

1. 适用范围 Scope:

此作业规范适用于: FPC PITCH 1.0 立式 NO-ZIF SMT 系列

This product specifications is applied for: FPC PITCH 1.0 vertical NO- ZIF SMT series

与 FPC/FFC 连接方式 Connected to the FPC/FFC : NO-ZIF

FPC/FFC 适合厚度 FPC/FFC is suitable for thickness : 0.30±0.03mm

2. 关联规格 Related specifications:

EIA-364 : 电子连接器及接插件测试程序 Electronic connectors and connector test procedure

UL STD-94 : 关于塑材设备零配件及器材阻燃性测试规范 On the plastic material and equipment spare parts and equipment flame retardancy test specification

3. 构造 尺寸 材料 Configurations dimensions and materials :

参见结构图 Reference the drawing.

| 序号 No. | 部 位 Position | 原材料供应商 material suppliers | 材料名/Type名 Materials | 防火等级 FLAME CLASS | UL 编号 FILE NO. |
|-----------|-----------------|------------------------------|------------------------|---------------------|-------------------|
| 1 | 主体 (HOUSING) | 宝理 POLYPLASTICS CO., LTD | LCP 473i Black/Natural | 94V-0 | E106764 |

4. 标准状态:

4.1 额定电压 Rating voltage: AC/DC 50V

4.2 额定电流 Rating current: 1.0A

4.3 温湿度范围 Temperature and humidity range

4.3.1 使用温度范围 operation temperature: -20℃~+85℃;

4.3.2 储存温度范围 storage temperature: -20℃~+85℃;

4.3.3 开封使用温度范围 Kaifeng temperature range: +5℃~+35℃;

开封使用湿度 Kaifeng Humidity 60%RH MAX.;

4.3.4 保存湿度范围: 相对湿度 45~80%RH; Keep humidity range: Relative humidity 45~80%RH;

5. 性能 Performance
5.1 构造 Structure

| 序号 NO. | 项 目 Item | 测试方法 Test conditions | 规格要求 Specifications |
|--------|---------------|----------------------|------------------------|
| 1 | 外观 Appearance | 目视 Visual | 无损坏 No physical damage |

5.2 电气性能 Electrical Performance

| 序号 NO. | 项 目 Item | 测试方法 Test conditions | 规格要求 Specifications |
|--------|--|---|---------------------------|
| 1 | 接触阻抗 Contact Resistance | 适配 FFC 标准线, 开放电压: 20mV 以下, 短路电流: 10mA 以下 Mate applicable FPC, measure by dry circuit, 20mV MAXIMUM, 10mA MAXIMUM | 30mΩ Max. |
| 2 | 绝缘阻抗 Insulation Resistance | 相邻端子间 DC 500V, 1 分钟 DC 500V between adjacent terminals, 1 minutes | 100MΩ Min. |
| 3 | 耐电压 Dielectric withstanding voltage | 相邻端子间 AC 500V, 感度电流 2mA, 1 分钟。 AC 500V between adjacent terminals, sensitivity of current 2mA, 1 minutes | 无击穿, 无短路 No Breakdown. |
| 4 | 温度上升 Temperature rise | 端子在额定电压·电流下工作时测量端子上升的温度 The rising temperature measurement terminal at rated current under. | 30℃ max |

本制品不含 SS-00259 和 ROHS 禁止使用的环境物质

This product does not contain SS-00259 and ROHS banned the use of environmental substances

| | | | | | |
|--|------------------|--|---------------------|--------------------|-----------------------------|
| 制 品 仕 样 书 Product specification | Part name | FPC PITCH 1.0 vertical NO- ZIF SMT series | | | |
| Amphenol Aorora Technology (Huizhou) Co.,Ltd | Part No. | F52L-1A7A1-110**-B*00 F52M-1A7A1-110**-D*00 | 1/4 | | |
| Document No. : IS.EQC.050 | Date: 2016/04/14 | Rev. : B | Written by: Rain | Checked by: May | Approved by: Hongkui.Liu |

5.3 机械性能 Mechanical performance

| 序号 NO. | 项目 Item | 测试方法 Test conditions | 规格要求 Specifications |
|--------|-----------------------------------|--|---|
| 1 | FFC/FPC 拔出力 Withdrawal force | FFC 插入 FPC 连接品后, 以 25~100mm/分匀速垂直拔出, 此动作重复三次后, 第四次才作测量资料的记录。 FFC insert the FPC connection with a 25~100mm/ product, uniform vertical pull, this action is repeated three times, fourth times for measurement data records. | 40gf/pin MIN. |
| 2 | FFC/FPC 插入力 Insertion force | FFC 以 25~100mm/分匀速垂直插入 FPC FFC vertically inserted at a constant speed to 25 to 100 mm/min FPC | 3000gf MAX |
| 3 | 端子保持力 Terminal Retention Force | 将端子 25~100mm/分匀速垂直从胶芯槽内拔出 Apply axial pull out force on the terminal assembled in the housing at the speed rate of 25~100mm per minute. | 200gf/terminal MIN. |
| 4 | 插拔耐久性 Durability | 以下动作进行 30 次巡回: FFC 插入、FFC 拔出 Following actions to 30 times tour: FFC insert, FFC pull out | 接触阻抗 Contact Resistance: 40mΩ MAX 无变形 no deformation 插入力 Insertion force: 3000gf MAX Withdrawal force: 40gf/pin MIN |

