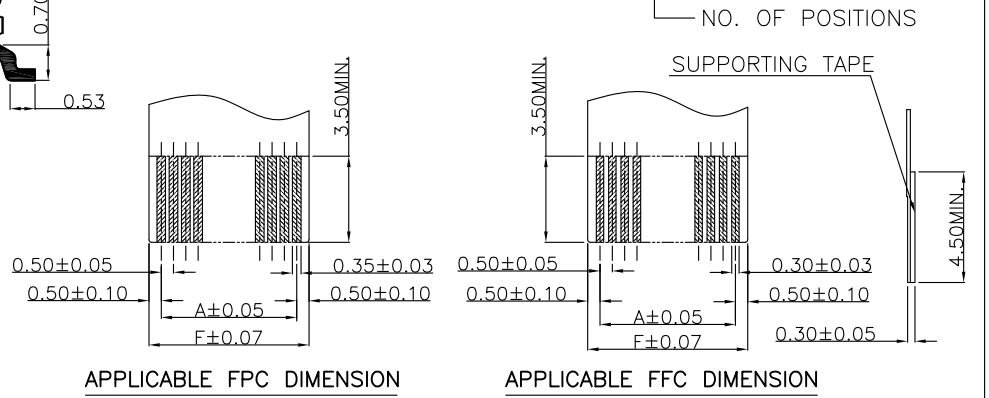
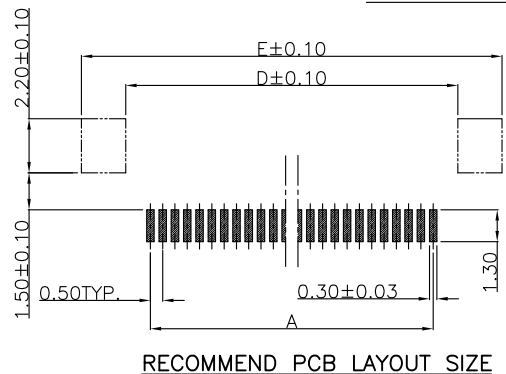


REV.	ECR/ECN No.	DESCRIPTION	DRAWN/DATE	CHECKED/DATE	APPROVED/DATE
A	/	新版发行	May 2013-01-30	Rain 2013-01-30	xiaohong.zhu 2013-01-30
B	/	增加说明	May 2017-04-24	Rain 2017-04-24	xiaohong.zhu 2017-04-24
C	/	新增36PIN规格	May 2019-05-14	Rain 2019-05-14	Hongkui.liu 2019-05-14

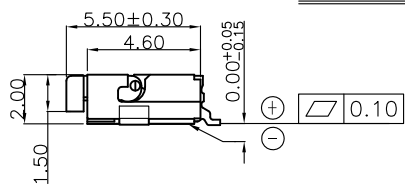
NOTE:
 1. ALL MATERIAL MUST BE COMPLY WITH GGP-001/OR/RoHS.
 2. PART NO. LEGEND: HRS-F31B-1A7H1-110**



NOTE:
 针对以下FFC/FPC, 必须满足所有性能
 It's necessary to satisfy all characteristics in following FFC/FPC
 以下のFFC/FPCに対して、全ての性能を満たすこと



POSITIONS	A	B	C	D	E	F
16	7.50	11.30	12.10	9.50	13.10	8.50
34	16.50	20.30	21.10	18.50	22.10	17.50
36	17.50	21.30	22.10	19.50	23.10	18.50
40	19.50	23.30	24.10	21.50	25.10	20.50
45	22.00	25.70	26.60	24.00	27.60	23.00
50	24.50	28.30	29.10	26.50	30.10	25.50
54	26.50	30.30	31.10	28.50	32.10	27.50



