

产 品 规 格 书
PRODUCT SPECIFICATION

This specification is referred to the 2.00mm series wire to board connector

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| | Date Revised | 2014/03/23 |

【1.适用范围 Scope】

此种规格包括 2.00mm Pitch 2020 Series 连接器规格说明.

This Specification Covers the 2.00mm Pitch 2020 Series Connector Specification.

【2.规格与料号 Spec and Part number】

| 规格内容 Specification | 产品料号 Production No. | 产品图示 Picture of Product |
|-----------------------|----------------------------------|----------------------------|
| 端子/Terminal | T2020PS-2 | NONE |
| 胶壳/Housing | P2020-2*XX-N0 | NONE |
| 针座/Wafer | M2020V-2*XX-N0 M2020R-2*XX-N0 | NONE |

【3.材质与表面处理 Disposal of Material and surface】

| 规格内容 Specification | 材质 Materials | 表面处理 Disposal of Surface |
|-----------------------|--------------------|--|
| 端子/Terminal | 磷铜/Phosphor Bronze | Tin Plated: Over 70μ" .Nickel: Over 30μ" . |
| 胶壳/Housing | PA66 | UL 94V-0 |
| 针座/Wafer | Base | PA66 |
| | PIN | 黄铜/Brass |
| | | Over Tin 70μ" Plated ; Over 30μ" Nickel |

(上述参数请以工程图为准/Please Refer to the Project drawing for the above Specification)

【4. 额定等级 Ratings and applicable wires】

| 项目【Item】 | 规格【Standard】 |
|-------------------------------------|--|
| 额定电压 Rated Voltage (Max.) | 250V |
| 额定电流 Rated Current (Max.) | 3A |
| 使用温度范围 Ambient temperature Range | -25 ~+85 |
| 适用线径 Applicable wire insulation O.D | AWG 22#~28# Insulation O.D. 1.50mm(Max.) |

【*升温时含端子.Including terminal temperature rise.】

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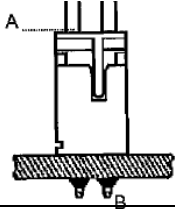
APPROVED BY: Kim Huang

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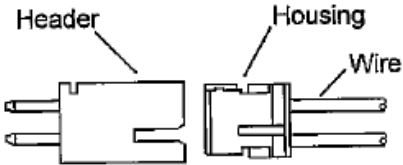
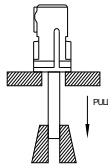
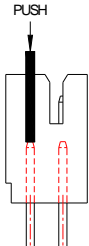
【5.性能 PERFORMANCE】

5-1. 电气的性能 Electrical Performance.

| 项目 【Item】 | 条 件 【Test Condition】 | 规 格 【Requirement】 |
|---|--|---|
| 5-1-1 接触阻抗 Contact Resistance | 公母配合,开放电压 20mV 以下,电流 10mA 检测连接器 A~B 区. Mate connectors, measure by dry circuit, 20mV MAX, 10mA. (Based upon EIA-364-06A). <div style="text-align: center;">  </div> | Initial: 10 milliohms Max. After Test: 20 milliohms Max. |
| 5-1-2 绝缘阻抗 Insulation Resistance | 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. Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon EIA-364-21B / MIL-STD-202 Method 302 Cond.B) | 1000 Megohms Min. |
| 5-1-3 耐电压 Dielectric Strength | 公母配合,在相邻端子,端子与地片之间,使用 800V 的交流电 1 分钟,检测连接器. Mate connectors, apply 800V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A / MIL-STD-202 Method 301) | 不出现中断等情况 No Breakdown and Flashover |
| 5-1-4 铆线后端子接触阻抗 Contact resistance on crimped portion | 铆线后之端子,开放电压 20mV 以下,电流 10mA 检测连接器. Crimp the applicable wire on to the terminal measure by dry circuit 20mV MAX, 10mA. | |

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5-2. 机械的性能 Mechanical Performance.

