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| <b>Product Specification [产品规格书]:</b>                                    | Document No  | PS-6503-01 |
| <b>Subject [主题]:</b><br>2.54mm Pitch 6503 Series Connector Specification | Date Issued  | 2017/08/25 |
|  | Date Revised | 2020/03/10 |
|  | Version      | A0         |

This specification is referred to the 2.54mm series Female Hearer Connector

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**【1.适用范围 Scope】**

此种规格包括 2.54mm Pitch 6503 Series 排针连接器规格说明。  
This Specification Covers the 2.54mm Pitch 6503 Series Pin Header 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   |
|-----------------------|------------------------|--|
| 排针 / Pin header       | 6503WR-2*05Y-4TSWBKR   |  |

**【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   |
|-----------------------|-----------------|---|
| 排针<br>Pin Header      | Base            | PA4T  |
|                       | PIN             | 黄铜 (C2680) /Brass<br>Nickel Plated: 32~52u" (0.8-1.3μm)<br>Tin Plated: 16~60u"(0.4-1.5μm) |

(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.)        | 650 mA        |         |
| 使用温度范围 Ambient temperature Range | -40°C ~ +80°C |         |

【 \*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         | 接触阻抗<br>Contact Resistance    | 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).  | Initial:<br>20 milliohms Max.<br>After Test:<br>30 milliohms Max. |
| 5-1-2         | 绝缘阻抗<br>Insulation Resistance | 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)              | 1000 Megohms Min.   |
| 5-1-3         | 耐电压<br>Dielectric Strength    | 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) | 不出现中断等情况<br>No Breakdown and Flashover                            |



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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>Pin<br>针保持力<br>Pin Retention Force                     | 以每分 25.4±3mm 的速率,将 PIN 针从胶壳内轴向上拔出的力量.<br>At the rate of 25.4±3mm per minute, the force to pull the PIN PIN from the inner axis of the rubber shell upward        | 上排 2.4Kgf Min/PIN<br>下排 1.0Kgf Min/ PIN |
| 5-2-2<br>鱼眼脚插入力 (PCB 板孔)<br>Assembly force into PCB of each pin | 以每分 25.4±3mm 的速率,将鱼眼脚插入 PCB 板孔内轴向下的力量.<br>At the rate of 25.4±3mm per minute, insert the fish-eye foot into the inner shaft of PCB board hole downward force     | 11.0Kgf Max                             |
| 5-2-3<br>鱼眼脚保持力 (PCB 板孔)<br>Push out force from PCB of each pin | 以每分 25.4±3mm 的速率,将鱼眼脚从 PCB 板孔内轴向上拔出的力量.<br>At the rate of 25.4±3mm per minute, the force to pull the fish-eye foot from the inner axis of PCB board hole upward. | 2.0kgf Min.                             |

**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 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<br>30 milliohms Max. |



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| 5-3-2  | 温升测试<br>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）<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°C Max.  |
| <b>WRITTEN BY:Yangzhengguo</b>   |                          |   | <b>APPROVED BY:Lvtiansheng</b> |            |
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| 项目<br>【Item】 |                        | 条件<br>【Test Condition】   | 规格<br>【Requirement】           |                     |
|--------------|------------------------|--|-------------------------------|---------------------|
| 5-3-3        | 振动测试<br>Vibration test | 振幅: 1.5mm P-P<br>时间: 20~200~20 Hz in 3minute<br>持续时间: 每轴向 3 小时<br>加速度: 44m/S <sup>2</sup><br>开放电压: 20mV 以下<br>开放电流: 10mA 以下<br>Amplitude: 1.5mm P-P<br>Sweep time: 20~200~20 Hz in 3 minute<br>Duration: 3 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    | 30 milliohms Max.   |
|              |                        |  | 瞬断<br>Discontinuity           | 1 micro-second Max. |
| 5-3-4        | 冲击测试<br>Shock test     | 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    | 30 milliohms Max.   |
|              |                        |  | 瞬断<br>Discontinuity           | 1 micro-second Max. |
| 5-3-5        | 耐热性<br>Heat Resistance | 80±2°C,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    | 30 milliohms Max.   |
| 5-3-6        | 耐寒性<br>Cold Resistance | -40±5°C,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    | 30 milliohms Max.   |
| 5-3-7        | 耐湿性<br>Humidity        | 温度: 40±2°C<br>湿度: 90~95%(RH)<br>持续时间: 96 hours<br>Temperature: 40±2°C<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    | 30 milliohms Max.   |
|              |                        |  | 耐电压<br>Dielectric Strength    | Must meet 5-1-3     |
|              |                        |  | 绝缘阻抗<br>Insulation Resistance | 500 Megohms Min.    |



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|---------------|--------------------------------|--|-------------------------------|-------------------|
| 5-3-8         | 温度变化<br>Temperature<br>Cycling | 从-40℃持续 30 分钟升至+80℃持续 30 分钟,循环 5 次.<br>5 cycles of: a) -40℃ 30 minutes.<br>b) +80℃ 30 minutes.<br>(Based upon EIA-364-32B)   | 外观<br>Appearance              | 无异状<br>No Damage  |
|               |                                |  | 接触阻抗<br>Contact<br>Resistance | 30 milliohms 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%<br>solution at 35±2℃.<br>(Based upon EIA-364-26B/MIL-STD-202 Method 101D<br>Cond.B). | 外观<br>Appearance              | 无异状<br>No Damage  |
|               |                                |  | 接触阻抗<br>Contact<br>Resistance | 30 milliohms Max. |