

1. 适用范围 Scope:

此作业规范适用于: 0.5Pitch FPC/FFC 立式掀盖式系列 SMT H5.8

This product specifications is applied for: Pitch0.5 FPC/FFC vertical lift cover type SMT H5.8 series
与 FPC/FFC 连接方式 Connected to the FPC/FFC : 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 Liquid crystal polymer 473i(自然色 Natural) | V-0 | E106764 |
| 2 | 推杆 (ACTUATOR) | 宝理 POLYPLASTICS CO., LTD | LCP Liquid crystal polymer473i(黑色 Black) | V-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: 0.5A

4.3 温湿度范围 Temperature and humidity range

4.3.1 使用温度范围 operation temperature: -40℃~+105℃;

4.3.2 储存温度范围 storage temperature: -40℃~+105℃;

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 humidity45~80%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


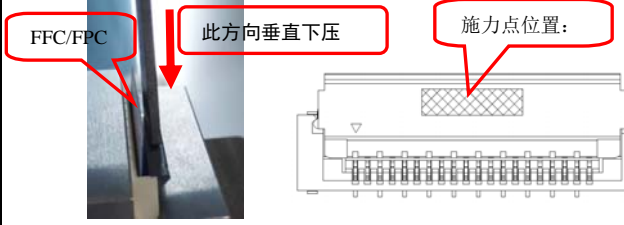
| 序号 NO. | 项 目 Item | 测试方法 Test conditions | 规格要求 Specifications |
|--------|--|--|---------------------------|
| 1 | 接触阻抗 Contact Resistance | 适配 FFC 标准线, 开放电压: 20mV 以下, 短路电流: 10mA 以下 Mate applicable FPC, measure by dry circuit, 20mV MAXIMUM, 10mA MAXIMUM | 30mΩ Max. |
| 2 | 绝缘阻抗 Insulation Resistance | 相邻端子间 DC 500V, 1 分钟。 DC 500V between adjacent terminals, 1 minutes | 500MΩ 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 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 | Pitch0.5 FPC/FFC vertical lift cover type SMT H5.8 series | | |
| Amphenol Aorora Technology (Huizhou) Co.,Ltd | Part No. | F31S-1A7*1-110** | 1/6 | |
| Document No.: IS.EQC.034 | Date: 2017/03/22 | Rev.: F | Written by: May | Checked by: Rain Approved by: Xiaohong. Zhu |

5.3 机械性能 Mechanical performance

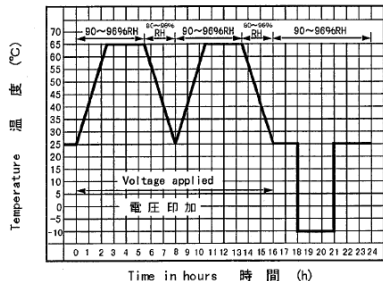
| 序号 NO. | 项目 Item | 测试方法 Test conditions | 规格要求 Specifications |
|--------|--|--|--|
| 1 | FFC/FPC 保持力 FFC/FPC Retention Force | FFC 插入 FPC 连接品后, 以 25~100mm/分匀速垂直拔出, 此动作重复三次后, 第四次才作测量资料的记录。 FFC insert the FPC connection with a 25~100mm/ product, uniform vertical pull, this action is repeated three times, fourth times for measurement data records. | 20gf/pin Min. |
| 2 | 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. | 100gf/terminal Min. |
| 3 | 固定片 保持力 Anchor-Plate Retention Force | 将固定片 25~100mm/分匀速垂直从胶芯槽内拔出 Apply axial pull out force on the Anchor-Plate assembled in the housing at the speed rate of 25~100mm per minute. | 500gf/terminal Min. |
| 4 | 掀盖作用力 (不含 FFC/FPC) Slider Force (Not Include FFC/FPC) | FFC 线未插入主体, 测量 SLIDER 首次下压作用力。 FFC line not inserted into the main body, the measurement of the SLIDER down force for the first time  | 掀盖下压力: 10~20PIN:180gf Min 30~40pin: 300gf Min 50~70pin: 400gf Min |
| | 掀盖作用力 (含 FFC/FPC) Slider Force (Include FFC/FPC) | 将 FFC 线插入主体, 掀盖下压入, 掀盖拔起, 此动作重复三次后, 第四次才做测量数据的记录。 Insert the FFC line the main body, lift the lid down into the lift cover pull up, repeat the action after three times, for the fourth time to do the measurement data record.  | 掀盖下压力: 3200gf Max Open the slider force: 3200gf Max. 掀盖拔起力 (Close the slider Force): 10~30PIN: 150gf Min. 40~70PIN: 500gf Min. |
| 5 | 插拔耐久性 Durability | 以下动作进行 30 次巡回: FPC 插入、打开掀盖、关闭掀盖、FPC 拔出 The following action 30 Tour FPC insert, Open the Slider, Close the slider, FPC withdraw | 接触阻抗 Contact Resistance 50mΩ Max . 端子无变形, 无裂痕 Terminal no deformation, No cracks |

