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| Product Specification [产品规格书]: | Document No | PS-1806-01 |
| Subject [主题]: 1.80mm Pitch 1806 Series Connector Specification | Date Issued | 2019/05/08 |
| | Date Revised | 2023/08/28 |
| | Version | B1 |

This specification is referred to the 1.80mm series wire to board connector

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【1.适用范围 Scope】

此种规格包括 1.80mm Pitch 1806 Series 连接器规格说明.

This Specification Covers the 1.80mm Pitch 1806 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 | 1806T-P08SH-01Q | NONE |
| 胶壳/Housing | 1806HF-1x02-N0NBR01Q | NONE |
| 针座/Wafer | 1806WRS-1x02-LPNB05RR001Q | 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 | 50~100u" Ni \100~180u" Bright Tin |
| 胶壳/Housing | PA66 | UL 94V-0 |
| 针座/Wafer | Base | High Temperature Plastic |
| | PIN | 黄铜/Brass |
| | Solder tab | 黄铜/Brass |

(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】

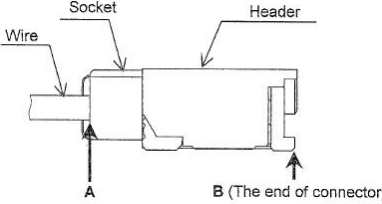
| 项目【Item】 | 规格【Standard】 | |
|-------------------------------------|--|---------|
| 额定电压 Rated Voltage (Max.) | 350V | [AC/DC] |
| 额定电流 Rated Current (Max.) | 4A(AWG#22) | |
| 使用温度范围 Ambient temperature Range | -40°C~+105°C | |
| 适用线径 Applicable wire insulation O.D | AWG#22~26 Insulation O.D:1.60mm(Max.) | |

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

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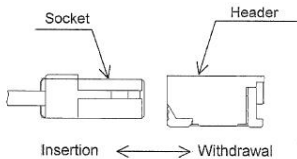
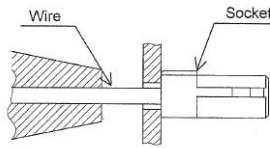
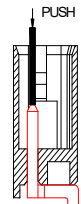
【5.性能 PERFORMANCE】

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 | <p>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).</p>  | <p>Initial: 10 milliohms Max. After Test: 20 milliohms Max.</p> |
| 5-1-2 绝缘阻抗 Insulation Resistance | <p>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)</p> | 1000 Megohms Min. |
| 5-1-3 耐电压 Dielectric Strength | <p>公母配合,在相邻端子,端子与地片之间,使用 1700V 的交流电 1 分钟,检测连接器. Mate connectors, apply 1700V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A / MIL-STD-202 Method 301)</p> | 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 | <p>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.</p> | 10 milliohms Max. |

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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 & withdraw Force | <p>以每分钟 50±3mm 的速率插入和拔出。 Insert and withdraw Connectors at the speed rate of 50±3mm/minute.</p>  | 参照第 6 项 Refer to paragraph 6 |
| 5-2-2 端子保持力 Terminal/Housing Retention Force | <p>以每分 50±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 50±3mm/minute on the FFC in the housing.</p>  | 15N {1.58kgf} Min. |
| 5-2-3 Pin 针保持力 Pin Retention Force | <p>以每分 100±3mm 的速率,将 PIN 针从 Wafer 内轴向推出 的力量。 Apply axial push force at the speed rate of 100±3mm/minute.</p>  | 4.9N {0.50kgf} Min. |
| 5-2-4 端子插入力 Terminal Insertion Force | <p>铆线后之端子插入 Housing 所需最大力量。 Insert the crimped terminal into the housing.</p> | 9.8N {1.0kgf} Max. |
| 5-2-5 Lock HSG 卡扣保持力 Lock Retention Force | <p>以每分 50±3mm 的速率,将 HSG 从 Wafer 内轴向拔出 的力量。 Apply axial push force at the speed rate of 50±3mm/minute.</p> | 15N {1.58kgf} Min. |

