

| | | |
|-------------------------------------|--------------|------------|
| Product Specification [产品规格书]: | Document No | PS-1044-01 |
| Subject [主题]: | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | Date Revised | 2023/09/09 |
| | Version | A0 |

This specification is referred to the 1044 series wire to board connector

索引【INDEX】

1. 适用范围【Scope】
2. 产品型号描述【Product Description】
3. 材质与表面处理【Material and Surface treatment】
4. 额定等级【Ratings and applicable wires】
5. 测试方法及要求【Test Methods and Requirements】
 - 5-1. 外观检查【Examination of product】
 - 5-2. 电气的性能【Electrical Performance.】
 - 5-3. 机械的性能【Mechanical Performance】
 - 5-4. 环境性能及其它【Environmental Performance and Others】

| | | |
|-------------------------------------|--------------|------------|
| Product Specification [产品规格书]: | Document No | PS-1044-01 |
| Subject [主题]: | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | Date Revised | 2023/09/09 |
| | Version | A0 |

【1.适用范围 Scope】

此种规格包括 1044Series 连接器规格说明.

This specification includes the 1044 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 |
|--|------------------------|---|
| 单排线端 Single row Housing | 1044A-XXX-PTXXX |  |
| 单排卧式针座 Single row Horizontal type Wafer | 1044WRS-XXX-LPXXXXX |  |
| 双排胶壳 double row Housing | 1044H-2*XXX-PTXX |  |
| 双排 retainer double row retainer | 1044C-2*XXX-PTXX |  |
| 双排卧贴针座 double row Horizontal type Wafer | 1044WRS-2*XXX-LPXXXXX |  |

【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 | PBT | UL 94V-0 |
| TPA | PBT | UL 94V-0 |
| 针座/ Wafer | Plastic :LCP | UL 94V-0 |
| | PIN: copper alloy | Top planting: Au 3u"(0.075um) ; Under Ni 50~100u"(1.25~2.5um) overall |

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

| | | |
|-------------------------------------|--------------|------------|
| Product Specification [产品规格书]: | Document No | PS-1044-01 |
| Subject [主题]: | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | Date Revised | 2023/09/09 |
| | Version | A0 |

【4. 额定等级 Ratings and applicable wires】

| 项 目 【Item】 | 规 格 【Standard】 | |
|----------------------------------|----------------|---------|
| 额定电压 Rated Voltage (Max.) | 200V Max. | [AC/DC] |
| 额定电流 Rated Current (Max.) | 1A Max. | |
| 使用温度范围 Ambient temperature Range | -40°C ~ +105°C | |

【5.测试方法及要求 Test Methods and Requirements】

5-1. 外观检查 Examination of product.

| 测试内容 Item | 规格要求 Specification requirements | 参考标准 Reference standard |
|-----------------------------|---|----------------------------|
| 产品外观检查 Visual Inspection | 借助 10 倍放大镜对每一个试验样品进行检查，详细记录所有制造或材料的瑕疵，如：裂缝、变色、毛刺等。 Inspect each sample with a 10x magnification, recording all defects in all process or material defects such as cracks, discoloration, flash, etc. | USCAR-2 Rev.7 5.1.8 |

5-2. 电气的性能 Electrical Performance.

| 项 目 【Item】 | 条件 【Test Condition】 | 规 格 【Requirement】 |
|--|--|--|
| 5-2-1 接触阻抗 Contact Resistance | 连接 FPC。然后测量每根导线之间的接触电阻。 Connect with applicable FPC, then contact resistance shall be measured between each coupled terminals | Initial: 30mΩ minimum Max. After environmental Test: 60mΩ Max. |
| 5-2-2 耐电压 Dielectric Strength | 500V 交流电 1 分钟。然后进行测量。 500V AC shall be applied for 1 minute, then measurement shall be made. | 无电弧或击穿等损坏 Without damage such as arc or breakdown etc |
| 5-2-3 绝缘阻抗 Insulation Resistance | 500V 直流 1 分钟后测量。 500V DC shall be applied for 1 minute, then measurement shall be made. | 100 MΩ Min |

| | | |
|-------------------------------------|--------------|------------|
| Product Specification [产品规格书]: | Document No | PS-1044-01 |
| Subject [主题]: | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | Date Revised | 2023/09/09 |
| | Version | A0 |

5-3. 机械的性能 Mechanical Performance.