UNLESS OTHERWISE SPECIFIED TOLERANCES		ANGLE OF PROJECTION		Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.	
X.	±0.20	X. °	± 1'	TITLE: Assembly Drawing For FFC/FPC CONNECTOR V/A TYPE	
XX	±0.10	X.X °	± 0.5'		
X.XX	±0.05	X.XX °	± 0.5'	DRAWN DATE May 2019-05-14 DESIGN DATE May 2019-05-14 CHECKED DATE Rain 2019-05-14 APPROVED DATE hongkui.liu 2019-05-14	
X.XXX	±0.03	X.XXX °	± 1'		
LINEAR DIMS		ANGLES DIMS		SIZE DWG NO. A4	
P/N: HRS-F31B-1A7H1-110**		SCALE 1:1		UNIT : mm SHEET 1 OF 1	
MATERIAL	SEE NOTES	DWG NO. A-S0050		REV. C	
FINISHED	SEE NOTES	SCALE 1:1		UNIT : mm SHEET 1 OF 1	

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℃~+105℃;

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

4.3.3 保存湿度范围: 相对湿度 90%RH under; Keep humidity range : Relative humidity90%RH under;

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

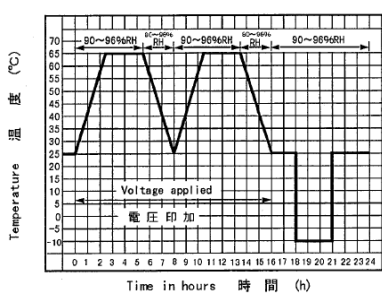
5.2 电气性能 Electrical performances

序号 NO.	项 目 Item	测试方法 Test conditions	规格要求 Specifications
1	接触阻抗 Contact Resistance	同一根端子测试, 电流: 10mA (DC), 电压: 20mV 以下, 使用电线: 适配 FFC 标准线。 Mate applicable FFC/FPC, It shall be measured by the dry electric circuit specified as follows; 10mA, 20mV Max.	30mΩ 最大 30mΩ Max.
2	绝缘阻抗 Insulation Resistance	相邻端子间 DC 500V, 1 分钟。 Apply 500V AC for 1 minute between adjacent 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。 Apply 500V AC for 1 minute between adjacent 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℃ 最大 30℃ Max.

This product does not contain banned substances from the environment using SS-00259 and RoHS

Product specification		Part name	0.5 PITCH FPC CONN. ZIF R/A SMT H=2.0 VA		
Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.		Part numbe	HRS-F31B-1A7H1-110**	1/7	
Document number	IS.EQC.033	Date: 2016/09/07	REV: B	Make: May	Check: Rain Approve: 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 保持力 FFC/FPC Retention Force	FFC/FPC 插入 FPC 连接器后, 下压掀盖, 掀开掀盖, 此动作重复 3 次后, 第四次下压掀盖后以 25~100mm/分匀速垂直拔出, 此次作测量资料的记录. Insert the FPC/FFC, close the actuator, open the actuator, the action after repeated three times, pull the FFC/FPC at the speed rate of 25~100mm per minute.	20gf/pin Min. 20gf ÷ 0.7 = 28.6gf/pin Min. (内部管控标准)			
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.	100gf/terminal Min.			
3	固定片保持力 Fixed plate Retention Force	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) The actuator action force (Don't insert the applicable FFC/FPC after High temperature)	主体内不插入 FFC(皮线), 掀盖压下, 掀盖拉起, 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), close and open the actuator for three times, the fourth time measure the actuator action force then make record of measurement data.	掀盖压入力 Close the actuator force: 500gf Max. 掀盖拔出力 Open the actuator force: 40gf Min.			
	掀盖动作力 (高温后装皮线) the actuator action force (insert the applicable FFC/FPC after High temperature)	将 FFC 线插入主体, 掀盖压下, 掀盖拉起, 此动作重复三次后, 第四次才作测量数据的记录. Insert the applicable FFC into the main body, close and open the actuator for three times, the fourth time measure the actuator action force then make record of measurement data.	掀盖压入力 Close the actuator force: 1500g/f Max. 掀盖拔出力 Open the actuator force: 150g/f Min.			
5	耐久插拔性 durability	以下动作进行 30 次巡回: FPC 插入、掀盖压入、掀盖掀起、FPC 拔出. Insert FPC/FFC, close and open actuator, Withdraw FFC/FPC to 30cycles.	接触阻抗 Contact Resistance 50mΩ Max . 端子无变形, 无裂痕 No abnormal appearance			
This product does not contain banned substances from the environment using SS-00259 and RoHS						
Product specification			Part Name	0.5 PITCH FPC CONN. ZIF R/A SMT H=2.0 VA		
Horus Int. Electronics. Co., LTD. Horustech Electronics. Co., LTD.			Part Number	HRS-F31B-1A7H1-110**	2/7	
Document number	IS.EQC.033	Date: 2016/09/07	REV: B	Make: May	Check: Rain	Approve: Hongkui.Liu

