

REV.	ECR/ECN No.	DESCRIPTION	DRAWN/DATE	CHECKED/DATE	APPROVED/DATE
D	/	Revise the size of mylar and update drawing	May 2016-01-29	Rain 2016-01-29	Hongkui.liu 2016-01-29
E	/	Update FFC size	May 2016-03-16	Rain 2016-03-16	Hongkui.liu 2016-03-16
F	/	Added halogen specifications	May 2018-01-31	Rain 2018-01-31	Hongkui.liu 2018-01-31

NO.	COMPONENTS	MATERIALS	SPECIFICATION:FINISH/COLOR	QTY.
1	SLIDER	GLASS FILLED PA9T, UL94V-0	BLACK	1
2	HOUSING	GLASS FILLED LCP, UL94V-0	BLACK OR NATURAL	1
3	ANCHOR-PLATE	BRASS, T=0.20mm	SURFACE PLATING:2~5 μ m Sn UNDER PLATING:1~3 μ m Ni	2
4	CONTACT	PHOSPHOR BRONZE, T=0.20mm	SURFACE PLATING:0.05 μ m Au UNDER PLATING:1~3 μ m Ni	N
5	MALAY	T=0.10mm High temperature	YELLOW	1

SPECIFICATION

- CONTACT RESISTANCE : 30m Ω MAX.;
- DIELECTRIC WITHSTANDING VOLTAGE;
500V AC R.M.S. FOR 1 MINUTE;
- INSULATION RESISTANCE : 500M Ω MIN;
- " ∇ "NOTATION FOR CPK AND $\bar{X}$ -R TEST SIZE

5.PART NO:HRS-F5**-1*7*1-*10**

- 26:NO MALAR
- 16:WITH MALAR
- 1A:LCP,NATURAL
- 1B:LCP,BLACK
- NO. OF POSITIONS
- 1:Containing halogen $\frac{1}{2}$
- 2:No halogen
- 7H:PHOSPHOR BRONZE
0.05um MIN Au(Au Area)
- 7A:PHOSPHOR BRONZE MATTER TIN

DIMENSION LIST:

NO. OF POS.	A	B	C	D	NO. OF POS.	A	B	C	D
4	8.90	3.00	7.90	5.10	18	22.90	17.00	21.90	19.10
5	9.80	4.00	8.90	6.10	19	23.90	18.00	22.90	20.10
6	10.90	5.00	9.90	7.10	20	24.90	19.00	23.90	21.10
7	11.90	6.00	10.90	8.10	21	25.90	20.00	24.90	22.10
8	12.90	7.00	11.90	9.10	22	26.90	21.00	25.90	23.10
9	13.90	8.00	12.90	10.10	23	27.90	22.00	26.90	24.10
10	14.90	9.00	13.90	11.10	24	28.90	23.00	27.90	25.10
11	15.90	10.00	14.90	12.10	25	29.90	24.00	28.90	26.10
12	16.90	11.00	15.90	13.10	26	30.90	25.00	29.90	27.10
13	17.90	12.00	16.90	14.10	27	31.90	26.00	30.90	28.10
14	18.90	13.00	17.90	15.10	28	32.90	27.00	31.90	29.10
15	19.90	14.00	18.90	16.10	29	33.90	28.00	32.90	30.10
16	20.90	15.00	19.90	17.10	30	34.90	29.00	33.90	31.10
17	21.90	16.00	20.90	18.10					

UNLESS OTHERWISE SPECIFIED TOLERANCES			
X.	± 0.50	X. *	$\pm 1^{\circ}$
X.X	± 0.30	X.X *	$\pm 0.5^{\circ}$
X.XX	± 0.20	X.XX *	$\pm 0.5^{\circ}$
X.XXX	± 0.10	X.XXX *	$\pm 1^{\circ}$

