rise<br><br>公母连接器配合后, 加载额定电流直到温<br>度上升到稳定 状态, 然后再测量温升 | Temperature<br>Rise<br>温升测试      | 30℃ Max                                         |
| 7.3       | Vibration test<br>振动测试                       | Amplitude: 1.5mm P-P<br>Sweep time: 10~55~10 HZ in 1 minute<br>Duration: 2 hours in each X.Y.Z axials<br><br>振幅: 1.5mm P-P<br>时间: 10~55~10 HZ in 1 minute<br>持续时间: 每轴向 2 小时                   | Appearance<br>外观                 | No damage<br>无异常                                |
|           |                                              |                                                                                                                                                                                               | Contact<br>Resistance<br>接触电阻    | 30 mΩ Max                                       |
|           |                                              |                                                                                                                                                                                               | Discontinuity<br>瞬断              | 1 micro-<br>second Max.                         |
| 7.4       | Heat Resistance<br>耐热性                       | 85±2℃,96 hours                                                                                                                                                                                | Appearance<br>外观                 | No damage<br>无异常                                |
|           |                                              |                                                                                                                                                                                               | Contact<br>Resistance<br>接触电阻    | 30 mΩ Max                                       |
| 7.5       | Cold Resistance<br>耐寒性                       | -25±3℃,96 hours                                                                                                                                                                               | Appearance<br>外观                 | No damage<br>无异常                                |
|           |                                              |                                                                                                                                                                                               | Contact<br>Resistance<br>接触电阻    | 30 mΩ Max                                       |
| 7.6       | Humidity<br>耐湿性                              | Temperature: 60±2℃<br>Relative Humidity: 90~95%<br>Duration: 96 hours<br><br>温度: 60±2℃<br>湿度: 90~95%(RH)<br>持续时间: 96 hours                                                                    | Appearance<br>外观                 | No damage<br>无异常                                |
|           |                                              |                                                                                                                                                                                               | Contact<br>Resistance<br>接触电阻    | 30 mΩ Max                                       |
|           |                                              |                                                                                                                                                                                               | Withstand<br>Voltage<br>耐电压      | No Breakdown<br>and Flashover<br>外观无损伤,<br>无打火花 |
|           |                                              |                                                                                                                                                                                               | Insulation<br>Resistance<br>绝缘电阻 | 100MΩ Min                                       |

| N0.<br>序号 | Ltem<br>项 目                    | Test mode<br>试验方法                                                                                                                                                                                                                            | Requirement<br>技术要求           |                                                   |
|-----------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------|
| 7.7       | 温度变化<br>Temperature<br>Cycling | 5 cycles of: a) -25℃ 30 minutes<br>b) +85℃ 30 minutes<br><br>从-25℃持续30 分钟升至+85℃持续30<br>分钟, 循环5 次                                                                                                                                             | Appearance<br>外观              | No damage<br>无异常                                  |
|           |                                |                                                                                                                                                                                                                                              | Contact<br>Resistance<br>接触电阻 | 30 mΩ Max                                         |
| 7.8       | Salt spray<br>盐雾               | 24±1 hours exposure to a salt spray<br>from the 5±1% solution at 35±2℃<br><br>在温度35±2℃, 盐水浓度5±1%下, 盐水<br>喷雾24±1 小时                                                                                                                           | Appearance<br>外观              | No damage<br>无异常                                  |
|           |                                |                                                                                                                                                                                                                                              | Contact<br>Resistance<br>接触电阻 | 30 mΩ Max                                         |
| 7.9       | Solderability<br>焊锡附着性         | Soldering Time: 3-5sec solder<br>Temperature: 245±5℃<br><br>焊接时间: 3-5 秒<br>焊接温度: 245±5℃                                                                                                                                                      | Solder Wetting<br>焊料润湿        | Immersion area<br>above 95%<br><br>浸渍面积 95%<br>以上 |
| 7.10      | Solder- Resistance<br>焊锡耐热性    | SMT reflow soldering heat resistance range:<br>Soldering time:5~10sec<br>solder. Temperature:255±5℃<br>SMT 型回流焊接耐热范围:<br>焊接时间: 5~10 秒.<br>焊接温度: 255±5℃<br><br>Please refer to the 9.1 solder reflow<br>temperature curve<br>回流焊请参考 9.1 温度曲线图 | Appearance<br>外观              | No damage<br>无异常                                  |

