

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 | 500630 系列连接器 |
| ITEM NO 编 号 | HY-A50003 (A129) |
| DATE 日 期 | 2022-11-22 |

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 | | | |

ISO9001

ISO14001

ISO45001

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 5.00mm pitch 500630 series connector

本规范包括下列此种规格包括 5.00mm 间距 500630 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, Contact without 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 规格内容 | Material 材质 | Finish 表面处理 | Environmental protection grade 环保等级 |
|-----------------------|--|-------------------------------------|---|
| Housing 胶壳 | PA66 UL94V-0 | Color:White 颜色：白色 | RoHS2.0 |
| Wafer 针座 | Plastic 塑壳 PA66 UL94V-0 | Color:Beige 颜色：米色 | |
| | Contact 插针 Brass 黄铜 厚度 0.80mm | 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 | 10A AC/DC |
| Ambient temperature Range 使用温度范围 | -25℃- +85℃ |
| Applicable wire insulation 适用线径 | AWG14#-18# |

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 | Contact Resistance 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 | Withstand voltage 耐电压 | Mate connectors, apply 1500V 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 1500V 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 | Insulation Resistance 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

| N0. 序号 | Ltem 项目 | Test mode 试验方法 | Requirement 技术要求 |
|-----------|-----------------------------------|--|--|
| 6.1 | Insertion & withdraw Force 插拔力 | Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute 以每分钟 25.4±3mm 的速率插入和拔出 | Refer to paragraph 8 参照第 8 项 |
| 6.2 | 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: 25N Min 单一接触点: 25N 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 |

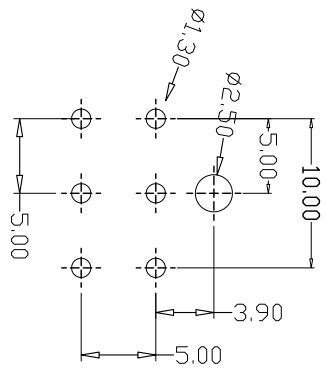
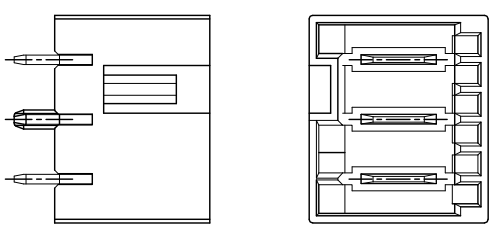
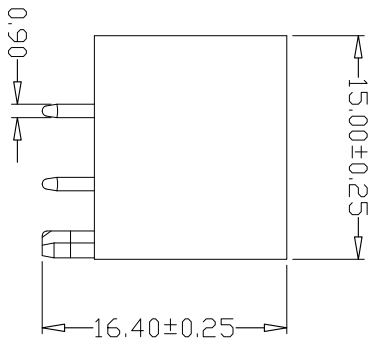
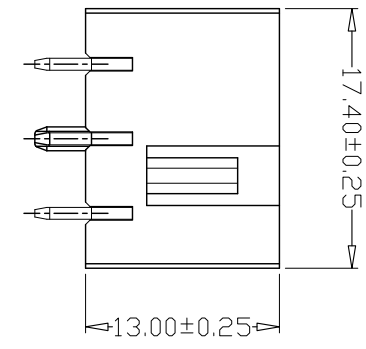
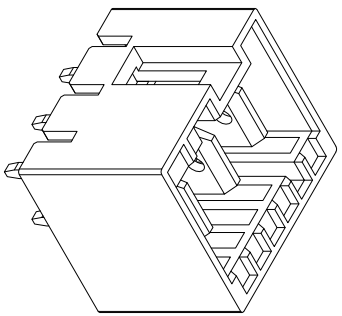
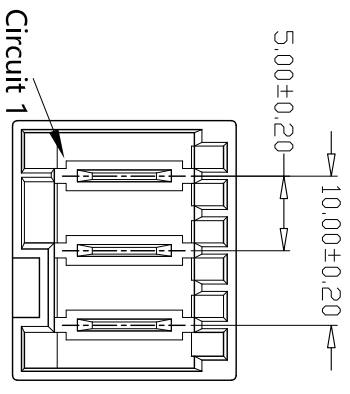
| NO. 序号 | Ltem 项目 | Test mode 试验方法 | Requirement 技术要求 | |
|-----------|--------------------------------|--|-------------------------------|---|
| 7.7 | 温度变化 Temperature Cycling | 5 cycles of: a) -25°C 30 minutes b) +85°C 30 minutes | Appearance 外观 | No damage 无异常 |
| | | 从-25°C持续30 分钟升至+85°C持续30 分钟,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 | DIP type PA66 material welding heat resistance range: Soldering time:3~5sec solder. Temperature:230±5°C DIP 型 PA66 材质焊接耐热范围: 焊接时间: 3~5 秒. 焊接温度: 230±5°C DIP type PA46 material welding heat resistance range: Soldering time:3~5sec solder. Temperature:245±5°C DIP 型 PA46 材质焊接耐热范围: 焊接时间: 3~5 秒. 焊接温度: 245±5°C | Appearance 外观 | No damage 无异常 |