ANGLE OF PROJECTION	
DOC TYPE	Customer Drw
DRAWN DATE	May 2018-01-31
DESIGN DATE	May 2018-01-31
CHECKED DATE	Rain 2018-01-31
APPROVED DATE	Hongkui.liu 2018-01-31

		Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.	
TITLE: 1.00mm PITCH FPC CONN. ZIF R/A SMT TYPE H=2.0 ASS'Y			

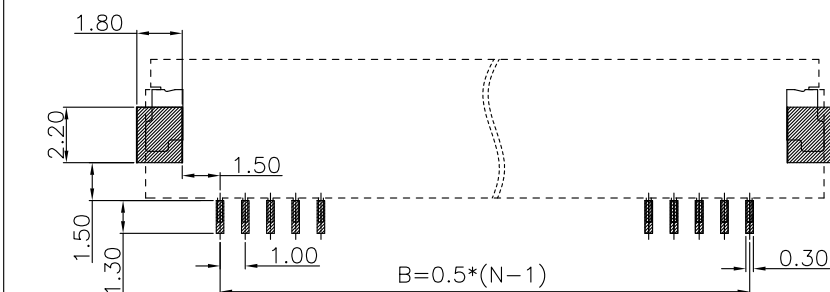
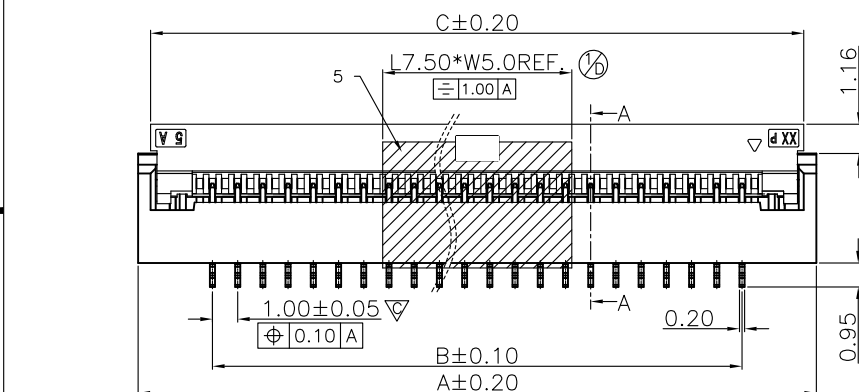
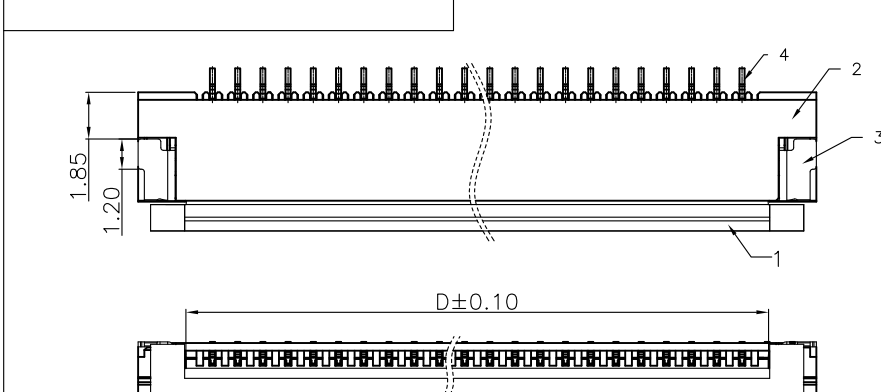
APPLICABLE FPC

	FPC	FFC
M	1.0 $\pm$ 0.12	1.0 $\pm$ 0.10
P	1.0 $\pm$ 0.02	1.0 $\pm$ 0.05
B	B $\pm$ 0.03	B $\pm$ 0.06
W	W $\pm$ 0.07	W $\pm$ 0.07
Wp	0.65 $\pm$ 0.04	0.65 $\pm$ 0.05