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 50mΩ Max. Contact Resistance 50mΩ Max. 2. 不连续导通 1μs 以内；外观无异常。 Discontinuous conduction within 1μ No abnormal appearance 1. 接触阻抗 50mΩ Max. Contact Resistance 50mΩ Max. 2. 绝缘阻抗：500 MΩ Min. Insulation Resistance: 500 MΩ Min. 3. 外观：无异常 No evidence of defect on surface.			
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±2℃ 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℃ for 48 hours				
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℃ 30 分钟 2: +85℃ 30 分钟				
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. <div style="text-align: center;">  <p style="font-size: small;">Temperature (°C) vs Time in hours (時間 (h))</p> </div>				
This product does not contain banned substances from the environment using SS-00259 and RoHS						
Product specification			Part Name		0.5 PITCH FPC CONN. ZIF R/A SMT H=2.0 VA	
Horus Int. Electronics. Co., LTD. Horustech Electronics. Co., LTD.			Part Number		HRS-F31B-1A7H1-110** 3/7	
Document number IS.EQC.033	Date: 2016/09/07	REV: B	Make: May	Check: Rain	Approve: Hongkui. Liu	

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, Product-feet and the ground sheet flatness 0.10mm Max.
11	Reflow 耐热性 Resistance to Soldering heat	预备加热时间 Pre-heating time: 150℃ 60~120s。 焊锡温度时间 Soldering Temperature Time: 250℃ 30±1s。	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:50mΩ Max. 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



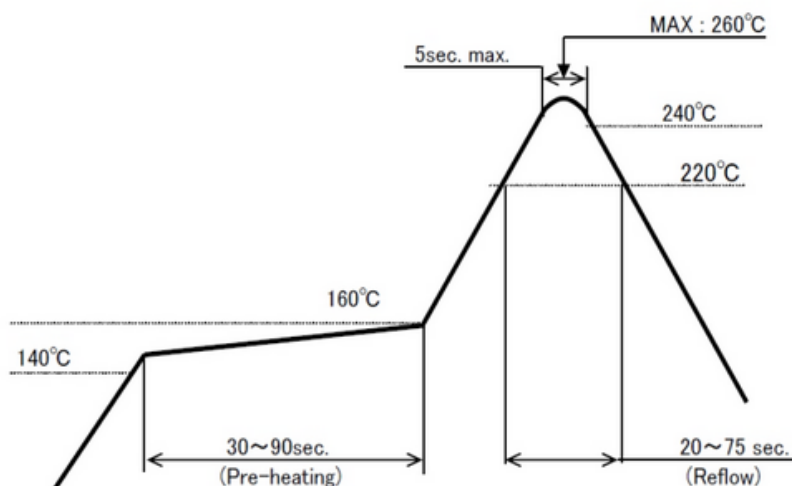
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Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.		Part Number	HRS-F31B-1A7H1-110**	4/7	
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7 修改内容 Modifications