8、INSERTION/WITHDRAWAL FORCE

综合插入力及拔出力

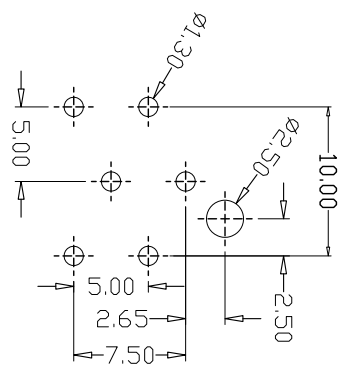
| No. of CTK PIN 数 | At Initial 初始值 | | At 30th 插拔 30 次 |
|------------------------|---------------------|---------------------|---------------------|
| | I. F (N Max) 插入力 | W. F (N Min) 拔出力 | W. F (N Min) 拔出力 |
| 2 | 80 | 20 | 20 |
| 3 | 85 | 25 | 25 |
| 4 | 90 | 30 | 30 |

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

TYPE 1



PCB LAYOUT

TYPE 2

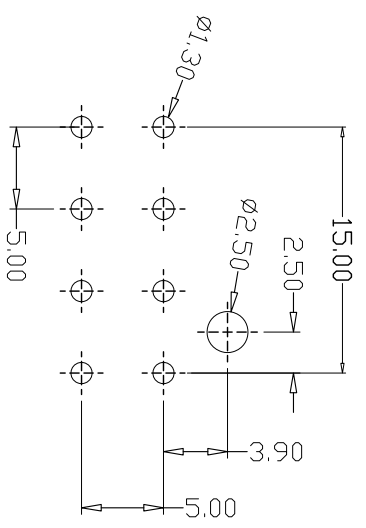
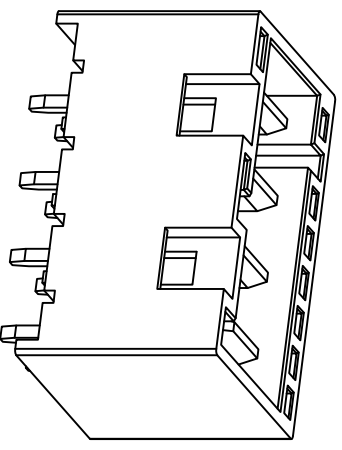
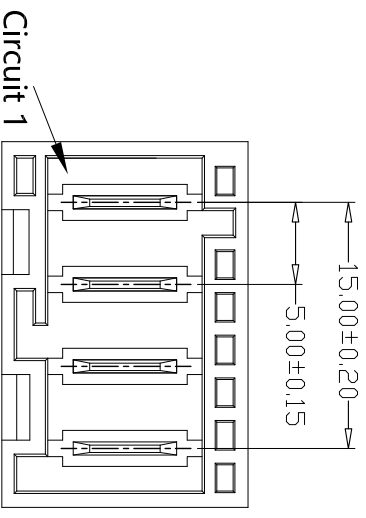
SPECIFICATIONS

- 1、Current Rating: 10A AC, DC
- 2、Voltage Rating: 250V AC, DC
- 3、Temperature Range: $-25^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- 4、Contact Resistance: $30\text{m}\Omega$ Max
- 5、Insulation Resistance: $10000\text{M}\Omega$ Min
- 6、Withstanding Voltage: 1500V AC/minute
- 7、Material:
Wafer PA66, UL94V-0
PIN Brass Tin-plated

| | | | | | | | |
|-------------------|--------------------------------|----------------|-------------|-------------------|----------------------------|-------------|-----|
| GENERAL TOLERANCE | | 制图 Mapping | 张迎春 | 料号 PART NO. | A50003-03A | 版本 REV. | A |
| $X \pm 0.25$ | $X^{\circ} \pm 2^{\circ}$ | 审核 Audit | 钱岳生 | 品名 TITLE | 500630直针 WAFER DIP TYPE | 页次 SHEET | 1/1 |
| $X \pm 0.25$ | $X^{\circ} \pm 1^{\circ}$ | 核准 Approved | 张名 | 客户料号 CSTM. NO. | | | |
| $.XX \pm 0.15$ | $.XX^{\circ} \pm 0.5^{\circ}$ | 单位 Units | 2022、11、22 | | | | |
| $.XXX \pm 0.10$ | $.XXX^{\circ} \pm 0.5^{\circ}$ | mm | 比例 SCALE | | | | |