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 50mΩ Max. Contact Resistance: 50mΩ Max. |
| 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 | 瞬断 1μs 以内; Discontinuity: 1μs Max. 外观无异常 No abnormal appearance |

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| | | | | |
|--|------------------|--|--------------------|--|
| 制品仕様书 Product specification | Part name | Pitch0.5 FPC/FFC vertical lift cover type SMT H5.8 series | | |
| Amphenol Aorora Technology (Huizhou) Co.,Ltd | Part No. | F31S-1A7*1-110** | 2/6 | |
| Document No. : IS.EQC.034 | Date: 2017/03/22 | Rev. : F | Written by: May | Checked by: Rain Approved by: Xiaohong. Zhu |

| 序号 NO. | 项目 Item | 测试方法 Test conditions | 规格要求 Specifications |
|--------|--|---|--|
| 3 | 耐寒性 Cold Resistance | 配合合适的FPC, -40±3°C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 -40±3°C, the time of 96H was removed, and the test was conducted at room temperature for 1~2 hours. | 1. 接触阻抗: 50mΩ Max. 2. 绝缘阻抗: 500 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, 105±2°C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 105±2°C, the time of 96H was removed, and the test was conducted at room temperature for 1~2 hours. | 1. Contact Resistance: 50mΩ Max. 2. Insulation Resistance : 500 MΩ Min. 3. Dielectric withstanding voltage: No Breakdown. 4. No abnormal appearance |
| 5 | 耐湿性 Humidity | 配合合适的FPC, 40±3°C、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°C, relative humidity 90~95% in the time of 96H after removal, 1~2 hours after room temperature for testing. | 1. Contact Resistance: 50mΩ Max. 2. Insulation Resistance : 500 MΩ Min. 3. Dielectric withstanding voltage: No Breakdown. 4. No abnormal appearance |
| 6 | 盐雾试验 Salt Spray | 配合合适的FPC, 温度35±2°C; 盐水比重5±1%喷雾试验, 试验后常温水洗干燥后进行测试。 A: 镀金 48h B: 镀锡 24h C: 单pin端子 48h Mate applicable FPC, the temperature of 35±2°C, the proportion of salt water was 5±1% the test was carried out at room temperature after washing and drying. A: gold plating 48H B: tin 24h C: single pin terminal 48H | 1. 接触阻抗: 50mΩ Max. 2. 绝缘阻抗: 500 MΩ Min. 3. 耐电压: 无击穿, 短路 4. 外观: 无异常 |
| 7 | 冷热冲击 Thermal Shock | 配合合适的FPC, -55±3°C; 85±2°C的温度下各放置30分钟, 共进行5次循环 Mate applicable FPC, -55±3°C, 85±2°C, 30 minutes, 5 cycles were performed. 1: -55°C 30 minutes 2: +85°C 30 minutes | 1. Contact Resistance: 50mΩ Max. 2. Insulation Resistance : 500 MΩ Min. 3. Dielectric withstanding voltage: No Breakdown. 4. No abnormal appearance |
| 8 | 耐湿性 (温湿度循环) Humidity (Temperature and Humidity Cycle) | 配合合适的FPC, 依照下面曲线完成5次循环试验。 Mate applicable FPC, complete the 5 cycle test according to the curve below.  | 1. Contact Resistance: 50mΩ Max. 2. Insulation Resistance : 500 MΩ Min. 3. Dielectric withstanding voltage: No Breakdown. 4. No abnormal appearance |
| 9 | 沾锡性 Solderability | 端子焊脚和固定片前端0.3mm, 沾锡温度245±5°C (Sn: Lead Free); 时间3±0.5S Terminal welding feet and fitting nail front 0.3mm, soldering temperature 245±5°C (Sn: Lead Free); time 3±0.5S | 吃锡饱满, 在95%以上 95% of immersed area must show no voids, pin holes |
| 10 | 焊锡耐热性 Resistance to Soldering Heat | 端子焊脚和固定片前端0.3mm, 烙铁温度350±10°C (Sn: Lead Free); 时间10+1/-0 S Terminal welding feet and fitting nail front 0.3mm, soldering Iron temperature 350±10°C (Sn: Lead Free), time: 10+1/-0 S | 共面度0.10mm Max. 满足电气性能, 外观无异常, Coplanar degree 0.10mm Max. |
| 11 | Reflow | 预备加热时间 Pre-heating time: 170°C~190°C 60~180s。 焊锡温度时间 Soldering Temperature Time: 260°C 10sMAX. | Meet the electrical properties , No abnormal appearance. |
| 12 | 耐溶剂 Solvent | 将产品放入异丙基酒精容器中90秒后取出。 Product into the isopropyl alcohol container removed after 90 seconds. | 满足电气性能, 外观无异常。 Meet electrical performance No abnormal appearance. |