P/N:HRS-F5**-1*7*1-*10**	
MATERIAL	SEE NOTES
FINISHED	SEE NOTES

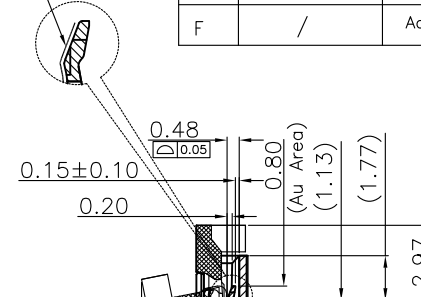
SCALE	1:1
UNIT	mm
SHEET	1 OF 1

SIZE	DWG NO.	REV.
A4	A-S0151	F

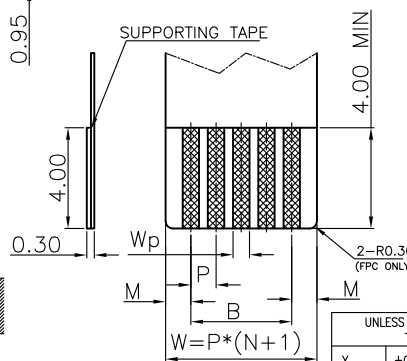
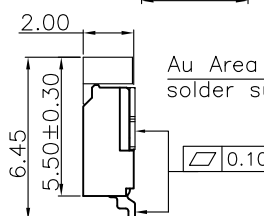


P.C.B LAYOUT(REFERENCE)

Au Area include contact spot



Au Area include solder surface



$\frac{1}{2}$

A

B

1 适用范围 Scope:

此作业规范适用于: 0.5/1.0 PITCH FPC CONN. ZIF R/A SMT H=2.0 掀盖式

This product specifications is applied for: 0.5/1.0 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/T y p e 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	V-0	E106764
2	推杆 (ACTUATOR)	可乐丽 KURARAY CO., LTD	PA9T Polyamide 9T GP2450	V-0	E90350
3	端子 (TERMINAL)		磷铜 C5191-EH T=0.20mm		

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 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 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。 Between adjacent terminal DC 500 v, 1 minute.	500 MΩ 最小 500MΩ Min.
3	耐压测 Dielectric withstanding voltage 试	相邻端子间 AC 500V, 感应电流 2mA, 1 分钟。 Between adjacent terminals AC 500 V, induced current 2mA, 1 minute	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	0.5/1.0 PITCH FPC CONN. ZIF R/A SMT H=2.0		
Horus Int. Electronics. Co., LTD. Horustech Electronics. Co., LTD.		Part number	HRS-F326-1A7*1-210** HRS-F316-1A7*1-210** HRS-F526-1A7*1-210** HRS-F516-1A7*1-210**		1/6
Document number IS.EQC.002	Date: 2017/10/12	Rev: E	Make: May	Check: Rain	Approve: 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	FFC/FPC(标配厚度 0.30MM)插入 FPC 连接器产品后, 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. FFC/FPC(T=0.30) 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.	40gf/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 (高温后装皮线) Lift the cover action force After high temperature leather line	将 FFC 线插入主体, 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. 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