版本 Rev.	改正日期 Modify date	改正内容 Modifications	Make	Check
A	2013/11/23	NEW	YE BING	HanQi
B	2016/9/7	更新保持力测试方法 Update the retention test method	May	Rain

Reflow Condition:



REFLOW TEMPERATURE PROFILE
(Temperature on the product surface)

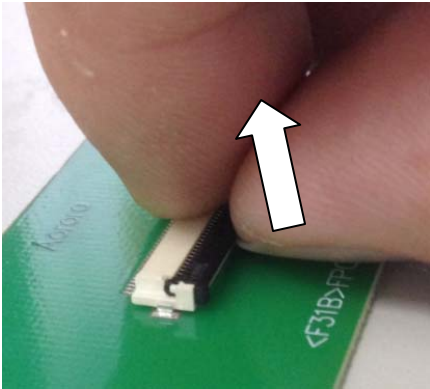
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Document number IS.EQC.033	Date: 2016/09/07	REV: B	Make: May	Check: Rain	Approve: Hongkui. Liu

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

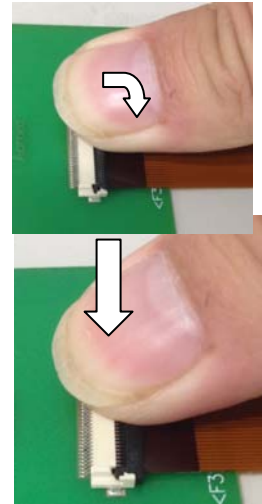
1): FFC 插入方法: 打开, 关闭掀盖, 请在连接器装在电路板上的状态下实施; 将掀盖向上推, 以解除锁定, 靠人的食指和拇指向上拨动, 可以很简单的操作。

FFC insertion method: open, close the cover, please install the connector on the circuit board in the state of the implementation; will lift the lid to push up, to lift the lock, on the index finger and thumb a pull up, can be a very simple operation.



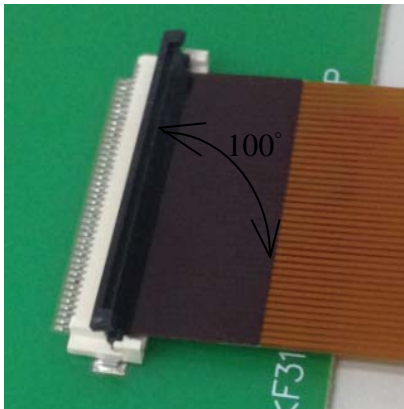
3): 向下按掀盖的中间部位, FFC半插入、或插入错位极大时, 掀盖的卡住状态不佳, 会浮起。此时, 要按4)的拔出方法取出FFC, 再次从1)开始操作。同时, 进行锁定作业时, 要固定好连接器。

by the middle part of the lift off the cover, FFC semi insert, or insert a great when the lift cover of the stuck state is not good, will float. At this point, to press 4) to remove the FFC, again from the beginning of 1) operation. At the same time, when the lock operation, to fix the connector.



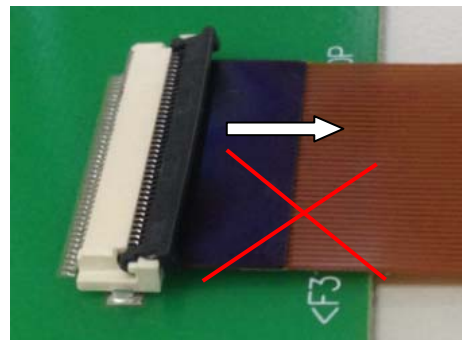
2): 插入FFC时, 请在掀盖完全打开的状态下进行, FFC的导体面朝下, FPC相对于连接器垂直插入, 要确认FFC插到顶住本体的底部。本产品在设计上, 掀盖张开不能超过100°, 所以在后部不要施加超出此范围的力, 否则掀盖会松脱或破损。

when the FFC is inserted, the FFC is carried out in a fully open state. The FPC is inserted into the. The FFC is inserted into the bottom of the body.