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6. 包装 Packing

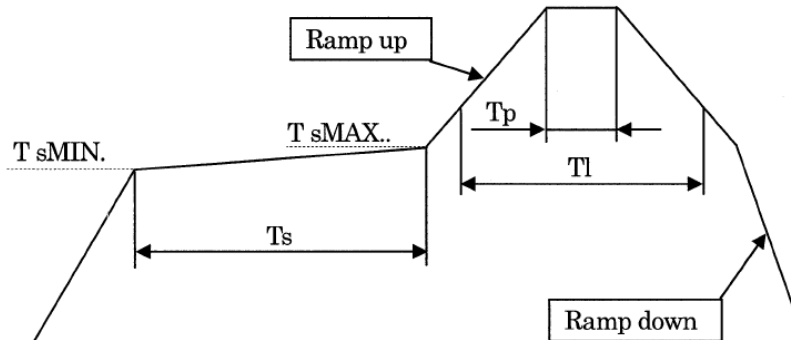
参见捆包图。See the drawing

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 | 2014/07/10 | New | May | Rain |
| B | 2014/11/08 | 增加操作说明 (Increase operation instructions) | May | Rain |
| C | 2015/12/29 | 更新为中英对照版本 | May | Rain |
| D | 2016/04/07 | 修正接触电阻参数 Modify contact resistance parameters | May | Rain |
| E | 2016/06/30 | 增加掀盖作用力测试操作示意图及注意事项 Increase lift force test operation schematic diagram and matters needing attention | May | Rain |
| F | 2017/3/22 | 修正焊锡温度条件及耐热性测试条件 Modify the test conditions | Mat | Rain |

Reflow Condition:

| Profile Feature | Lead-free Eutectic Assembly |
|---|--------------------------------------|
| 温度上升 Ramp up Rate(Tsmax to Tp) | :1~4°C/S |
| . Pre-heat Ts MIN. Ts MAX. Time(Ts MIN. TO Ts MAX.) | :170°C MIN :190°C MAX :60~180S |
| T 1 温度 (temperature) 时间 (time) | :225°C MIN :60~150S |
| T p(Peak) 温度 (temperature) 时间 (time) | :260°C MAX(255°C MIN.) :10S MAX |