| 项 目 【Item】 | 条 件 【Test Condition】 | 规 格 【Requirement】 |
|--|--|----------------------|
| 5-3-1 插入力 Connector mating force | 以每分钟 50mm/s 的速度插入，测量连接器的结合力。 Measure force necessary to mate connector assemblies at maximum rate of 50mm per minute. | 45N Max |
| 5-3-2 拔出力 Connector unmating force | 以每分钟 50mm/s 的速度拔出，测量连接器的拔出力。 Measure force necessary to unmate connector assemblies at maximum rate of 50mm per minute. | 40N Max |
| 5-3-3 Lock 保持力 Lock Strength | 将插好端子的公母座含卡扣以每分钟 50mm 的速度拔出所需要力量。 Mate connectors and apply pull-out force at the speed rate of 50mm/min .This Test should be done with positive lock locked. | 80N Min |
| 5-3-4 端子保持力 Terminal retention force | 测量端子从连接器外壳中取出时的保持力。 The retention force when the terminal is extracted from connector housing shall be measured | 0.5N Min |

| | | |
|-------------------------------------|--------------|------------|
| Product Specification [产品规格书]: | Document No | PS-1044-01 |
| Subject [主题]: | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | Date Revised | 2023/09/09 |
| | Version | A0 |

5-4. 环境性能及其它 Environmental Performance and Others.

| 项 目 【Item】 | | 条 件 【Test Condition】 | 规 格 【Requirement】 | |
|---------------|-----------------------------------|--|---|------------------|
| 5-4-1 | 低温放置 | 试样在 $-40\pm 3^{\circ}\text{C}$ 条件下暴露 1000 H 后.样品在标准大气条件放置 1h, 然后应进行测量。其他步骤见 JIS C 0020 After exposing to a temperature of $-40\pm 3^{\circ}\text{C}$ for 1000h.the specimen shall be Subjected to standard atmospheric conditions for 1h, then measurement shall be made.For other procedures,refer to JIS C 0020. | 外观 Appearance | 无异状 No Damage |
| | | | 接触阻抗 Contact Resistance | 60mΩ Max |
| 5-4-2 | 高温放置 Dry Heat | 试样在 $105\pm 3^{\circ}\text{C}$ 条件下暴露 1000 H 后. 样品在标准大气条件放置 1h, 然后应进行测量。其他步骤见 JIS C 0021. After exposing to a temperature of $105\pm 3^{\circ}\text{C}$ for 1000h, the specimen shall be Subjected to standard atmospheric conditions for 1h, then measurement shall be made.For other procedures,refer to JIS C 0021. | 外观 Appearance | 无异状 No Damage |
| | | | 接触阻抗 Contact Resistance | 60mΩ Max |
| 5-4-3 | Damp heat(single row) 高温高湿(单排) | 在温度为 $+105\pm 3^{\circ}\text{C}$, 湿度为 85% ~ 90%的条件下暴露 1000h 后, 在标准大气条件下放置 1h, 然后进行测量。其他步骤请参考 JISC 0022。 After exposing to a temperature of $+105\pm 3^{\circ}\text{C}$ a humidity in the range of 85%RH to 90%RH for 1000h the specimen shall be subjected to standard atmospheric conditions for 1H,then measurement shall be made. For other procedures refer to JIS C 0022. | 接触阻抗 60mΩ 最大 Contact Resistance 60mΩ Max | |

| | | | |
|-------------------------------------|------------------------------------|--|--|
| Product Specification [产品规格书]: | | Document No | PS-1044-01 |
| Subject [主题]: | | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | | Date Revised | 2023/09/09 |
| | | Version | A0 |
| 5-4-4 | Damp heat(double rows) 高温高湿(双排) | (a)Hold Chamber at(23±5)°C and 45% to 75% relative humidity(RH)for 4H (b)Raise chamber temperature(CT)to (55± 2)°C at 95% to 99% RH within 0.5H. (c)Hold CT to(55± 2)°C at 95% to 99%RH for 10H. (d)Lower CT to(-40±2)°C within 2.5h. (e)Hold CT to(-40±2)°C for 2h (f)Raise CT to 115±2°C within 1.5h from(-40±2)°C . (g)Hold CT to 115± 2°C for 2h. (h)Recover to(23± 5)°C within 1.5h. For double rows only. | Contact resistance 接触阻抗 60mΩ or less Max Insulation Resistance 绝缘阻抗 DC 500V 1min.: 500MΩ or more Withstand voltage 耐电压 AC 500V 1min* : Without damage such as arc or breakdown etc. 无电弧或击穿等损坏 |
| 5-4-5 | 热冲击 Thermal shock | 连接器应承受 1000 次连续的温度循环变化，每次变化如下表所示。在标准大气条件下放置 2h 后测量。其他程序参见 JIS C0025。The connector shall be subjected to 1000 successive change of temperature cycles each as shown in the table below.Then it shall be subjected to standard atmospheric conditions for 2h measurement shall be made. For other procedures, refer to JIS C 0025. -40+/-3°C :30min. Standard atmospheric condition 5min. 105+/-3°C :30min. Standard atmospheric condition 5min. | 接触阻抗 Contact Resistance 60mΩ Max |

