

1 适用范围 Scope:

此作业规范适用于: 0.5 PITCH FPC CONN. ZIF R/A SMT H=2.0 掀盖式

This product specifications is applied for: 0.5 PITCH FPC CONN. ZIF R/A SMT H=2.0

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	V-0	E106764
2	推杆 (ACTUATOR)	可乐丽 KURARAY CO., LTD	PA9T Polyamide 9T	V-0	E90350

4 标准状态 Rating

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°C~+105°C;

4.3.2 储存温度范围 storage temperature: -10°C~+40°C;

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

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 Struction

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 performances

序号 NO.	项目 Item	测试方法 Test conditions	规格要求 Specifications
1	接触阻抗 Contact Resistance	短路电流: 10mA, 最大开放电压: 20mV, 使用电线: 适配 FFC 标准线。 It shall be measured by the dry electric circuit specified as follows; 10mA, 20mV.	30mΩ 最大 30mΩ Max.
2	绝缘阻抗 Insulation Resistance	相邻端子间 DC 500V, 1 分钟。 It shall be measured by 500V DC Voltage while it applied to between next terminals.	500 MΩ 最小 500MΩ Min.
3	耐压测试 Dielectric withstanding voltage	相邻端子间 AC 500V, 感应电流 2mA, 1 分钟。 AC 500V shall be applied for one minute to between next terminals	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。 When operating at rated voltage, current, temperature rise measuring terminals.	30°C 最大 30°C Max.

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Amphenol Aorora Technology (Huizhou) Co.,Ltd	Part number	F300-1B**1-110** F300-1B**1-110**-E100 F305-1*7H1-110**-E*00 F301-1B7H1-110**-E*00 F522-1B7H1-11010-E100 F51L-1B7H1-11010-K F505-1A**1-E7***	1/7	
Document number: IS.EQC.083	Date: 2022/10/28	REV: G	Make: May	Check: SH. Chen Approve: Rain. Han

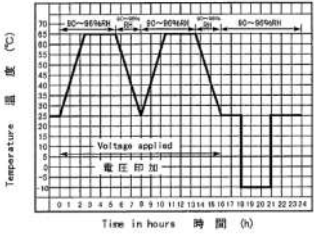
5.3 机械性能 Mechanical performance

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	FFC/FPC(标配厚度 0.30mm)插入 FPC 连接产品后,压合掀盖,打开掀盖,此动作重复三次;第四次合盖后以 25~100mm/分均速水平拔出,此次作为测量资料的记录。(无耳扣 FFC/FPC 测试) FFC/FPC(T=0.30MM) insert FPC connector products, after pressing lift cover, opens the cover, repeat this three times this action; Fourth or cover with 25 to 100 mm/points after average vertical pull out, as the measurement data record.	30gf/pin Min.
2	端子保持力 Terminal retention	将端子 25~100mm/分匀速垂直从胶芯槽内拔出 Are 25 to 100 mm/min uniform vertical uproot from rubber core slot	100gf/terminal Min.
3	固定片保持力 Fixed retention	将固定片 25~100mm/分匀速垂直从胶芯槽内拔出 Will be fixed at a constant speed 25 to 100 mm/min vertical uproot from rubber core slot	100gf/terminal Min.
4	掀盖动作力 (高温后不装皮线) Lift the cover action force (Don't put leather line after high temperature)	主体内不插入 FFC(皮线),测掀盖压下力,掀盖拉起力,此动作重复三次后,第四次才作测量数据的记录。 Within the body is not inserted into the FFC (skin), lift the lid pressure dint, lift the lid pull force, the action after repeated three times, for the fourth time to make record of measurement data.	掀盖压下力:500gf Max. Lift the cover pressure dint 500gf Max. 掀盖拔出力:40gf Min. Lift the cover pressure dint 40gf Min.
	掀盖动作力 (高温后装皮线) Lift the cover action force After high temperature leather line	将 FFC 线插入主体,掀盖压下力,掀盖拉起力,此动作重复三次后,第四次才作测量数据的记录。 Insert the FFC line the main body, lift cover pressure dint, lift the lid pull force and the action after repeated three times, for the fourth time to make record of measurement data.	掀盖压下力 Lift the cover pressure dint:1500g/f Max. 掀盖拔出力 Lift the cover pressure dint: 150g/f Min.
5	耐久插拔性 durability	以下动作进行 30 次巡回: FPC 插入、SLIDER 插入、SLIDER 拔出、FPC 拔出 Thirty times tour the following actions: FPC insert, insert the SLIDER pull, pull out the SLIDER, FPC Pull out	接触阻抗 Contact Resistance: 50mΩ Max . 端子无变形,无裂痕 No abnormal appearance

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5.4 环境性能 Environmental performance

