

东莞市祥运连接器有限公司

DongGuan XiangYun Connectors CO.,Ltd

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产品规格书 PRODUCT SPECIFICATION

This specification is referred to the 2.50mm series wire to wire connector

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| 产品规格书[Product Specification]: | Date Issued: 2017-04-10 | Rev: B |
| 主题[Subject]:2.50mm Pitch 2511 & 2512 Series Connector Specification | | |
| APPROVED BY: 胡进 | CHECKED BY: 陶武汉 | WRITTEN BY: 陈雄军 |

1. 适用范围[SCOPE]:

此种规格包括SM2.50mm Pitch 系列连接器规格说明

This Specification Covers the SM2.50mm Pitch Series Connector Specification

2. 规格与料号[Spec and Part number]:

| 规格内容 Specification | 产品料号/Production No. | 产品图示 Picture of Product |
|-----------------------|---------------------|----------------------------|
| 胶壳/Housing | H2511-NP & H2512-NP | NONE |
| 端子/Terminal | T2511PT & T2512PT | NONE |

3. 材质与表面处理 [Disposal of Material and surface]

| 规格内容 Specification | 材质/ Materials | 表面处理 Disposal of Surface |
|-----------------------|--------------------|----------------------------------------------------------------------------------------------------------|
| 胶壳/Housing | Nylon 66 | UL 94V-0 |
| 端子/Terminal | 磷铜/Phosphor Bronze | Tin Plated: Over 40 μ " .Nickel: Over 10 μ Tin Plated: Over 70 μ " .Nickel: Over 30 μ |

(上述参数请以工程图为准/Please Refer to the Project drawing for the above Specification)

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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°C ~+85°C | |
| 适用线径Applicable wire insulation O.D | AWG 22#~28# Insulation O.D. 1.50mm(Max.) | |

5. 性能 [PERFORMANCE]

5-1. 电气的性能 Electrical Performance.

| 项目【Item】 | 条件【Test Condition】 | 规格 Requirement |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 5-1-1 接触阻抗 Contact Resistance | 对组合状态下连接器，于其两端施以最大测试电压20mV以及最大测试电流100mA。 A maximum voltage of 20mV and a maximum current of 100mA are applied to the mate connector. | 最大容许值. 20m 欧姆 Contact Resistance: 20 milliohms Max. |
| 5-1-2 绝缘阻抗 Insulation Resistance | 对相邻两接触导体，于一分钟时间内施予500V D/C 电压，并量测其间绝缘阻抗值。 Apply 500V D/C for 1 minute between adjacent contacts to measure the insulation resistance. | 最初容许值. 500M欧姆 Insulation Resistance: Initial 500megohms Min |
| 5-1-3 耐电压 Dielectric Strength | 对组合状态下连接器，于其相邻两导体末端各施以电压1000V A/C(实效值) 时间 1 分钟，且漏电流必须小于0.5mA(毫安培) Apply 1000V A/C (rms) for 1 minute and the leakage current shall not exceed 0.5mA to the adjacent terminal and ground of the mate connectors. | 无损毁或者产生火花 No Breakdown and Flashover; |

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5-2. 机械的性能 Mechanical Performance.

| 项目【Item】 | | 条件【Test Condition】 | 规格【Requirement】 |
|----------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| 5-2-1 | 插拔力 Insertion & Retention Force | 以每分钟25.4±3mm的速率插入和拔出。 Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute. | 参照第6项 Refer to paragraph 6 |
| 5-2-2 | 端子保持力 Terminal/Housing Retention Force | 以每分25.4±3mm的速率,将端子从Housing内轴向拔出的力量。 Apply axial pull out force at the speed rate of 25.4±3mm/minute on the terminal assembled in the housing. | 24.50N {2.50kgf} MINIMUM Retention force |
| 5-2-3 | 端子插入力 Crimp Terminal Insertion Force (into housing) | 铆线后之端子插入Housing所需最大力量。 Insert the crimped terminal into the housing. | 14.70N {1.50kgf} MAXIMUM Insertion force |
| 5-2-5 | 端子压着强度 Tensile strength (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。 Fix the crimped terminal, apply axial pull out force on the wire. (Do not crimp insulation part). | 22 Awg wire = 5.0kgf/Min. |
| | | | 24 Awg wire = 3.0kgf/Min. |
| | | | 26 Awg wire = 2.0kgf/Min. |
| | | | 28 Awg wire = 1.0kgf/Min. |