| | | | |
|-------------------------------------|--|---|---|
| Product Specification [产品规格书]: | | Document No | PS-1044-01 |
| Subject [主题]: | | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | | Date Revised | 2023/09/09 |
| | | Version | A0 |
| 5-4-6 | 结露 (双排) Condensation (double rows) | <p>连接器应承受 3 次连续的温度变化周期，每次变化周期如下所示。然后在标准大气条件下放置 1h，然后进行测量。</p> <p>将下述内容作为一个循环进行 3 个循环。然后在常温常湿中放置 1 小时进行测定。-30 + / - 3°C:1 h, 25 + / - 3°C, 80 + / - 5% rh: 1 h</p> <p>在 1000 个循环热冲击试验结束后的样品上进行。</p> <p>The connector shall be subjected to 3 successive change of temperature cycles each as shown in the table below. Then it shall be subjected to standard atmospheric conditions for 1h, then measurement shall be made.</p> | 接触阻抗 60mΩ 最大 Contact Resistance 60mΩ Max |
| 5-4-7 | 冲击(单品状态) Shock(part) | <p>Pulse shape, half sign</p> <p>Peak acceleration: 784 ± 78.4 m/s²</p> <p>Duration of the pulse: 11ms</p> <p>Three successive shocks shall be applied in both directions of 3 mutually perpendicular axis (total 18 shocks).</p> <p>X、Y、Z 两个方向各 3 次，共 18 次。</p> | 不连续导通 1μ s or less Contact resistance 接触阻抗 60mΩ Max |

| | | | |
|-------------------------------------|-----------------------------------|---|--|
| Product Specification [产品规格书]: | | Document No | PS-1044-01 |
| Subject [主题]: | | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | | Date Revised | 2023/09/09 |
| | | Version | A0 |
| 5-4-8 | 振动(单排) Vibration(single rows) | <p>频率范围:10 至 200Hz/min 最大加速度:19.6 米/秒平方 时间:15min 在 3 个相互垂直的轴中的每一个 XYZ 两个方向各 10 小时共 30 小时 The entire frequency range: 10 to 200Hz/min Peak acceleration: 19.6m/s² Period: 15min This motion shall be applied for a period of 10h in each of 3 mutually perpendicular axis(total 30h) X、Y、Z 两方向各 10 时间、计 30 时间</p> | <p>不连续导通 1μ s or less (7Ω)</p> <p>接触阻抗 Contact resistance 60mΩ Max</p> |
| 5-4-9 | 振动(双排) Vibration (double rows) | <p>频率范围:对于双排, 10 至 500Hz/min 最大加速度:196 米/秒平方 时间:24h 在 3 个相互垂直的轴中的每一个 XYZ 两个方向各 24 小时共 72 小时 The entire frequency range: 10 to 500Hz/min Peak acceleration: 196m/s² Period: 24H This motion shall be applied for a period of 24h in each of 3 mutually perpendicular axis(total 72h) X、Y、Z 两方向各 24 时、计 72 时</p> | <p>不连续导通 1μs or less (7Ω)</p> <p>接触阻抗 Contact resistance 60mΩ Max</p> |

