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| Product Specification [产品规格书]:                                    | Document No  | PS-2011-01 |
| Subject [主题]:<br>2.00mm Pitch 2011 Series Connector Specification | Date Issued  | 2019/06/09 |
|   | Date Revised | 2018/05/26 |
|   | Version      | A0         |

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

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### 【1.适用范围 Scope】

此种规格包括 2.00mm Pitch 2011 Series 连接器规格说明.

This Specification Covers the 2.00mm Pitch 2011 Series Connector Specification.

### 【2.规格与料号 Spec and Part number】

| 规格内容<br>Specification | 产品料号<br>Production No.             | 产品图示<br>Picture of Product  |
|-----------------------|------------------------------------|---|
| 端子/Terminal           | 2011TX-PSN-AX                      |  |
| 胶壳/Housing            | 2011H-XXA-N0                       |   |
| 针座/Wafer              | 2011WV-XXA-XXXX<br>2011WR-XXA-XXXX |   |

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

| 规格内容<br>Specification | 材 质<br>Materials   | 表面处理<br>Disposal of Surface   |
|-----------------------|--------------------|---|
| 端子/Terminal           | 磷铜/Phosphor Bronze | 1. Tin Plated: Over 70μ" .Nickel: Over 30μ" .<br>2. Gold Flash or 1u" . Nickel: Over 30μ" . |
| 胶壳/Housing            | PA66               | UL 94V-0  |
| 针座/Wafer              | Base               | PA66  |
|                       | PIN                | UL 94V-0  |
|                       | 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                                   | [AC/DC] |
| 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 | 22~28 AWG Insulation O.D. 1.45mm(Max.) |         |

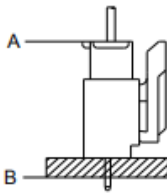
【 \*升温时含端子.Including terminal temperature rise. 】



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## 【5.性能 PERFORMANCE】

### 5-1. 电气的性能 Electrical Performance.

| 项 目<br>【Item】  | 条 件<br>【Test Condition】   | 规 格<br>【Requirement】  |
|--|---|---|
| 5-1-1<br>接触阻抗<br>Contact<br>Resistance                             | <p>公母配合,开放电压 20mV 以下,电流 10mA 检测连接器 A~B 区.<br/>Mate connectors, measure by dry circuit, 20mV MAX, 10mA.<br/>(Based upon EIA-364-06A).</p>  | <p>Initial:<br/>30 milliohms Max.<br/>After Test:<br/>40 milliohms Max.</p> |
| 5-1-2<br>绝缘阻抗<br>Insulation<br>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.<br/>Mate connectors, apply 500V DC between adjacent terminal or ground.<br/>(Based upon EIA-364-21B / MIL-STD-202 Method 302 Cond.B)</p>  | 1000 Megohms Min.   |
| 5-1-3<br>耐电压<br>Dielectric<br>Strength                             | <p>公母配合,在相邻端子,端子与地片之间,使用 1000V 的交流电 1 分钟,检测连接器.<br/>Mate connectors, apply 1000V AC for 1 minute between adjacent terminal or ground.<br/>(Based upon EIA-364-20A / MIL-STD-202 Method 301)</p>                             | <p>不出现中断等情况<br/>No Breakdown<br/>and Flashover</p>                          |
| 5-1-4<br>铆线后端子接触<br>阻抗 Contact<br>resistance on<br>crimped portion | <p>铆线后之端子,开放电压 20mV 以下,电流 10mA 检测连接器.<br/>Crimp the applicable wire on to the terminal measure by dry circuit 20mV MAX, 10mA.</p>   | 10 milliohms Max.   |



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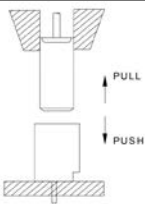
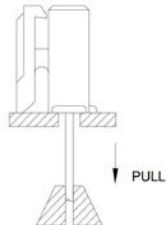
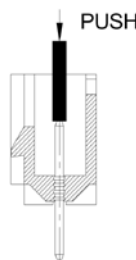
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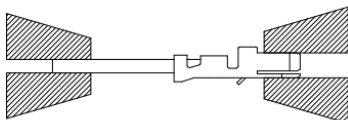
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## 5-2. 机械的性能 Mechanical Performance.

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



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| 项 目<br>【Item】 |   | 条 件<br>【Test Condition】   | 规 格<br>【Requirement】   |     |     |     |     |     |
|---------------|---|---|--|-----|-----|-----|-----|-----|
| 5-2-5         | 端子压着强度<br>Tensile strength<br>(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。<br>Fix the crimped terminal, apply axial pull out force on the wire. (Do not crimp insulation part). | AWG#   | #22 | #24 | #26 | #28 | #30 |
|               |   | Spec.   |  |     |     |     |     |     |
|               |   | kgf.  | 5.0  | 3.0 | 2.0 | 1.0 | 0.5 |     |
|               |   |    | Min.   |     |     |     |     |     |
|               |   |   | 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<br>【Item】 |   | 条 件<br>【Test Condition】   | 规 格<br>【Requirement】       |                     |
|---------------|---|---|----------------------------|---------------------|
| 5-3-1         | 重复插拔<br>Repeated Insertion/<br>Withdrawal | 以每分钟不超过 10 次的速率,将公母插拔 50 次.<br>When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute.   | 接触阻抗<br>Contact Resistance | 40 milliohms Max.   |
| 5-3-2         | 温升测试<br>Temperature Rise                  | 温升测试：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）<br>Mating connectors shall be energized at rating current until thermal stability is achieved, and then measured the temperature rise.<br>（EIA364-70,Method 1）    | 温升测试<br>Temperature rise   | 30℃ Max.            |
| 5-3-3         | 耐振动性<br>Vibration                         | 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<br>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. (Based upon EIA-364-28B/MIL-STD-202 Method 213B Cond.A) | 外观<br>Appearance           | 无异状<br>No Damage    |
|               |   |   | 接触阻抗<br>Contact Resistance | 40 milliohms Max.   |
|               |   |   | 瞬断<br>Discontinuity        | 1 micro-second Max. |
| 5-3-4         | 耐冲击性<br>Shock                             | 在 X.Y.Z 上 6 个方向上,以 490m/s <sup>2</sup> (50g 的力量)冲击下各 3 回.490m/s <sup>2</sup> {50G}, 3 strokes in each X.Y.Z. axes.<br>(Based upon EIA-364-27B/MIL-STD-202 Method 213B Cond.A)   | 外观<br>Appearance           | 无异状<br>No Damage    |
|               |   |   | 接触阻抗<br>Contact Resistance | 40 milliohms Max.   |
|               |   |   | 瞬断<br>Discontinuity        | 1 micro-second Max. |