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5-3. 环境性能及其它 Environmental Performance and Others.

| 项目 【Item】 | | 条件【Test Condition】 | 规格 【Requirement】 |
|--------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 5-3-1 | 耐久性 Durability | 以组合状态下连接器且未经环境测试, 依每分钟内进行10次嵌入与拔出之最大速率, 连续50次嵌入与拔出往返测试 Mate Connectors up 50 Cycles at a Maximun rate of 10 cycles Per minute prior to environmental test | 经耐久性试验后接触阻抗: 最大值 20m 欧姆. (After the test) Contact resistance : 20 milliohms Max. |
| 5-3-2 | 温升测试 Temperature Rise | 以组合状态下连接器, 通过最大容许电流, 量测其导体温度上升值 Mate connector.measure the temperature rise of contact when the maximum rated current is passed | 组合状态下之连接器温度上升 最大容许值30℃ Max. Mate connectors Temperature Rise: 30℃/Max. |
| 5-3-3 | 耐振动 Vibration | 以组合状态下连接器焊接于电路板作为试验样品, 依照随附如下规格要求, 进行耐振动试验, 试验过程中确认是否产生不连续电流(断电)现象, 并于试验过后量测其接触阻抗 A mated connector shall be mounted on a printed Circuit board and subjected to a vibration test of the following conditions.During the test, test current continuity shall be checked. After the test, contact resistance shall be measured.Frequency (频率): 10~55~10 Hz/minute.Amplitude (振幅): 1.5 mm P-PDirection (方向):1. Axis of up and down. 上下轴向(Y轴) 2. Axis of right the left. 左右轴向(X轴) 3. Axis of front and back. 前后轴向(Z轴) Period (周期): 2 hours for each direction. (每一个轴向持续2小时) | 外观: 不可有异状 Appearance: No Damage |
| | | | 接触阻抗: 最大值 20m 欧姆 Contact Resistance: 20 milliohms Max. |
| | | | 电流中断: 1 μsec Max Current Discontinuity: 1 micro second Max. |

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| 5-3-4 | 耐冲击性 Shock | 在DC 1mA状态下, 包含嵌合轴, 相互垂直的6个方向, 用490m/s2 {50g}冲击, 各3回 490m/s2 {50G}, 6 strokes in each X.Y.Z. axes. | 外观: 不可有异状 Appearance: No Damage |
| | | | 接触阻抗: 最大值 20m 欧姆 Contact Resistance: 20 milliohms Max. |
| | | | 电流中断: 1 μ sec Max Current Discontinuity: 1 micro second Max. |
| 5-3-5 | 耐寒性 Cold Resistance | Mate connectors: Duration: 96 hours; Temperature: -25±3° C | 外观: 不可有异状 Appearance: No Damage |
| | | | 接触阻抗: 最大值 20m 欧姆 Contact Resistance: 20 milliohms Max. |
| 5-3-6 | 恒温恒湿 Humidity | 以组合状态下连接器放置于恒定温度与湿度的空间, 依照随附如下规格要求, 进行恒温恒湿试验, 并于试验过后量测其接触阻抗、绝缘阻抗、以及耐电压测试。 A mated connector shall be placed in a humidity chamber of the following conditions. After the test, the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured. Temperature(温度) : 40±2°C. Relative Humidity(相对湿度): 90%~95% (RH). Period(周期): 96 hours continuously. (持续96小时) | 外观: 不可有异状 Appearance: No Damage |
| | | | 接触阻抗: 最大值 20m 欧姆 Contact Resistance: 20 milliohms Max. |
| | | | 绝缘阻抗: 最小值 100M 欧姆 Insulation Resistance: 100 Megohms Min. |
| | | | 耐电压: 无损毁或者产生火花 Dielectric Strength: No Breakdown and Flashover; |