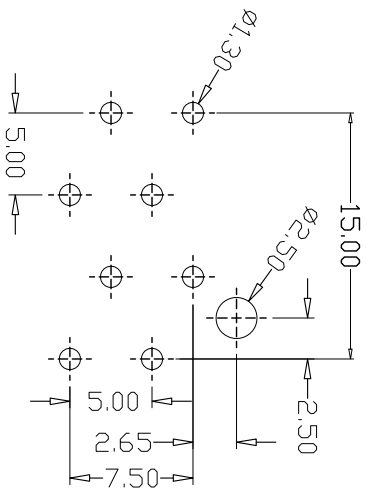
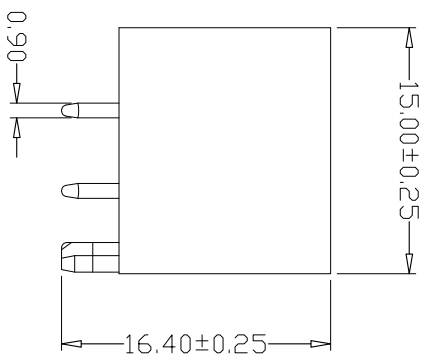
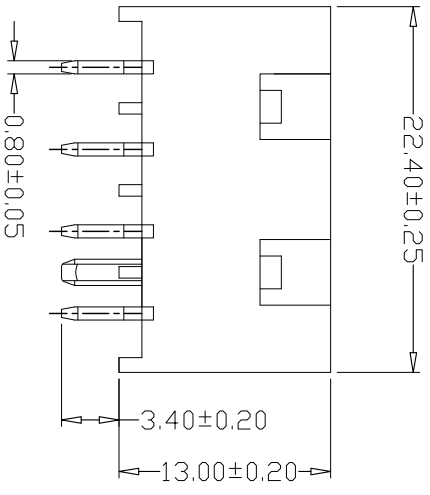
乐清市宏一电子有限公司
Yueqing Hongyi Electronics Co., Ltd

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

TYPE 1



PCB LAYOUT

TYPE 2

SPECIFICATIONS

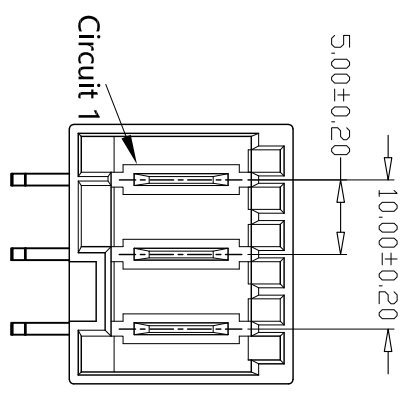
- 1、Current Rating: 10A AC, DC
- 2、Voltage Rating: 250V AC, DC
- 3、Temperature Range: -25°C~+85°C
- 4、Contact Resistance: 30mΩ Max
- 5、Insulation Resistance: 1000MΩ Min
- 6、Withstanding Voltage: 1500V AC/minute
- 7、Material:
Wafer PA66, UL94V-0
PIN Brass Tin-plated

| | | | | | | | |
|-------------------|-----------------|----------------|------------|-------------------|------------|---|-----|
| GENERAL TOLERANCE | | 制图 Mapping | 张迎春 | 料号 PART NO. | A50003-04A | 版本 REV. | A |
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| X \pm 0.25 | X \pm 1° | 核准 Approved | 张名 | 客户料号 CUST. NO. | | | |
| .XX \pm 0.15 | .XX \pm 0.5° | 单位 Units | 2022、11、22 | 比例 SCALE | | | |
| .XXX \pm 0.10 | .XXX \pm 0.5° | | | | | 乐清市宏一电子有限公司 YueDing HongYi Electronics Co., Ltd | |