序号 NO.	项目 Item	测试方法 Test conditions	规格要求 Specifications
1	耐振性 Vibration	端子以电流 0.1A D.C 串联导通, 振幅 1.5mm, 频率 10-55-10Hz, X, Y, Z 方向各 2 小时, 共 6 小时。 the entire frequency range, from 10 to 55 Hz and return to 10Hz shall be traversed in approximately 1 minute. This motion shall be applied for 2 hours in each of 3 mutually perpendicular directions. (total of 6 hours) Amplitude: 1.50mm Max.	1. 接触阻抗 Contact Resistance : 50mΩ Max. 2. 不连续导通 1μs 以内; 外观无异常。 Discontinuous conduction within 1μs No abnormal appearance
2	耐冲击性 Impact resistance	端子以电流 0.1A D.C 串联导通, 加速度 490m/s ² , X, Y, Z 方向各 11ms, 各 3 回, 共 18 回。 Terminal to 0.1mA DC current series pass, acceleration 490m / s ² , X, Y, Z directions for three times, 11ms / back, total of 18 return	
3	耐寒性 Cold resistance	温度 -40±3℃ 中放置时间 96H。 Placed in a temperature of -40 °C ± 3 °C environment time 96H.	
4	耐热性 Heat resistance	温度 105±2℃ 中放置时间 96H。 Placed in a temperature of 105 °C ± 2 °C environment time 96H.	
5	耐湿性 Humidity	温度 40±3℃; 湿度 90~95% RH 中放置时间 96H。 The specimens shall be placed in a chamber and subjected to a relative humidity of 90% to 95% and a temperature of 40±3°C for 96 hours	
6	盐雾试验 Salt spray test	温度 35±2℃; 盐水比重 5±1% 喷雾试验: A: 镀金 48h B: 镀锡 24h C: 单 pin 端子 48h The specimens shall be subjected to a salt water spray (concentration : 5±1%) at a temperature of 35±2°C for 48 hours	接触阻抗 Contact Resistance 50mΩ Max.
7	冷热冲击 Thermal Shock	-55±3℃; 85±2℃ 的温度下各放置 30 分钟, 共进行 5 次循环。 It shall be subjected to 5 cycles under the following condition 1: -55°C 30 分钟 2: +85°C 30 分钟	绝缘阻抗 Insulation Resistance: 500 MΩ Min. 外观: 无异常 No evidence of defect on surface.
8	耐湿性 (温湿度循环) Humidity	依照下面曲线完成 5 次循环试验。 According to the following curve to complete five cycles test. 	

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5.4 环境性能 Environmental performance

9	沾锡性 Solderability	沾锡温度 245±5℃ (Sn: Lead Free); 时间 3±0.5s Subject connector lead to solder at 245° C ± 5° C for 3 ± 0.5 seconds	吃锡饱满, 在 95% 以上。 More than 95% of the solderable area shall be covered with solder.
10	焊锡耐热性 Resistance to Soldering heat	烙铁温度 350±10℃ (Sn: Lead Free); 时间 10+1/-0s Iron temperature 350±10℃ (Sn: Lead Free), time: 10+1/-0s	锡脚与固定片平整度 0.10mm Max. 外观无异常,
11	耐热性 Reflow Resistance to Soldering heat	预备加热时间 Pre-heating time: 170℃~190℃ 60~180s。 焊锡温度时间 Soldering Temperature Time: 260℃ 10sMAX。	Product-feet and the ground sheet flatness 0.10mm Max. No evidence of defect on surface.
12	耐硫化性 (镀金品) Sulfidation resistance	依照技术标准 SS-00126-12 三种混合 GAS 腐蚀试验。 In accordance with the technical standards SS-00126-12 DPT GAS corrosion test.	接触阻抗 Contact Resistance: 50mΩ Max. 触点附近无明显腐蚀。 Nearby contact no significant corrosion
13	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 Satisfy electrical performance, 外观无异常。 No evidence of defect on surface.

6. 包装 Package

参见捆包图 See the drawing



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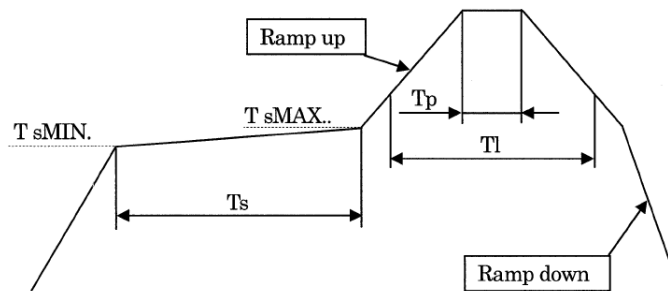
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7 修改内容 Modifications