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|---------------|-----------------------------|---|-------------------------------|----------------------|
| 5-3-5         | 耐热性<br>Heat Resistance      | 85±2℃,96 hours.<br>(Based upon MIL-STD-202 Method 108A Cond.A)  | 外观<br>Appearance              | 无异状<br>No Damage     |
|               |                             |   | 接触阻抗<br>Contact Resistance    | 40 milliohms<br>Max. |
| 5-3-6         | 耐寒性<br>Cold Resistance      | -25±5℃,96 hours.<br>( Based upon EIA-364-105)   | 外观<br>Appearance              | 无异状<br>No Damage     |
|               |                             |   | 接触阻抗<br>Contact Resistance    | 40 milliohms<br>Max. |
| 5-3-7         | 耐湿性<br>Humidity             | 温度: 40±2℃<br>湿度: 90~95%(RH)<br>持续时间: 96 hours<br>Temperature: 40±2℃<br>Relative Humidity: 90~95%<br>Duration: 96 hours<br>(Based upon EIA-364-31A/MIL-STD-202 Method 103B Cond.B) | 外观<br>Appearance              | 无异状<br>No Damage     |
|               |                             |   | 接触阻抗<br>Contact Resistance    | 40 milliohms<br>Max. |
|               |                             |   | 耐电压<br>Dielectric Strength    | Must meet<br>5-1-3   |
|               |                             |   | 绝缘阻抗<br>Insulation Resistance | 500 Megohms<br>Min.  |
| 5-3-8         | 温度变化<br>Temperature Cycling | 从-25℃持续 30 分锺升至+85℃持续 30 分锺,循环 5 次.<br>5 cycles of: a) -25℃ 30 minutes.<br>b) +85℃ 30 minutes.<br>(Based upon EIA-364-32B)  | 外观<br>Appearance              | 无异状<br>No Damage     |
|               |                             |   | 接触阻抗<br>Contact Resistance    | 40 milliohms<br>Max. |
| 5-3-9         | 盐水喷雾<br>Salt Spray          | 在温度 35±2℃, 盐水浓度 5±1% 下, 盐水喷雾 24±1 小时.<br>24±1 hours exposure to a salt spray from the 5±1% solution at 35±2℃.<br>(Based upon EIA-364-26B/MIL-STD-202 Method 101D Cond.B).         | 外观<br>Appearance              | 无异状<br>No Damage     |
|               |                             |   | 接触阻抗<br>Contact Resistance    | 40 milliohms<br>Max. |



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|---------------|----------------------------|--|----------------------|--|
| 5-3-10        | 焊锡附着性<br>Solder-ability    | 焊接时间: 3~5 秒.<br>焊接温度: 245±5℃.<br>Soldering Time: 3~5second.<br>Solder Temperature: 245±5℃.<br>(Based upon EIA-364-52)      | Solder Wetting       | 浸渍面积需<br>95%以上<br>95% of<br>immersed area<br>must show no<br>voids, pin holes. |
| 5-3-11        | 焊锡耐热性<br>Solder-Resistance | 焊接时间: 5~10 秒.<br>焊接温度: 255+5/-5℃.<br>Soldering time:5~10 sec solder.<br>Temperature:255+5/-5℃.<br>(Based upon EIA-364-56A) | 外观<br>Appearance     | 无异状<br>No Damage   |

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

| PIN 数<br>No. of<br>CKT | 初次插入力(最大值)<br>First Insertion<br>(kgf Max.) | 30 次拔出力(最小值)<br>30 <sup>th</sup> Withdrawal<br>(kgf Min.) | PIN 数<br>No. of<br>CKT | 初次插入力(最大值)<br>First Insertion<br>(kgf Max.) | 30 次拔出力(最小值)<br>30 <sup>th</sup> Withdrawal<br>(kgf Min.) |
|------------------------|---|---|------------------------|---|---|
| Single                 | 1.00  | 0.10  | 09                     | 5.0   | 1.4   |
| 02                     | 1.5   | 0.3   | 10                     | 6.0   | 1.4   |
| 03                     | 3.0   | 0.6   | 11                     | 6.0   | 1.4   |
| 04                     | 3.0   | 0.6   | 12                     | 6.0   | 1.6   |
| 05                     | 4.0   | 1.0   | 13                     | 7.0   | 1.8   |
| 06                     | 4.0   | 1.0   | 14                     | 8.0   | 2.0   |
| 07                     | 5.0   | 1.2   | 15                     | 10.0  | 2.2   |
| 08                     | 5.0   | 1.2   | 16                     | 10.0  | 2.5   |

注: 以上插拔次数为 30 次

Note: Insertion and Withdrawal for 30Cycles