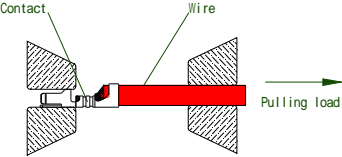
| 项目 【Item】 | 条件 【Test Condition】 | 规格 【Requirement】 |
|--|---|---------------------------------|
| 5-2-1 插拔力 Insertion & Retention Force | 以每分钟 25.4±3mm 的速率插入和拔出。 Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute.  | 参照第 6 项 Refer to paragraph 6 |
| 5-2-2 端子保持力 Terminal/ Housing Retention Force | 以每分 25.4±3mm 的速率,将端子从 Housing 内轴向拔出的力量。 Apply axial pull out force at the speed rate of 25.4±3mm/minute on the terminal assembled in the housing.  | 14.7N {1.5kgf} Min. |
| 5-2-3 端子插入力 Terminal Insertion Force | 铆线后之端子插入 Housing 所需最大力量。 Insert the crimped terminal into the housing. | 9.8N {1.0kgf} Max. |
| 5-2-4 Pin 针保持力 Pin Retention Force | 以每分 25.4±3mm 的速率,将 PIN 针从 Wafer 内轴向拔出的力量。 Apply axial push force at the speed rate of 25.4±3mm/minute.  | 9.8N {1.0kgf} min. |

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| 项目 【Item】 | 条件 【Test Condition】 | 规格 【Requirement】 | | | | |
|--|---|---------------------|-----|-----|-----|-----|
| 5-2-5 端子压着强度 (Crimped connections) | 固定铆线后的端子，使电线与端子分离时所需的最小力量。 Fix the crimped terminal, apply axial pull out force on the wire. (Do not crimp insulation part). | AWG# | #22 | #24 | #26 | #28 |
| |  | Spec.kgf. Min. | 4.0 | 3.0 | 2.0 | 1.0 |
| Note> As for unspecified wire sizes in this specification define values with clients | | | | | | |

5-3. 环境性能及其它 Environmental Performance and Others.

| 项目 【Item】 | 条件 【Test Condition】 | 规格 【Requirement】 | |
|--|---|----------------------------|------------------------|
| 5-3-1 重复插拔 Repeated Insertion/ Withdrawal | 以每分钟不超过 10 次的速率,将公母插拔 50 次。 When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute. | 接触阻抗 Contact Resistance | 20 milliohms Max. |
| 5-3-2 温升测试 Temperature Rise | 公母对插后,在通过额定电流下,所测定的温度。 Carrying rated current load. (UL 1977) | 温升测试 Temperature rise | 30 Max. |
| 5-3-3 耐振动性 Vibration | 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 Amplitude: 1.5mm P-P Sweep time: 10~55~10 HZ in 1 minute Duration: 2 hours in each X.Y.Z axials. (Based upon EIA-364-28B/MIL-STD-202 Method 213B Cond.A) | 外观 Appearance | 无异状 No Damage |
| | | 接触阻抗 Contact Resistance | 20 milliohms Max. |
| | | 瞬断 Discontinuity | 1 micro-second Max. |
| 5-3-4 耐冲击性 Shock | 在 X.Y.Z 上 6 个方向上,以 490m/s ² (50g 的力量)冲击下各 3 回.490m/s ² {50G}, 3 strokes in each X.Y.Z. axes. (Based upon EIA-364-27B/MIL-STD-202 Method 213B Cond.A) | 外观 Appearance | 无异状 No Damage |
| | | 接触阻抗 Contact Resistance | 20 milliohms Max. |
| | | 瞬断 Discontinuity | 1 micro-second Max. |