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|--|--|--|-----------------------------------|-----------------------------------|-----------------------------------|
| 5-2-6 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 线号 (平方毫米) | #22 (0.35 mm ²) | #24 (0.22 mm ²) | #26 (0.13 mm ²) |
| | | Spec. kgf Min. | 4.0 | 3.0 | 2.0 |
| | | 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 30 次。 When mated up to 30 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 (EIA364-70,Method 1) Mating connectors shall be energized at rating current until thermal stability is achieved, and then measured the temperature rise. (EIA364-70,Method 1) | 温升测试 Temperature rise | 30°C Max. |
| 5-3-3 振动测试 Vibration test | 振幅: 1.5mm P-P 时间: 20~200~20 Hz in 3minute 持续时间: 每轴向 3 小时 加速度: 44m/S ² 开放电压: 20mV 以下 开放电流: 10mA 以下 Amplitude: 1.5mm P-P Sweep time: 20~200~20 Hz in 3 minute Duration: 3 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. |
| | | 电压降落 Voltage Drop | 20mV/A Max |
| 5-3-4 冲击测试 Shock test | 在 X.Y.Z 上 6 个方向上,以 491m/s ² (100g 的力量)冲击下各 3 回。 491m/s ² {100G}, 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 | 105±2°C, 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. |

| 项目 【Item】 | | 条件 【Test Condition】 | 规格 【Requirement】 | |
|--------------|-----------------------------|---|-------------------------------|---|
| 5-3-6 | 耐寒性 Cold Resistance | -40±5°C, 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°C 湿度: 90~95%(RH) 持续时间: 96 hours Temperature: 40±2°C 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-40°C持续 30 分钟升至+105°C持续 30 分钟,循环 5 次. 5 cycles of: a) -40°C 30 minutes. b) +105°C 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°C, 盐水浓度 5±1% 下, 盐水喷雾 48±1 小时. 48±1 hours exposure to a salt spray from the 5±1% solution at 35±2°C. (Based upon EIA-364-26B/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: 3~5 秒. 焊接温度: 245±5°C. Soldering Time: 3~5second. Solder Temperature: 245±5°C. (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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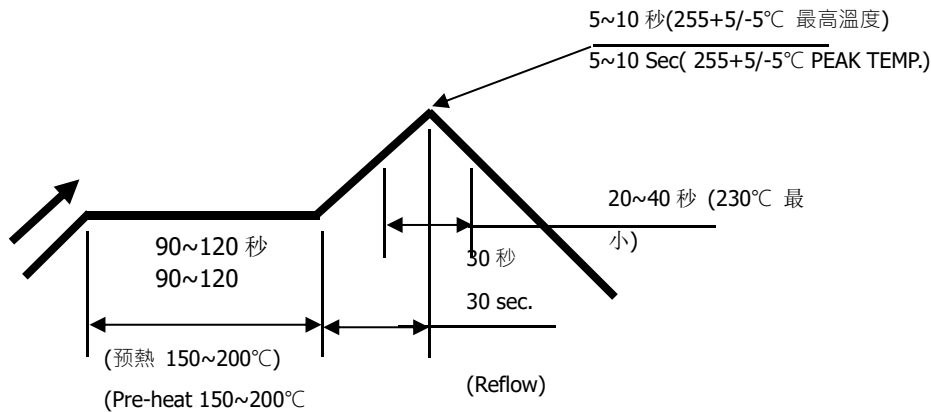
| 项目 【Item】 | 条件 【Test Condition】 | 规格 【Requirement】 | |
|--------------------------------------|--|---------------------|------------------|
| 5-3-11 焊锡耐热性 Solder-Resistance | 焊接时间: 5~10 秒. 焊接温度: 255+5/-5°C. Soldering time:5~10 sec solder. Temperature:255+5/-5°C. (Based upon EIA-364-56A) | 外观 Appearance | 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.) |
|------------------------|---|---|------------------------|---|---|
| 2 | 2.00 | 0.20 | | | |

注：以上插拔次数为 30 次 Note: Insertion and Withdrawal for 30Cycles

【7. SMT 回流条件 SMT REFLOW CONDITION】



温度条件曲线图/ 基板上温度

TEMPERATURE CONDITION GRAPH/ (TEMPERATURE ON BOARD PATTERN SIDE)

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.

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.