5.4 环境性能和其它 Environmental Performance and Others

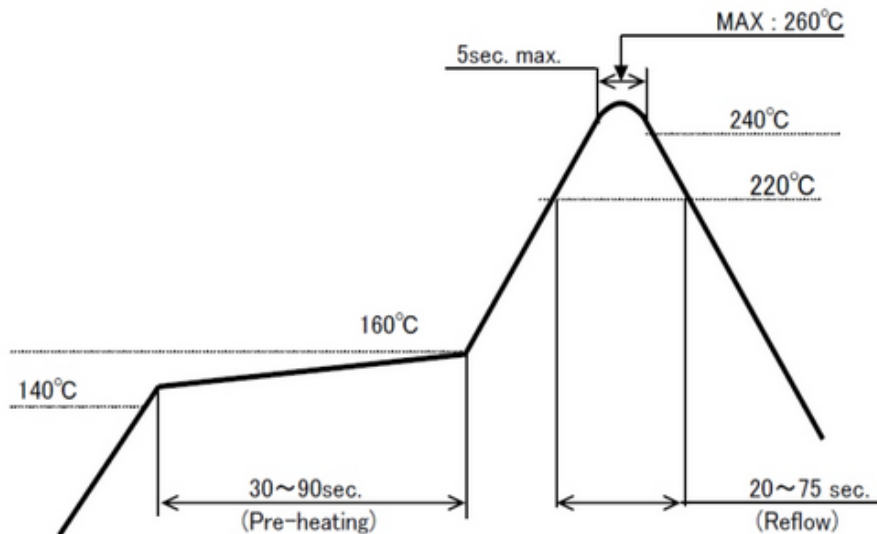
| 序号 NO. | 项目 Item | 测试方法 Test conditions | 规格要求 Specifications |
|--------|------------------------|---|---|
| 1 | 耐振性 Vibration | 配合合适的 FPC, 按以下条件, X、Y、Z 方向各 2 小时, 共 6 小时在测试过程中通过直流 1mA, 振幅 1.5mm, 频率 10-55-10Hz/分。 Mate applicable FPC, according to the following conditions, X, Z, Y direction of each 2 hours, a total of 6 hours passing DC 1mA during the test. Amplitude : 1.5mm P-P Frequency : 10-55-10 Hz Shall be traversed in 1 minute. | 接触阻抗初始规格值 2 倍以下 Contact impedance value 2 times the initial specifications. |
| 2 | 耐冲击性 Shock | 配合合适的 FPC, 按以下条件, X, Y, Z 方向各 11ms, 各 3 回, 共 18 回, 在测试过程中通过直流 1mA, 加速度 490m/s ² , Mate applicable FPC, according to the following conditions, X, Z, Y direction of the 11ms, the 3 times, a total of 18 times during the test process by DC 1mA. Test pulse : Half Sine Peak value : 490m/s ² {50G} Duration : 11 milliseconds | 不连续导通 1μs 以内; Not even the conduction within 1 μs 外观无异常 No abnormal appearance |
| 3 | 耐寒性 Cold Resistance | 配合合适的 FPC, -25±3℃中放置时间 96H 后取出, 1~2 小时常温放置后进行测试。 Mate applicable FPC, after -25±3℃, the time of 96H was removed, and the test was conducted at room temperature for 1~2 hours. | 1. 接触阻抗: 30mΩ Max. 2. 绝缘阻抗: 100 MΩ Min. 3. 耐电压: 无击穿, 短路 4. 外观: 无异常 |
| 4 | 耐热性 Heat Resistance | 配合合适的 FPC, 85 ± 2℃中放置时间 96H 后取出, 1~2 小时常温放置后进行测试。 Mate applicable FPC, after 85±3℃, the time of 96H was removed, and the test was conducted at room temperature for 1~2 hours. | 1. Contact Resistance: 30mΩ Max. 2. Insulation Resistance : 100 MΩ Min. |
| 5 | 耐湿性 Humidity | 配合合适的 FPC, 40±3℃、相对湿度 90~95%中放置时间 96H 后取出, 1~2 小时常温放置后进行测试。 Mate applicable FPC, 40±3℃, relative humidity 90~95% in the time of 96H after removal, 1~2 hours after room temperature for testing. | 3. Dielectric withstanding voltage: No Breakdown. 4. No abnormal appearance |