4): 拔出FFC的方法; 依照1)的方法进行打开掀盖; 在拔出FFC时, 请在掀盖完全打开的状态下进行。万一在掀盖未完全打开的状态下, 拔出FFC, 重新装入FFC时, 请确认触点部位是否有附着物。

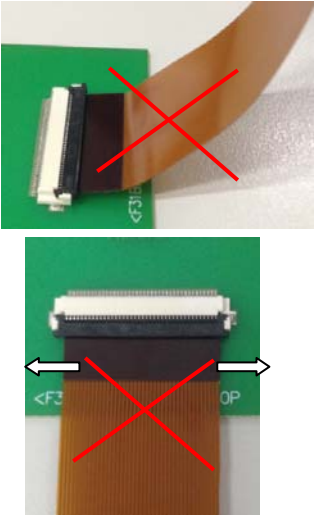
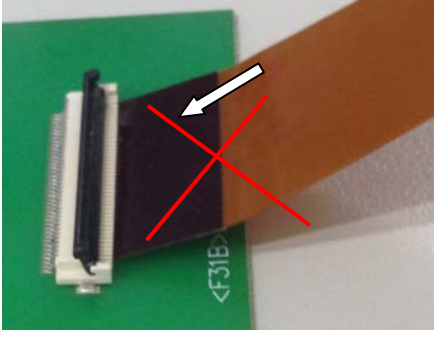
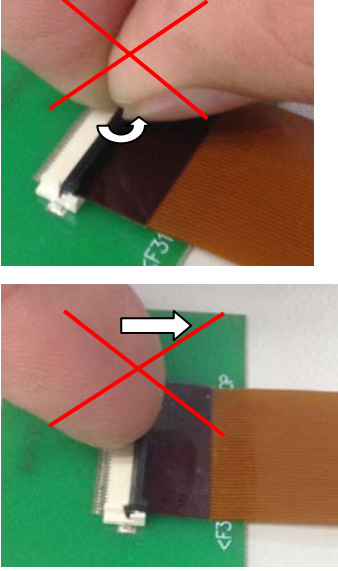
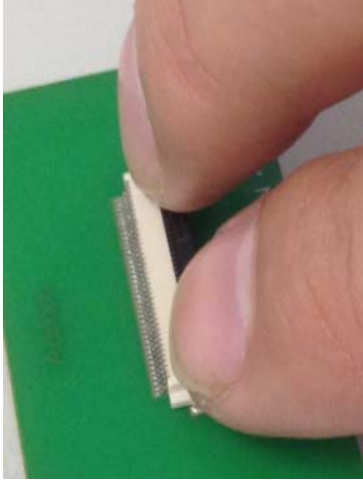
pull out the FFC method; open the lift cover in accordance with the 1 method; in the case of FFC, please open the cover is completely opened. In case the cover is not fully open, pull out FFC, re FFC, please confirm whether the contact parts are attached.



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Product specification		Part Name	0.5 PITCH FPC CONN. ZIF R/A SMT H=2.0 VA		
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Document number	IS.EQC.033	Date: 2016/09/07	REV: B	Make: May	Check: Rain Approve: Hongkui.Liu

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>5): 对FFC,请在其上方不要施加拉力,或在其端子间距方向施加撬动力. on the FFC, please do not put on the pull, or in the direction of its terminal spacing to force.</p> 	<p>7): 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> 
<p>6): 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 cover (especially with the nail), and so on.</p> 	<p>8): 如果是大PIN数的时候请按盖子的两端进行关闭 if it is a large PIN number, please press the two ends of the cover to be closed</p> 

This product does not contain banned substances from the environment using SS-00259 and RoHS`

Product specification		Part Name	0.5 PITCH FPC CONN. ZIF R/A SMT H=2.0 VA		
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Document number IS.EQC.033	Date: 2016/09/07	REV: B	Make: May	Check: Rain	Approve: Hongkui.Liu