版本 Rev.	改正日期 Modify date	改正内容 Modifications	Make	Check
A	2015/11/12	NEW	yebing	Han Qi
B	2016/10/17	修正接触电阻参数, 焊锡温度条件。 Modify contact resistance parameters, Soldering temperature condition	May	Han qi
C	2017/01/04	增加贴麦拉规格 Increase the specifications	May	Han qi
D	2017/07/05	新增“L”型固定片规格 Increase L-type fixer specifications	May	Han qi
E	2018/12/28	新增 F301 规格 Increase F301 specifications	May	Han qi
F	2020/07/29	新增料号: F51L-1B7H1-11010-K/F522-1B7H1-11010-E100	May	Han qi
G	2022/10/28	新增料号: F505-1A**1-E7***及 F300-1B**1-110**/F300-1B**1-110**-E100	May	Han qi

Reflow Condition:

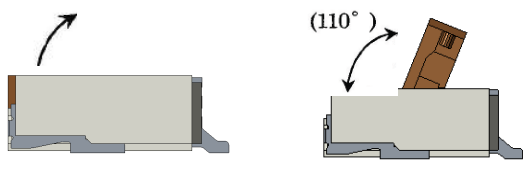
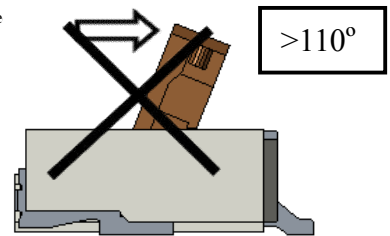
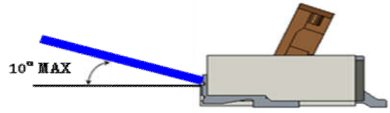
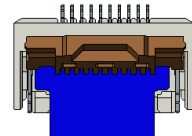
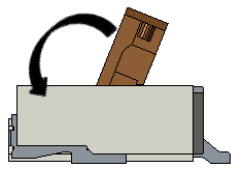

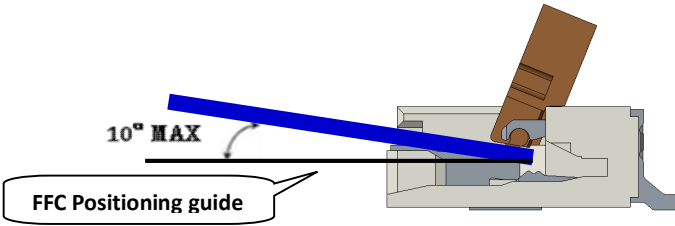
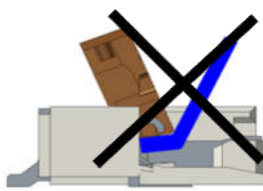
Profile Feature	lead-free Eutectic Assembly
温度上升 Ramp up Rate(TSmax to Tp)	:1~4°C/S
. Pre-heat Ts MIN. Ts MAX. Time(Ts MIN. TO Ts MAX.)	:170°C MIN :190°C MAX :60~180S
T 1 温度 (temperature) 时间 (time)	:225°C MIN :60~150S
T p(Peak) 温度 (temperature) 时间 (time)	:260°C MAX(255°C MIN.) :10S MAX



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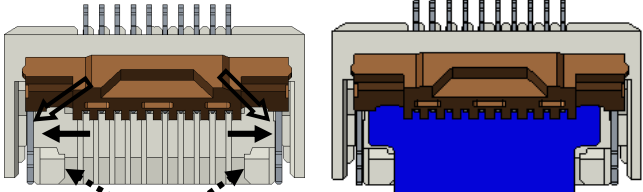
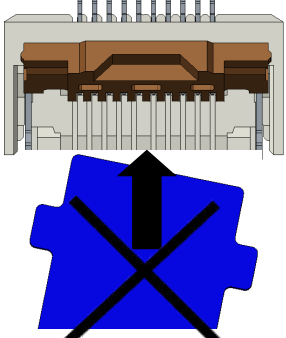
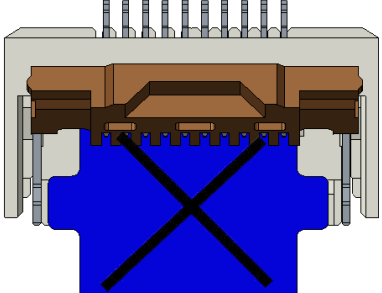
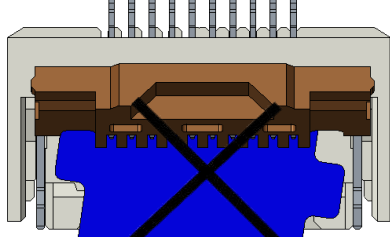
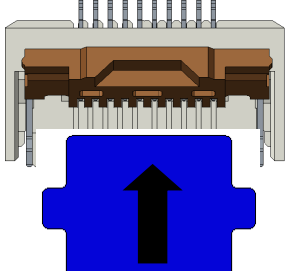
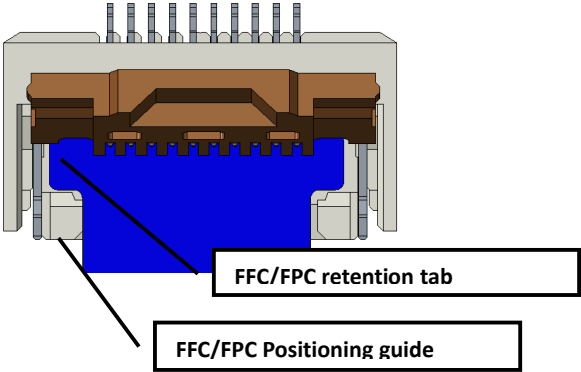
8. 操作说明和注意事项 Operating instructions and matters needing attention