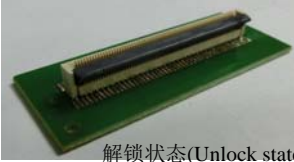
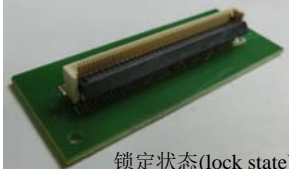
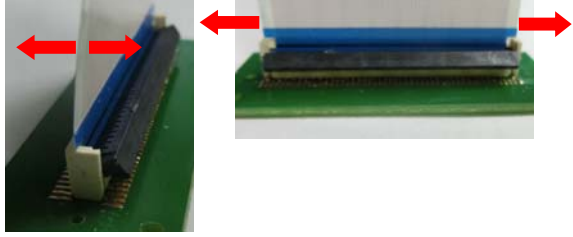
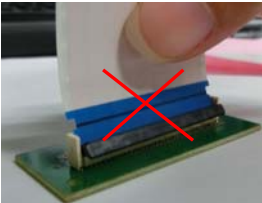
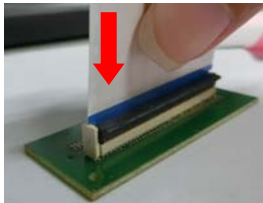
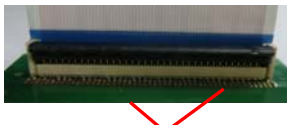
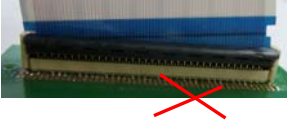
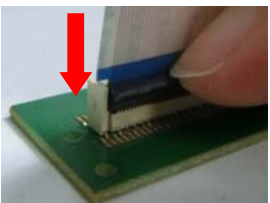
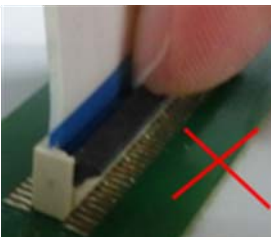
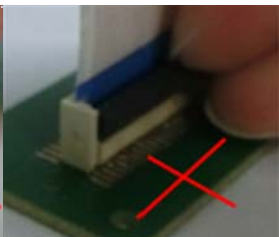


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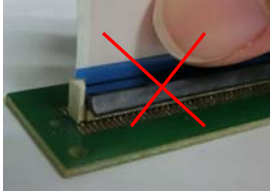

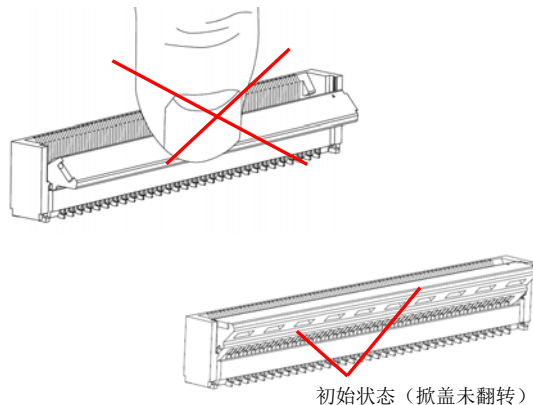
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操作说明和注意事项 Operating instructions and matters needing attention