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| 5-3-5 | 耐热性 Heat Resistance | 85±2 ,96 hours. (Based upon MIL-STD-202 Method 108A Cond.A) | 外观 Appearance | 无异状 No Damage |
| | | | 接触阻抗 Contact Resistance | 20 milliohms Max. |
| 5-3-6 | 耐寒性 Cold Resistance | -25±5 ,96 hours. (Based upon EIA-364-105) | 外观 Appearance | 无异状 No Damage |
| | | | 接触阻抗 Contact Resistance | 20 milliohms Max. |
| 5-3-7 | 耐湿性 Humidity | 温度: 40±2 湿度: 90~95%(RH) 持续时间: 96 hours Temperature: 40±2 Relative Humidity: 90~95% Duration: 96 hours (Based upon EIA-364-31A/MIL-STD-202 Method 103B Cond.B) | 外观 Appearance | 无异状 No Damage |
| | | | 接触阻抗 Contact Resistance | 20 milliohms Max. |
| | | | 耐电压 Dielectric Strength | Must meet 5-1-3 |
| | | | 绝缘阻抗 Insulation Resistance | 500 Megohms Min. |
| 5-3-8 | 温度变化 Temperature Cycling | 从-55 持续 30 分钟升至+85 持续 30 分钟,循环 5 次. 5 cycles of: a) -55 30 minutes. b) +85 30 minutes. (Based upon EIA-364-32B) | 外观 Appearance | 无异状 No Damage |
| | | | 接触阻抗 Contact Resistance | 20 milliohms Max. |
| 5-3-9 | 盐水喷雾 Salt Spray | 在温度 35±2 ,盐水浓度 5±1%下,盐水喷雾 24±1 小时. 24±1 hours exposure to a salt spray from the 5±1% solution at 35±2 . (Based upon EIA-364-26A/MIL-STD-202 Method 101D Cond.B). | 外观 Appearance | 无异状 No Damage |
| | | | 接触阻抗 Contact Resistance | 20 milliohms Max. |
| 5-3-10 | 焊锡附着性 Solder-ability | 焊接时间: 3±0.5 秒. 焊接温度: 245±5 . Soldering Time: 3±0.5second. Solder Temperature: 245±5 . (Based upon EIA-364-52) | Solder Wetting | 浸渍面积需 95%以上 95% of immersed area must show no voids, pin holes. |

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| 项 目 【Item】 | | 条 件 【Test Condition】 | 规 格 【Requirement】 | |
|---------------|----------------------------|--|----------------------|------------------|
| 5-3-11 | 焊锡耐热性 Solder-Resistance | 焊接时间: 3~5 秒. 焊接温度: 255+5/-5 . Soldering time:3~5 sec solder. Temperature:255+5/-5 . (Based upon EIA-364-56A) | 外观 Appearance | 无异状 No Damage |

【6. 综合插入力及拔出力 INSERTION/WITHDRAWAL FORCE】 <Connector mating force>

| PIN 数 No. of CKT | 初次插入力(最大值) First Insertion (kgf Max.) | 30 次拔出力(最小值) 30 th Withdrawal (kgf Min.) | PIN 数 No. of CKT | 初次插入力(最大值) First Insertion (kgf Max.) | 30 次拔出力(最小值) 30 th Withdrawal (kgf Min.) |
|------------------------|---|---|------------------------|---|---|
| Single | 1.0 | 0.05 | 2*11 | 8.5 | 1.5 |
| 2*02 | 4.0 | 0.4 | 2*12 | 9.0 | 1.6 |
| 2*03 | 4.5 | 0.6 | 2*13 | 9.5 | 1.6 |
| 2*04 | 5.0 | 0.8 | 2*14 | 10.0 | 1.7 |
| 2*05 | 5.5 | 1.0 | 2*15 | 10.5 | 1.7 |
| 2*06 | 6.0 | 1.2 | 2*16 | 11.0 | 1.8 |
| 2*07 | 6.5 | 1.2 | 2*17 | 11.5 | 1.8 |
| 2*08 | 7.0 | 1.4 | 2*18 | 12.0 | 1.9 |
| 2*09 | 7.5 | 1.4 | 2*19 | 12.5 | 1.9 |
| 2*10 | 8.0 | 1.5 | 2*20 | 13.0 | 2.0 |

注：以上插拔次数为 30 次

Note : Insertion and Withdrawal for 30Cycles