| | | | |
|-------------------------------------|--|---|---|
| Product Specification [产品规格书]: | | Document No | PS-1044-01 |
| Subject [主题]: | | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | | Date Revised | 2023/09/09 |
| | | Version | A0 |
| 5-4-10 | 共振点振动久 Resonance vibration | <p>Frequency, resonance vibration +/-3Hz Period: 12sec(straight) The frequency of vibration: 10[^] 7 times Acceleration table Resonance vibration: acceleration</p> <p>10-30Hz: 34.3(up and down) 36.3(right and left) 22.5(in front and behind)</p> <p>30-50Hz: 14.7 (up and down) 15.7 (right and left) 10.8(in front and behind)</p> <p>50-80Hz: 5.88(up and down) 6.86(right and left) 4.31(in front and behind)</p> <p>80-200Hz: 2.65(up and down) 2.84(right and left) 1.86(in front and behind)</p> | <p>不连续导通 1μ s or less</p> <p>接触阻抗 Contact resistance 60mΩ Max</p> |
| 5-4-11 | 耐硫化性(双排) Resistance to Sulfuration(double rows) | <p>连接器应在温度 40+/-2C、相对湿度 70%RH 的饱和气体环境(H2S 5+/-1ppm)下连续存放 96h。然后将连接器在标准大气条件下保持 1h, 然后在 1h 内进行测量。 The connector shall be stored at a sulfuration gas ambience (H2S 5+/-1ppm) temperature of 40+/- 2°C and relative humidity of 70%RH for 96h Continuously. Then the connector shall be maintained at standard atmospheric conditions for 1h after which measurement shall be made within 1h.</p> | <p>接触阻抗 Contact resistance 60mΩ Max Without distinct damage in appearance 外观无明显异常</p> |
| 5-4-12 | 重复插拔 | <p>Cycles: 10 times 次 Test speed: 100± 50 times/hour</p> | <p>接触阻抗 Contact resistance 60mΩ Max</p> |

| | | | |
|-------------------------------------|----------------------|---|--|
| Product Specification [产品规格书]: | | Document No | PS-1044-01 |
| Subject [主题]: | | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | | Date Revised | 2023/09/09 |
| | | Version | A0 |
| 5-4-13 | 盐水喷雾 Salt Spray | <p>The connector shall be subjected to a fine mist solution at a temperature of 35+/-2°C for 48H continuously. Salt solution is 5±1% by weight.</p> <p>Then it shall be subjected to Standard atmospheric conditions for 1h, and so measurement shall be made.</p> <p>For other procedures, refer to JIS C 60068-2-11</p> <p>连接器应在 35+/-2°C 温度下的细雾溶液中连续处理 48 小时。盐溶液为 5±1%。然后在标准大气条件下放置 1h, 并进行测量。</p> | <p>接触阻抗 Contact resistance 60mΩ Max</p> |
| 5-4-14 | 可焊性 solderability | <p>焊接时间: 2±0.5 秒.</p> <p>焊接温度: 235±5°C.</p> <p>Soldering time: 2±0.5sec solder.</p> <p>Temperature: 235±5°C.</p> <p>For other procedures, refer to JIS C 60068-2-20</p> | <p>浸锡性 Solder Wetting</p> <p>浸渍面积需 95%以上 A new uniform coating of solder shall cover a minimum of 95% of the surface being immersed.</p> |

| | | |
|-------------------------------------|--------------|------------|
| Product Specification [产品规格书]: | Document No | PS-1044-01 |
| Subject [主题]: | Date Issued | 2023/09/09 |
| 1044 Series Connector Specification | Date Revised | 2023/09/09 |
| | Version | A0 |

| | | | |
|--------|---------------------------------------|---|--|
| 5-4-15 | 焊锡耐热性 Resistance to Soldering Heat | <p>1) Reflow characteristics 加热条件 The connector housing shall be stored at a temperature, each as shown in the chart below.</p> <div style="text-align: center;"> </div> <ul style="list-style-type: none"> ① . . . Standing up part temperature Inclination 6°C or more/sec ② . . . 170~190°C 80~110sec ③ . . . Reflow part temperature inclination 4.5°C or more/sec ④ . . . 200°C or more MIN 70sec ⑤ . . . 220°C or more MIN 60sec ⑥ . . . Cooling part temperature inclination 6°C or more/sec <p>2) Manual Soldering using soldering iron Tip diameter: Selected to fit application Maximum tip temperature: 370°C Antistatic protection: Required Maximum exposure time: 3 sec</p> <p>3) Manual hot gas soldering Max air temperature: 285°C Max air velocity: 10m/sec Max exposure time: 30 sec</p> | <p>端子无变形或过度松动。 外观变形及端子无变形。 最大回流循环数: 2 个循环 Without deformation of care or excessive looseness of terminals. Maximum number of reflow cycles: 2 cycles</p> |
|--------|---------------------------------------|---|--|