| 操作说明 (Operating instructions): | 注意事项 (Matters needing attention) |
|--|--|
| <p>1): 解锁状态: 掀盖向上拨动为解锁状态, 即产品装贴后的初始状态 Unlock state: Close the slider is unlocked, namely the Product after installation initial sata</p> <p>锁定状态: 掀盖向下压为锁定状态, 靠人的食指和拇指甲向下拨动, 可以很简单的操作. Lock state: Open the slider is locked, By the thumb and index finger to pull down, it can be a very simple operation.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>以上必需在连接器已装贴在电路板上的状态下实施 Above must be implemented in a state that the connector is mounted on the circuit board.</p> | <p>1): 对 FFC, 请在其左右方不要施加拉力, 或在其端子间距方向施加撬动力. For FFC, please do not pull the pull force on the left or the right side, or in the direction of the terminal spacing.</p> <div style="text-align: center;">  </div> |
| <p>2): 插入 FFC: 请在掀盖未打开 (解锁) 状态下进行, FFC 的导体面朝掀盖的反方向, FPC 相对于连接器垂直插入, 要确认 FFC 插到顶住本体的底部. 本产品在设计上, 掀盖不能打开, 所以在其上面不要施加超出此范围的力, 否则会出现 FFC 不能插入或插入不到位或插入倾斜现象. Insert the FFC: Please do not open the slider is not opened (lock state), FFC the opposite direction of the conductor face lift, FPC relative to the connector vertical insertion, to confirm the FFC plug into the bottom of the body. This product in the structure design, lift the lid can not be opened, so in the above, do not apply force beyond this range, otherwise it will appear FFC can not insert or insert into the tilt phenomenon.</p> <div style="display: flex; justify-content: space-around;">   </div> | <p>2): 请将 FFC 正确地插入连接器的插入口. 要确认 FFC 插到顶住本体的底部, 如果不正确的插入, 会导致短路, 导通不良. 插入 FFC 时, 不要用力擦蹭连接器插入口的下面, 否则端子会与 FFC 强烈碰撞, 导致端子变形, FFC 导体剥落等的不良. Please insert the FFC correctly into the insertion port of the connector to confirm that the FFC inserted into the bottom of the body, if not properly inserted, will lead to short circuit, lead to bad. Insert FFC, do not rub the connector into the mouth, or the terminal will be strongly impact with FFC, resulting in terminal distortion, FFC conductor peeling off and so on.</p> <div style="display: flex; justify-content: space-around;">   </div> |
| <p>3): 锁 FFC: 向下按掀盖的中间部位, FFC 半插入、或插入错位极大时, 掀盖的卡住状态不佳, 会浮起. 此时, 要按 4) 的拔出方法取出 FFC, 再次从 1) 开始操作. 同时, 进行锁定作业时, 要固定好连接器. Down by the middle part of the lift slider, FFC semi insert, or insert a great when the lift slider of the stuck state is not good, will float.</p>  | <p>3): 请避免用手指捏或拔掀盖 (特别是用指甲拨动) 等的操作 Please do not use your fingers to pinch or pull off the slider (especially with the nail), and so on.</p> <div style="display: flex; justify-content: space-around;">   </div> |

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|---|-------------------------|--|----------------------------|-----------------------------|---------------------------------------|
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| 操作说明 (Operating instructions): | 注意事项 (Matters needing attention) |
|---|--|
| <p>4) : 拔出 FFC: 依照 1 的方法进行关闭掀盖;在拔出 FFC 时,请在掀盖完全关闭 (解锁) 状态下进行. 万一在掀盖未完全关闭的状态下, 拔出 FFC, 重新装入 FFC 时, 请确认触点部位是否有附着物.</p> <p>PULL OUT FFC: Close the lift off the slider at 1. When the FFC is pulled, the FFC is pulled out, and if the FFC is not completely closed, the contact area is to be attached.</p>  | <p>4) :如果是大 PIN 数的时候请用双手大拇指及食指相互配合按盖子的两端进行下压掀盖进入锁定状态.</p> <p>If this is a big pin number when you use both hands thumb refers to the index finger and cooperate with each other according to the two ends of the cover pressure lift cover into the locking state.</p>  <p>5) :未焊板前, 产品掀盖不可随意翻转, 保持初始状态.</p> <p>Before welding plate, product lift cover an optional flip maintain the initial state</p>  <p style="text-align: center;">初始状态 (掀盖未翻转)</p> |

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

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|--|------------------|-----------|--|---------------------|-------------------------------|
| 制品仕様书 Product specification | | Part name | Pitch0.5 FPC/FFC vertical lift cover type SMT H5.8 series | | |
| Amphenol Aorora Technology (Huizhou) Co.,Ltd | | Part No. | F31S-1A7*1-110** | 6/6 | |
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