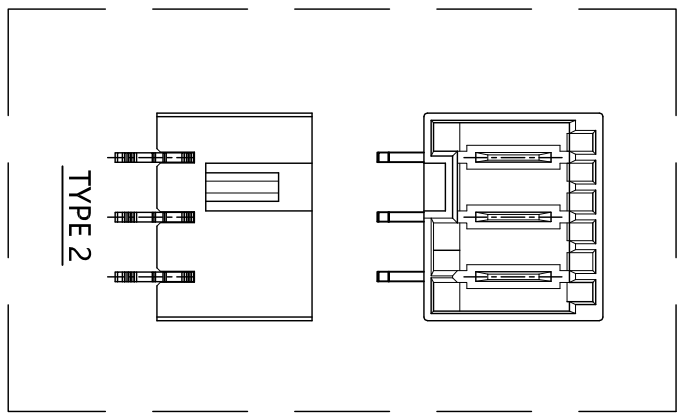
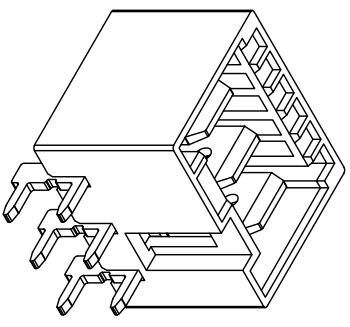
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SPECIFICATIONS

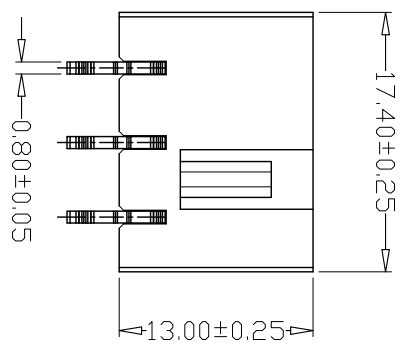
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- 6、Withstanding Voltage: 1500V AC/minute
- 7、Material:
Wafer PA66, UL94V-0
PIN Brass Tin-plated



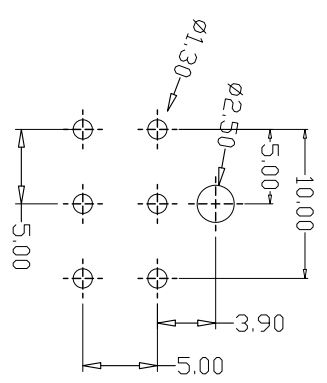
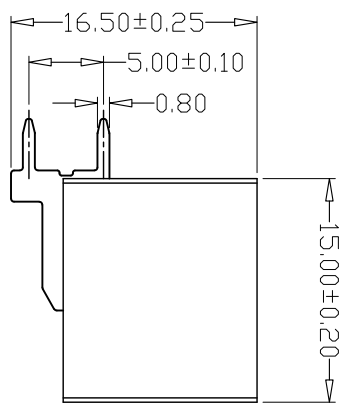
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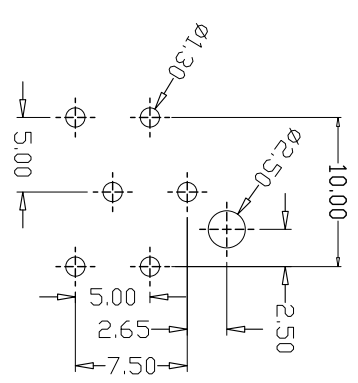
TYPE 2



TYPE 1



**PCB LAYOUT
TYPE 1**



**PCB LAYOUT
TYPE 2**

| GENERAL TOLERANCE | | 制图 Mapping | 张迎春 |
|-------------------|-----------------|----------------|--------------|
| X \pm 0.25 | X \pm 2° | 审核 Audit | 钱岳生 |
| X \pm 0.25 | X \pm 1° | 批准 Approved | 张名 |
| .XX \pm 0.15 | .XX \pm 0.5° | 单位 Units | 2022. 11、 22 |
| .XXX \pm 0.10 | .XXX \pm 0.5° | 比例 SCALE | 7 |

| 料号 PART NO. | 品名 TITLE | 客户料号 CUST. NO. | 版本 REV. |
|---|----------------------------|-------------------|-------------|
| A50003-03AW | 500630弯针 WAFER DIP TYPE | | A |
| | | | 页次 SHEET |
| 乐清市宏一电子有限公司 Yueqing Hongyi Electronics Co., Ltd | | | 1/1 |