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| 5-3-7 | 冷热冲击 Thermal Shock | <p>以组合状态下连接器作为试验样品，依照随附如下规格要求，进行冷热冲击试验，并于试验过后量测其接触阻抗、绝缘阻抗、以及耐电压测试。</p> <p>A mated connector shall be subjected to a thermal shock test of the following conditions. After the test, the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured.</p> <p>以-55±3℃温度持续30分钟，经室温5分钟，而后再以85±3℃温度持续30分钟，再经室温5分钟，构成一次冷热循环，总计循环次数5次。</p> <p>One Cycle Consists Of:</p> <p>-55±3℃ for 30 minutes. →</p> <p style="padding-left: 40px;">Room Temp. 5 minutes</p> <p>85±3℃ for 30 minutes. →</p> <p style="padding-left: 40px;">Room Temp. 5 minutes</p> <p>Total Cycles: 5 Cycles.</p> | <p style="text-align: center;">外观：不可有异状 Appearance: No Damage</p> |
| | | <p style="text-align: center;">接触阻抗：最大值 20m 欧姆 Contact Resistance: 20 milliohms Max.</p> | |
| | | <p style="text-align: center;">绝缘阻抗：最小值 100M 欧姆 Insulation Resistance: 100 Megohms Min.</p> | |
| 5-3-8 | 高温老化试验 Thermal Aging | <p>以组合状态下连接器放置于加热烤箱当中，依照随附如下规格要求，进行高温老化试验，并于试验过后量测其接触阻抗。</p> <p>A mated connector shall be placed in a heat oven of the following conditions. After the test, contact resistance shall be measured.</p> <p style="text-align: center;">Temperature (温度)：85±2℃Period (周期)：96 hours continuously. (持续96小时)</p> | <p style="text-align: center;">外观：不可有异状 Appearance: No Damage</p> |
| | | <p style="text-align: center;">接触阻抗：最大值 20m 欧姆 Contact Resistance: 20 milliohms Max.</p> | |
| 5-3-9 | 盐水喷雾 Salt Spray | <p style="text-align: center;">在温度35±2℃，盐水浓度5 ±1%下， 盐水喷雾24±1</p> <p>24±1 hours exposure to a saltspray from the 5 ±1% solution at 35±2℃.</p> | <p style="text-align: center;">外观：不可有异状 Appearance: No Damage</p> |
| | | <p style="text-align: center;">接触阻抗：最大值 20m 欧姆 Contact Resistance: 20 milliohms Max.</p> | |

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6. 综合插入力及拔出力 [Insertion Force (I.F.) & Withdrawal Force (W.F.)] Unit: Kg/f

| PIN 数 No. Of Circuits | 首次插入力 First Insertion | 50次拔出力 50th Withdrawal | PIN 数No. Of Circuits | 首次插入力 First Insertion | 50次拔出力 50th Withdrawal |
|-----------------------------|-----------------------------|---------------------------|-------------------------|-----------------------------|------------------------------|
| | I. F. (MAX) 插入力 | W. F. (MIN) 拔出力 | | I. F. (MAX) 插入力 | W. F. (MIN) 拔出力 |
| 02 | 1.20 | 0.10 | 9 | 5.40 | 0.52 |
| 03 | 1.80 | 0.16 | 10 | 6.00 | 0.58 |
| 04 | 2.40 | 0.24 | 11 | 6.60 | 0.64 |
| 05 | 3.00 | 0.30 | 12 | 7.20 | 0.70 |
| 06 | 3.60 | 0.36 | 16 | 9.60 | 0.94 |
| 07 | 4.20 | 0.42 | 18 | 10.80 | 1.06 |
| 08 | 4.80 | 0.48 | | | |