

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

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

**索引【INDEX】**

1. 适用范围 【Scope】
2. 规格与料号 【Spec and Part number】
3. 材质与表面处理 【Disposal of Material and surface】
4. 额定等级 【Ratings and applicable wires】
5. 性能 【 Performance 】
  - 5-1. 电气的性能【Electrical Performance.】
  - 5-2. 机械的性能【Mechanical Performance】
  - 5-3. 环境性能及其它【Environmental Performance and Others】
6. 综合插入力及拔出力 【Insertion Force & Withdrawal Force】

# XFCN兴飞连接器有限公司

CONNECTORS XFCN CONNECTORS CO., LTD.

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|   |                             |            |
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| Product Specification [产品规格书]:                                    | ISSUED BY: Engineering Dept |            |
| Subject [主题]:<br>2.00mm Pitch 2010 Series Connector Specification | Date Issued                 | 2013/07/26 |
|   | Date Revised                | 2014/01/09 |

## 【1.适用范围 Scope】

此种规格包括 2.00mm Pitch 2010 Series 连接器规格说明.

This Specification Covers the 2.00mm Pitch 2010 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           | T2010PS-2                      | NONE                       |
| 胶壳/Housing            | P2010-XX-N0                    | NONE                       |
| 针座/Wafer              | M2010V-XX-XXX<br>M2010R-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 | 2016T-PSN: Tin Plated: Over 70 $\mu$ " .Nickel: Over 30 $\mu$ " .<br>2016T-PSNB: Tin Plated: Over 30 $\mu$ " .Nickel: Over 10 $\mu$ " . |   |
| 胶壳/Housing            | PA66               | UL 94V-0  |   |
| 针座/Wafer              | Base               | PA66  | UL 94V-0  |
|                       | PIN                | 黄铜/Brass  | Over Tin 70 $\mu$ " Plated ; Over 30 $\mu$ " 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.)           | 100V                                     | [AC/DC] |
| 额定电流 Rated Current (Max.)           | 2A                                       |         |
| 使用温度范围 Ambient temperature Range    | -25 ~+85                                 |         |
| 适用线径 Applicable wire insulation O.D | AWG 24#~30# Insulation O.D. 1.50mm(Max.) |         |

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

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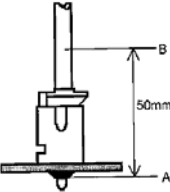
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Sheet: 2 of 7

|   |                             |            |
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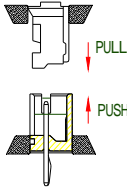
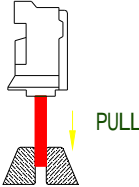
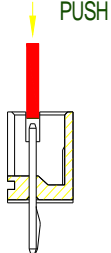
## 【5.性能 PERFORMANCE】

### 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        | <p>接触阻抗<br/>Contact Resistance</p> <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        | <p>绝缘阻抗<br/>Insulation Resistance</p> <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        | <p>耐电压<br/>Dielectric Strength</p> <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        | <p>铆线后端子接<br/>触阻抗<br/>Contact<br/>resistance on<br/>crimped<br/>portion</p> <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.

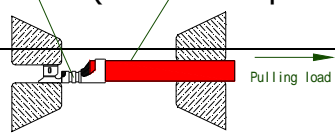
| 项目<br>【Item】   | 条件<br>【Test Condition】  | 规格<br>【Requirement】             |
|--|---|---------------------------------|
| 5-2-1<br><br>插拔力<br>Insertion<br>& Retention<br>Force            | 以每分钟 25.4±3mm 的速率插入和拔出。<br>Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute. <div style="text-align: center; margin-top: 10px;">  </div>  | 参照第 6 项<br>Refer to paragraph 6 |
| 5-2-2<br><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. <div style="text-align: center; margin-top: 10px;">  </div> | 14.7N {1.5kgf} Min.             |
| 5-2-3<br><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><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. <div style="text-align: center; margin-top: 10px;">  </div>  | 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>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# | #24 | #26 | #28 | #30 |
|  | Spec.kgf.<br>Min.   | 3.0  | 2.0  | 1.5 | 0.8 |     |     |
|  |   | 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<br>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<br>Resistance | 20 milliohms<br>Max.   |
| 5-3-2<br>温升测试<br>Temperature<br>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<br>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<br>Resistance | 20 milliohms<br>Max.   |
|   |   | 瞬断<br>Discontinuity           | 1 micro-second<br>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<br>Resistance | 20 milliohms<br>Max.   |
|   |   | 瞬断<br>Discontinuity           | 1 micro-second<br>Max. |

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Sheet: 5 of 7

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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-25 持续 30 分钟升至+85 持续 30 分钟,<br>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    | 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 Method 101D Cond.B).<br>此项只适用先冲后镀产品 : 2016T-PSN<br>先镀后冲产品不适用 | 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        | 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                 | 1.00  | 0.10  | 09                     | 6.00  | 1.20  |
| 02                     | 2.50  | 0.60  | 10                     | 6.50  | 1.40  |
| 03                     | 3.00  | 0.60  | 11                     | 7.00  | 1.40  |
| 04                     | 3.50  | 0.80  | 12                     | 7.50  | 1.60  |
| 05                     | 4.00  | 0.80  | 13                     | 8.00  | 1.80  |
| 06                     | 4.50  | 1.00  | 14                     | 8.00  | 1.80  |
| 07                     | 5.00  | 1.00  | 15                     | 8.00  | 1.80  |
| 08                     | 5.50  | 1.20  | 16                     | 9.50  | 2.20  |

注：以上插拔次数为 30 次

Note : Insertion and Withdrawal for 30Cycles

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