本制品不含 SS-00259 和 ROHS 禁止使用的环境物质
This product does not contain SS-00259 and ROHS banned the use of environmental substances

| | | | | |
|--|------------------|--|---------------------|---|
| 制品仕様书 Product specification | Part name | FPC PITCH 1.0 vertical NO- ZIF SMT series | | |
| Amphenol Aorora Technology (Huizhou) Co.,Ltd | Part No. | F52L-1A7A1-110**-B*00 F52M-1A7A1-110**-D*00 | 2/4 | |
| Document No. : IS.EQC.050 | Date: 2016/04/14 | Rev. : B | Written by: Rain | Checked by: May Approved by: Hongkui.Liu |

| 序号 NO. | 项目 Item | 测试方法 Test conditions | 规格要求 Specifications |
|--------|-----------------------|---|--|
| 6 | 盐雾试验 Salt Spray | 配合合适的 FPC, 温度 $35 \pm 2^\circ\text{C}$; 盐水比重 $5 \pm 1\%$ 喷雾试验 48H, 试验后常温水洗干燥后进行测试。 Temperature suitable FPC, $35 \pm 2^\circ\text{C}$; 5 plus or minus 1% of the total salt spray test 48 h, normal temperature after washing dry test after test | 1. 接触阻抗: $30\text{m}\Omega$ Max. 2. 绝缘阻抗: $100\text{M}\Omega$ Min. 3. 耐电压: 无击穿, 短路 4. 外观: 无异常 1. Contact Resistance: $30\text{m}\Omega$ Max. 2. Insulation Resistance: $100\text{M}\Omega$ Min. 3. Dielectric withstanding voltage: No Breakdown. 4. No abnormal appearance |
| 7 | 冷热冲击 Thermal Shock | 配合合适的 FPC, $-55 \pm 3^\circ\text{C}$; $85 \pm 2^\circ\text{C}$ 的温度下各放置 30 分钟, 共进行 5 次循环 Mate applicable FPC, $-55 \pm 3^\circ\text{C}$, $85 \pm 2^\circ\text{C}$, 30 minutes, 5 cycles were performed. 1: -55°C 30 minutes 2: $+85^\circ\text{C}$ 30 minutes | 3. Dielectric withstanding voltage: No Breakdown. 4. No abnormal appearance |
| 8 | 沾锡性 Solderability | 端子焊脚和固定片前端 0.3mm, 沾锡温度 $245 \pm 5^\circ\text{C}$ (Sn: Lead Free); 时间 $3 \pm 0.5\text{S}$ Terminal welding feet and fitting nail front 0.3mm, soldering temperature $245 \pm 5^\circ\text{C}$ (Sn: Lead Free); time $3 \pm 0.5\text{S}$ | 吃锡饱满, 在 95% 以上 95% of immersed area must show no voids, pin holes |
| 9 | Reflow 耐热性 | 预备加热时间: 150°C 80s, $180^\circ\text{C} \sim 230^\circ\text{C}$ 40s, MAX $230 \sim 240^\circ\text{C}$ 25s 进行两次。 Pre-heating time: 150°C 80s, $180^\circ\text{C} \sim 230^\circ\text{C}$ 40s, MAX $230 \sim 240^\circ\text{C}$ 25s For the first of two | 共面度 0.10mm Max. 外观无异常, Coplanar degree 0.10mm Max. No abnormal appearance. |
| 10 | Whisker (Tin 镀锡品) | 过 reflow 后插入 FPC, 放置 500H, 观察 WHISKER 的长度 Insert FPC after reflow, place 500H, observe the length of Whisker | $100\mu\text{m}$ max |

Reflow Condition:



REFLOW TEMPERATURE PROFILE
(Temperature on the product surface)

本制品不含 SS-00259 和 ROHS 禁止使用的环境物质
This product does not contain SS-00259 and ROHS banned the use of environmental substances

| | | | | | |
|--|------------------|--|---------------------|--------------------|-----------------------------|
| 制品仕様书 Product specification | Part name | FPC PITCH 1.0 vertical NO- ZIF SMT series | | | |
| Amphenol Aorora Technology (Huizhou) Co.,Ltd | Part No. | F52L-1A7A1-110**-B*00 F52M-1A7A1-110**-D*00 | 3/4 | | |
| Document No. : IS.EQC.050 | Date: 2016/04/14 | Rev. : B | Written by: Rain | Checked by: May | Approved by: Hongkui.Liu |

6. 包装 Packaging

参考包装图 Refer to the packing figure

7. 修改内容 Change content

| 版本 Rev. | 改正日期 Modify date | 改正内容 Modifications | Written by | Checked by |
|------------|---------------------|---|------------|------------|
| A | 2014/08/11 | New | 贺恩海 | 叶正闲 |
| B | 2016/04/14 | 更新为中英文对照, 料号升级 Updated to contrast in both Chinese and English, Part No. upgrade | Rain | May |
| | | | | |

本制品不含 SS-00259 和 ROHS 禁止使用的环境物质

This product does not contain SS-00259 and ROHS banned the use of environmental substances

| | | | | | |
|--|------------------|--|---------------------|--------------------|-----------------------------|
| 制 品 仕 样 书 Product specification | Part name | FPC PITCH 1.0 vertical NO- ZIF SMT series | | | |
| Amphenol Aorora Technology (Huizhou) Co.,Ltd | Part No. | F52L-1A7A1-110**-B*00 F52M-1A7A1-110**-D*00 | 4/4 | | |
| Document No. : IS.EQC.050 | Date: 2016/04/14 | Rev. : B | Written by: Rain | Checked by: May | Approved by: Hongkui.Liu |