操作 Operation	注意事项 Precautions
<p>1).FPC 插入方法:打开,关闭掀盖,请在连接器装在电路板上的状态下实施;将掀盖向上推,以解除锁定,靠人的食指和拇指指甲向上拨动,可以很简单的操作。 FPC insertion method: open and close the lift the lid, please connector mounted on the circuit board in a state of their implementation; Will push up lift cover to remove lock, the forefinger and the thumb nail pulling up by the people, it's easy to operation.</p> 	<p>1).本产品掀盖的打开角度约110°。不要强行用力打开其全开位置。掀盖可能会脱落或永久损坏。 Open angle of this product is about 110 degrees.Do not apply a force to open it beyond its fully open position. The actuator may come off or be permanently damage</p> 
<p>2). 插入FPC或FFC时导体接触面朝下。 当连接FPC或FFC时, 牢固地插入到底部, 垂直于10° 相对于PCB表面角度连接器, 使用FFC/FPC定位导向。 Insert the FPC or FFC with the exposed conductive traces facing down.When connecting a tabbed FPC or FFC, securely insert it to the bottom, perpendicular to the connector with an angle of 10° with respect to the PCB surface, using the FFC/FPC positioning guide.</p> 	<p>2).插入FPC或FFC连接器的开口正确。不适当的插入可能导致断路或导通不良。Insert the FPC or FFC properly to the opening of the connector. Improper insertion may lead to a break or poor continuity of the FPC or FFC.</p> 
<p>3). 旋转掀盖直到关闭。 Rotate down the actuator until firmly closed.</p> 	<p>3). 由于连接器自身的结构原因, 不能承受很强的向上拉力, 如果使用过程中FPC或FFC会受到拉力的情况下, 请固定好FPC或FFC。The connector does not have a strong upward tensile strength owing to its structure. Secure the FPC or FFC when it is subjected to a tensile force.</p> 
<p>4). 掀起掀盖解锁。把FPC或FFC拉起来一点, 然后退出连接器。 Lift up the actuator to release the lock. Pull up the FPC or FFC a little and then withdraw it from the connector.</p>  <p>FFC Positioning guide</p>	<p>4).FPC或FFC插入时不要用力摩擦连接器的下面部位, 这样的话端子和FPC或FFC会产生强烈的碰撞, 会导致端子变形、FPC或FFC的导体脱落。 When inserting an FPC or FFC, do not rub it vigorously against the bottom side of the connector opening. Excessive contact between the contacts and the FPC or FFC may result in the deformation of contacts, peeling of conductive traces, or other faults.</p> 

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<p>5). 对准皮线插入口两侧 和连接器内部的 之间的间隙 把皮线上的耳朵对准插入。 Insert the cable into the interspace () between the mold walls () at both ends of entrance where the connector is inserted and the guide walls () at both ends of interior connector so the cable tabs are properly located.</p> 	<p>1). 皮线插入时不要插到左右的引导口的台阶上，不要在皮线插到引导口的台阶上的状态下合上掀盖，会导致导通不良。Avoid insertion so the cables ride on any guide. Be sure NOT to close the actuator as the cables ride on any guide. It may cause conduction failure.</p>
<p>6). 避免斜插入，由于皮线的角会挂到端子，导致端子变形。Avoid insertion in diagonal direction. Ride on the right guide Diagonal insertion Do not insert the cable in diagonal direction. A part of the connector may touches the contacts resulting in deformation of the contacts.</p> 	 <p>两侧都在台阶上 Ride on the both guides</p>  <p>右侧在台阶上 Ride on the right guide</p>
<p>7). 插入时要对准连接器的开口部位，垂直、切实的插到连接器底部。Be sure to insert the FPC or FFC straight into the connector opening until the bottom of the connector.</p> 	<p>正常 Correct insertion</p>  <p>FFC/FPC retention tab</p> <p>FFC/FPC Positioning guide</p>

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