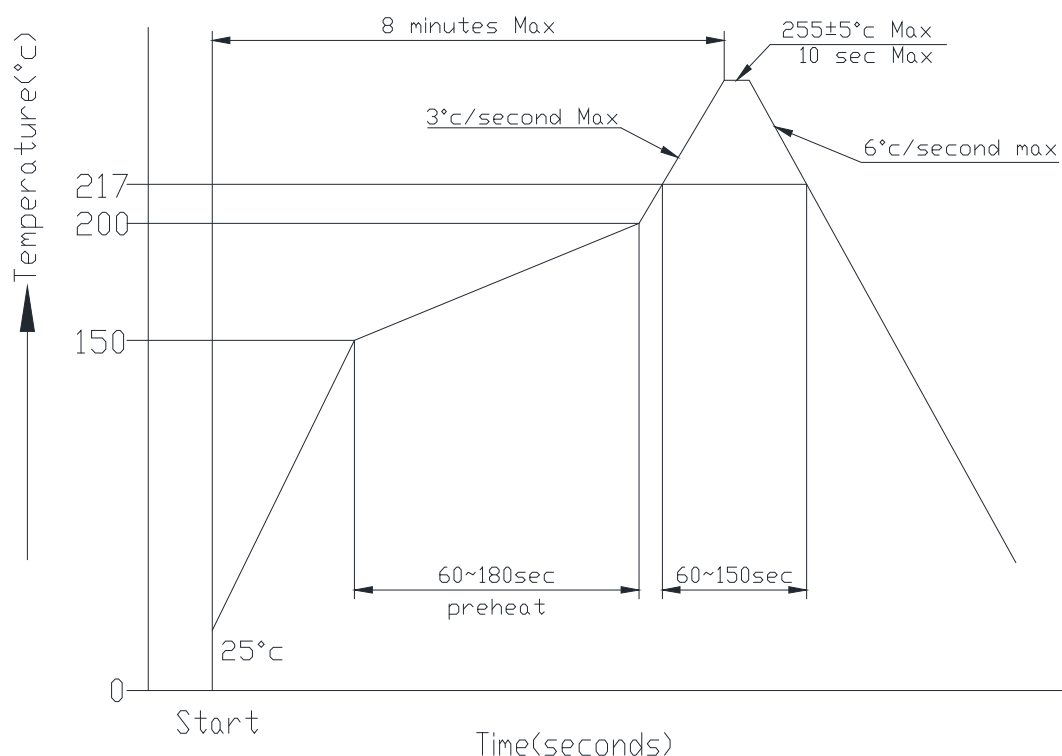


## 8、INSERTION/WITHDRAWAL FORCE

## 综合插入力及拔出力

| No. of<br>CTK<br>PIN 数 | At Initial<br>初始值   |                     | At 30th<br>插拔 30 次  | No. of<br>CTK<br>PIN 数 | At Initial<br>初始值   |                     | At 30th<br>插拔 30 次  |
|------------------------|---------------------|---------------------|---------------------|------------------------|---------------------|---------------------|---------------------|
|                        | I. F (N Max)<br>插入力 | W. F (N Min)<br>拔出力 | W. F (N Min)<br>拔出力 |                        | W. F (N Min)<br>拔出力 | W. F (N Min)<br>拔出力 | W. F (N Min)<br>拔出力 |
| 2                      | 4.5                 | 0.4                 | 0.3                 | 12                     | 26.5                | 2.4                 | 1.8                 |
| 3                      | 6.5                 | 0.6                 | 0.5                 | 13                     | 28.5                | 2.6                 | 2.0                 |
| 4                      | 9                   | 0.8                 | 0.6                 | 14                     | 31                  | 2.8                 | 2.1                 |
| 5                      | 11                  | 1.0                 | 0.8                 | 15                     | 33                  | 3.0                 | 2.3                 |
| 6                      | 13                  | 1.2                 | 0.9                 | 16                     | 35                  | 3.2                 | 2.4                 |
| 7                      | 15.5                | 1.4                 | 1.1                 | 17                     | 37                  | 3.4                 | 2.6                 |
| 8                      | 17.5                | 1.6                 | 1.2                 | 18                     | 39                  | 3.6                 | 2.7                 |
| 9                      | 20                  | 1.8                 | 1.5                 | 19                     | 41                  | 3.8                 | 2.9                 |
| 10                     | 22                  | 2.0                 | 1.5                 | 20                     | 44                  | 4.0                 | 3.0                 |
| 11                     | 24                  | 2.2                 | 1.7                 |                        |                     |                     |                     |

## 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

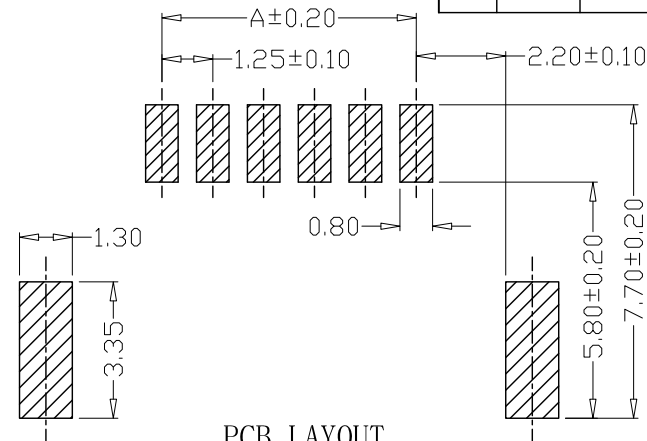
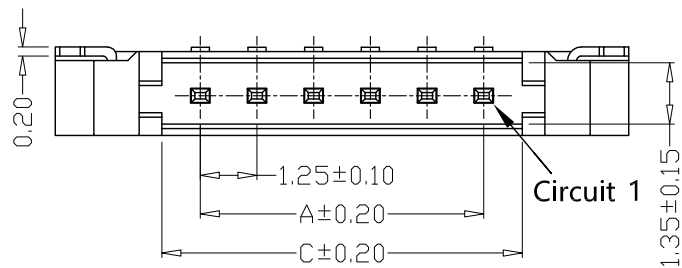
注记: 由于 P.C 板等焊接装置改变条件,所以请预先用自己的装置检查回流焊的条件

