

**产 品 规 格 书**  
**PRODUCT SPECIFICATION**

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

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# XFCN兴飞连接器有限公司

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|   |                             |            |
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| Subject [主题]:<br>2.00mm Pitch 2020 Series Connector Specification | Date Issued                 | 2014/01/26 |
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## 【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<br>Specification | 产品料号<br>Production No.           | 产品图示<br>Picture of Product |
|-----------------------|----------------------------------|----------------------------|
| 端子/Terminal           | T2020PS-2                        | NONE                       |
| 胶壳/Housing            | P2020-2*XX-N0                    | NONE                       |
| 针座/Wafer              | M2020V-2*XX-N0<br>M2020R-2*XX-N0 | NONE                       |

## 【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 | 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.】

WRITTEN BY: Jova Lau

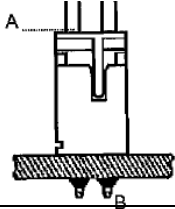
APPROVED BY: Kim Huang

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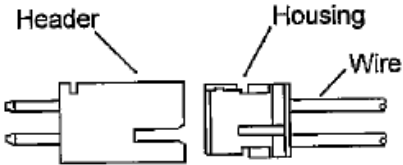
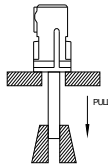
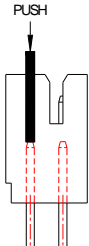
## 【5.性能 PERFORMANCE】

### 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> <div style="text-align: center;">  </div> | <p>Initial:<br/>10 milliohms Max.<br/>After Test:<br/>20 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 800V 的交流电 1 分钟,检测连接器.<br/>Mate connectors, apply 800V 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<br>触阻抗<br>Contact<br>resistance on<br>crimped<br>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>  |   |

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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<br>插拔力<br>Insertion<br>& Retention<br>Force            | 以每分钟 25.4±3mm 的速率插入和拔出。<br>Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute.<br><br>   | 参照第 6 项<br>Refer to paragraph 6 |
| 5-2-2<br>端子保持力<br>Terminal/<br>Housing<br>Retention<br>Force | 以每分 25.4±3mm 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 25.4±3mm/minute on the terminal assembled in the housing.<br><br> | 14.7N {1.5kgf} Min.             |
| 5-2-3<br>端子插入力<br>Terminal<br>Insertion<br>Force             | 铆线后之端子插入 Housing 所需最大力量。<br>Insert the crimped terminal into the housing.  | 9.8N {1.0kgf} Max.              |
| 5-2-4<br>Pin<br>针保持力<br>Pin Retention<br>Force               | 以每分 25.4±3mm 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 25.4±3mm/minute.<br><br>  | 9.8N {1.0kgf} min.              |

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| 项目<br>【Item】   | 条件<br>【Test Condition】  | 规格<br>【Requirement】 |     |     |     |     |
|--|---|---------------------|-----|-----|-----|-----|
| 5-2-5<br>端子压着强度<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 |
|  |    | Spec.kgf.<br>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<br>【Item】                                   | 条件<br>【Test Condition】  | 规格<br>【Requirement】        |                     |
|--|---|----------------------------|---------------------|
| 5-3-1<br>重复插拔<br>Repeated Insertion/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 | 20 milliohms Max.   |
| 5-3-2<br>温升测试<br>Temperature Rise              | 公母对插后,在通过额定电流下,所测定的温度。<br>Carrying rated current load. (UL 1977)  | 温升测试<br>Temperature rise   | 30 Max.             |
| 5-3-3<br>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.<br>(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 | 20 milliohms Max.   |
|  |   | 瞬断<br>Discontinuity        | 1 micro-second Max. |
| 5-3-4<br>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 | 20 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    | 20 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    | 20 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    | 20 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-55 持续 30 分钟升至+85 持续 30 分钟,循环 5 次.<br>5 cycles of: a) -55 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    | 20 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-364-26A/MIL-STD-202 Method 101D Cond.B).          | 外观<br>Appearance              | 无异状<br>No Damage  |
|   |                             |   | 接触阻抗<br>Contact Resistance    | 20 milliohms<br>Max.  |
| 5-3-10  | 焊锡附着性<br>Solder-ability     | 焊接时间: 3±0.5 秒.<br>焊接温度: 245±5 .<br>Soldering Time: 3±0.5second.<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<br>holes. |

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| 项 目<br>【Item】 |                            | 条 件<br>【Test Condition】  | 规 格<br>【Requirement】 |                  |
|---------------|----------------------------|--|----------------------|------------------|
| 5-3-11        | 焊锡耐热性<br>Solder-Resistance | 焊接时间: 3~5 秒.<br>焊接温度: 255+5/-5 .<br>Soldering time:3~5 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                 | 1.0   | 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