

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

This specification is referred to the 3.00mm series wire to board connector

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# XFCN兴飞连接器有限公司

CONNECTORS XFCN CONNECTORS CO., LTD.

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|  |                             |            |
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| Subject [主题]:<br>3.00mm Pitch 3025 / 20 Series Connector Specification | Date Issued                 | 2012/09/08 |
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## 【1.适用范围 Scope】

此种规格包括 3.00mm Pitch 3025/20 Series 连接器规格说明

This Specification Covers the 3.00mm Pitch 3025 / 20 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           | T3025PS-2<br>T3020PS-2   | NONE                       |
| 胶壳/Housing            | P3025-XX-XXX P3020-XX-XXX<br>P3025-2*XX-XXX<br>P3020-2*XX-XXX        | NONE                       |
| 针座/Wafer              | M3025V-XX-XXX<br>M3025R-XX-XXX<br>M3025V-2*XX-XXX<br>M3025R-2*XX-XXX | 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-2/UL94V-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.)           | AWG#20                                   | 5A |
|                                     | AWG#22                                   | 5A |
|                                     | AWG#24                                   | 4A |
| 使用温度范围 Ambient temperature Range    | -40℃ ~ +85℃                              |    |
| 适用线径 Applicable wire insulation O.D | AWG 20#~24# Insulation O.D. 1.85mm(Max.) |    |

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

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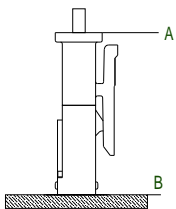
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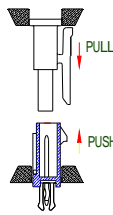
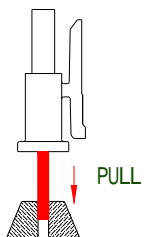
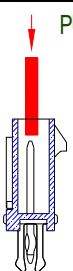
## 【5.性能 PERFORMANCE】

### 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 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/>10 milliohms Max.<br/>After Test:<br/>20 milliohms Max.</p> |
| 5-1-2<br>绝缘阻抗<br>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.<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 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>                             | 不出现中断等情况<br>No Breakdown and Flashover                                      |
| 5-1-4<br>铆线后端子接<br>触阻抗<br>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.<br/>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.

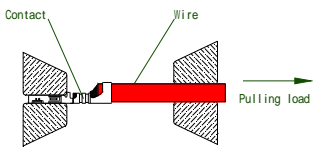
| 项目<br>【Item】   | 条件<br>【Test Condition】   | 规格<br>【Requirement】                     |
|--|--|---|
| 5-2-1<br>插拔力<br>Insertion<br>& Retention<br>Force            | <p>以每分钟 25.4±3mm 的速率插入和拔出。<br/>Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute.</p>   | <p>参照第 6 项<br/>Refer to paragraph 6</p> |
| 5-2-2<br>端子保持力<br>Terminal/<br>Housing<br>Retention<br>Force | <p>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.</p>  | <p>24.5N {2.5kgf} Min.</p>              |
| 5-2-3<br>端子插入力<br>Terminal<br>Insertion<br>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>  | <p>14.7N {1.5kgf} Max.</p>              |
| 5-2-4<br>Pin<br>针保持力<br>Pin Retention<br>Force               | <p>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.</p>   | <p>13.7N {1.4kgf} min.</p>              |

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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>(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#   | #20 | #22 | #24 |
|              |                                 |    | Spec.<br>.kgf.<br>Min.   | 6.0 | 4.0 | 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<br>【Item】 |                                       | 条件<br>【Test Condition】  | 规格<br>【Requirement】        |                     |
|--------------|---------------------------------------|---|----------------------------|---------------------|
| 5-3-1        | 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 30 次。<br>When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.   | 接触阻抗<br>Contact Resistance | 20 milliohms Max.   |
| 5-3-2        | 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        | 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        | 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,<br>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<br>24±1 小时.<br>24±1 hours exposure to a salt spray from<br>the 5±1% solution at 35±2℃.<br>(Based upon EIA-364-26A/MIL-STD-202<br>Method 101D Cond.B).<br>注: 此项测试只针对先冲后镀端子 | 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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|--------------------------------------|--|----------------------|------------------|
| 5-3-11<br>焊锡耐热性<br>Solder-Resistance | 焊接时间: 3~5 秒.<br>焊接温度: 250+5/-5℃.<br>Soldering time:3~5 sec solder.<br>Temperature:250+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   | 0.35  | 7                      | 5.6   | 1.75  |
| 2                      | 1.6   | 0.50  | 8                      | 6.4   | 2.00  |
| 3                      | 2.4   | 0.75  | 9                      | 7.2   | 2.25  |
| 4                      | 3.2   | 1.00  | 10                     | 8.0   | 2.50  |
| 5                      | 4.0   | 1.25  | 11                     | 8.8   | 2.75  |
| 6                      | 4.8   | 1.50  | 12                     | 9.6   | 3.00  |
| 双排 ( DOUBLE ROW )      |   |   |                        |   |   |
| 2*02                   | 3.2   | 1.00  | 2*08                   | 12.8  | 4.00  |
| 2*03                   | 4.8   | 1.50  | 2*09                   | 14.4  | 4.50  |
| 2*04                   | 6.4   | 2.00  | 2*10                   | 16.0  | 5.00  |
| 2*05                   | 8.0   | 2.50  | 2*11                   | 17.6  | 5.50  |
| 2*06                   | 9.6   | 3.00  | 2*12                   | 19.2  | 6.00  |
| 2*07                   | 11.2  | 3.50  |                        |   |   |

注：以上插拔次数为 30 次

Note : Insertion and Withdrawal for 30Cycles