## 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

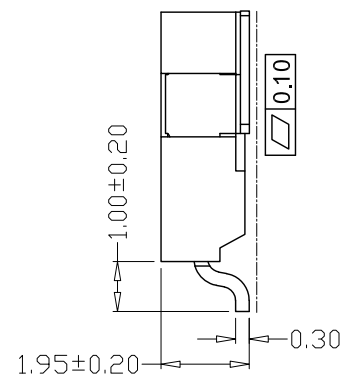
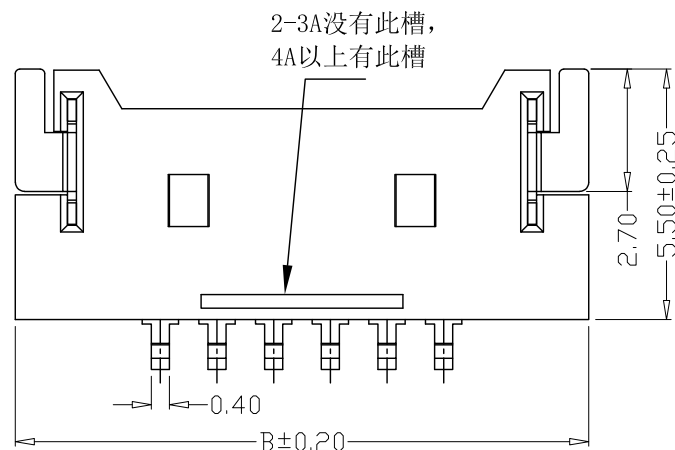
塑料因具有吸水之特性包装拆封后应避免暴露于, 温度高于 30°C, 湿度高于 60%RH 的环境中, 并在拆封后 24 小时内全数使用完毕, 防止后续回流焊、波峰焊制程产生起泡变形现象

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



PCB LAYOUT

| PIN    | 尺寸(mm) |       |       |
|--------|--------|-------|-------|
|        | A      | B     | C     |
| -02AWB | 1.25   | 7.65  | 2.95  |
| -03AWB | 2.50   | 8.90  | 4.20  |
| -04AWB | 3.75   | 10.15 | 5.45  |
| -05AWB | 5.00   | 11.40 | 6.70  |
| -06AWB | 6.25   | 12.65 | 7.95  |
| -07AWB | 7.50   | 13.90 | 9.20  |
| -08AWB | 8.75   | 15.15 | 10.45 |
| -09AWB | 10.00  | 16.40 | 11.70 |
| -10AWB | 11.25  | 17.65 | 12.95 |
| -11AWB | 12.50  | 18.90 | 14.20 |
| -12AWB | 13.75  | 20.15 | 15.45 |



## SPECIFICATIONS

- 1、Current Rating: 1A AC, DC
- 2、Voltage Rating: 125V AC, DC
- 3、Temperatuer Range: -25℃~+85℃
- 4、Contact Resistance: 20mΩ Max
- 5、Insulation Resistance: 100MΩ Min
- 6、Withstanding Voltang: 500V AC/minute
- 7、Material: Wafer Nylon9T, UL94V-0

PIN Phosphoric bronze(C5191) Gold-plated

Solder tads Phosphoric bronze(C5191) Gold-plated

| GENERL TOLERANCE |       | 制图       | 张迎春        | 料号        | KH-A12501-03AWB            | 版本    | A   |
|------------------|-------|----------|------------|-----------|----------------------------|-------|-----|
| X.X±0.25         | X.±2° | DRAWING  | 2022、08、23 | PART NO.  | 1.25超薄卧贴<br>WAFER SMT TYPE | REV.  |     |
| X.XXX±0.10       |       | 审核       | 钱岳生        | 品名        |                            | 页次    | 1/1 |
| X.XX±0.20        |       | CHECK    | 2022、08、24 | TITLE     |                            | SHEET |     |
|                  |       | 核准       | 张名         | 客户料号      | 深圳市金航标电子有限公司               |       |     |
|                  |       | APPROVAL | 2022、08、24 | CUTM. NO. |                            |       |     |
|                  |       | 单位       | MM         | 比例        | www.kinghelm.com           |       |     |
|                  |       | UNITS    | SCALE      | 1:1       |                            |       |     |