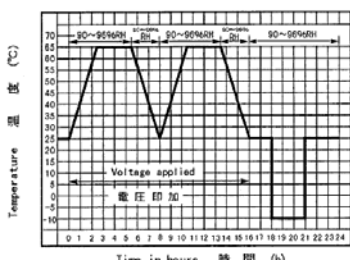
5.4 环境性能 Environmental performance

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 1μ 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
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	1. 接触阻抗 Contact Resistance: 50mΩ Max. 2. 不连续导通 $1\mu\text{s}$ 以内; 外观无异常。 Discontinuous conduction within $1\mu\text{s}$ No abnormal appearance
3	耐寒性 Cold resistance	温度 $-40\pm 3^\circ\text{C}$ 中放置时间 96H。 Placed in a temperature of $-40^\circ\text{C} \pm 3^\circ\text{C}$ environment time 96H.	1. 接触阻抗 Contact Resistance: 50mΩ Max.
4	耐热性 Heat resistance	温度 $105\pm 2^\circ\text{C}$ 中放置时间 96H。 Placed in a temperature of $105^\circ\text{C} \pm 2^\circ\text{C}$ environment time 96H.	2. 绝缘阻抗 Insulation Resistance 500MΩ Min. 3. 无短路, 无击穿 No Breakdown. 4. 外观无异常 No abnormal appearance
5	耐湿性 Humidity	温度 $40\pm 3^\circ\text{C}$; 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 $40\pm 3^\circ\text{C}$ for 96 hours	1. 接触阻抗 Contact Resistance: 50mΩ Max. 2. 绝缘阻抗 Insulation Resistance 100MΩ Min. 3. 无短路, 无击穿 No Breakdown. 4. 外观无异常 No abnormal appearance
6	盐雾试验 Salt spray test	温度 $35\pm 2^\circ\text{C}$; 盐水比重 $5\pm 1\%$ 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 : $5\pm 1\%$) at a temperature of $35\pm 2^\circ\text{C}$ for 48 hours	1. 接触阻抗 Contact Resistance: 50mΩ Max. 2. 绝缘阻抗: Insulation Resistance 500MΩ Min. 3. 无短路, 无击穿 No Breakdown. 4. 外观无异常 No abnormal appearance
7	冷热冲击 Thermal Shock	$-55\pm 3^\circ\text{C}$; $85\pm 2^\circ\text{C}$ 的温度下各放置 30 分钟, 共进行 5 次循环。 It shall be subjected to 5 cycles under the following condition 1: -55°C 30 分钟 2: $+85^\circ\text{C}$ 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. 	

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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
9	沾锡性 Solderability	沾锡温度 $245 \pm 5^{\circ}\text{C}$ (Sn: Lead Free); 时间 $3 \pm 0.5\text{s}$ Subject connector lead to solder at $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 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 $350 \pm 10^{\circ}\text{C}$ (Sn: Lead Free); 时间 $10+1/-0\text{s}$ Iron temperature $350 \pm 10^{\circ}\text{C}$ (Sn: Lead Free), time: $10+1/-0\text{s}$	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: $170^{\circ}\text{C} \sim 190^{\circ}\text{C}$ 60~180s。 焊锡温度时间 Soldering Temperature Time: 260°C 10sMAX。	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: $50\text{m}\Omega$ Max. Contact Resistance $50\text{m}\Omega$ 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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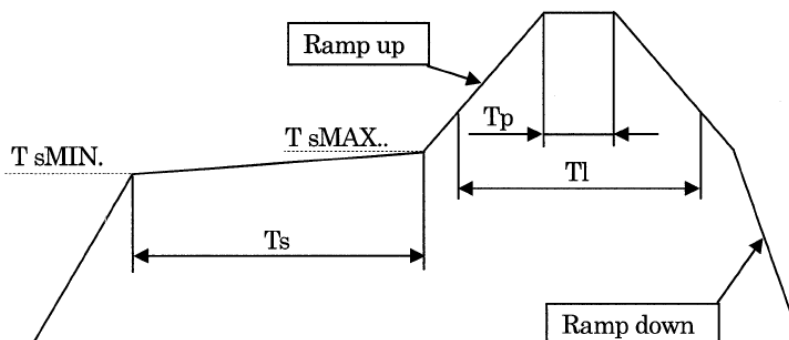
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7 修改内容 Modifications

版本 Rev.	改正日期 Modify date	改正内容 Modifications	Make	Check
A	2012. 05. 02	NEW	Guozhen. Ma	Qi. han
B	2015. 12. 30	增加中英对照及 Pitch 1.0 款	Deming. li	Rain
C	2016. 9. 20	更新 FFC/FPC 保持力测试操作方法及更新焊锡温度条件 Updates FFC/FPC retention test operation method and update the soldering temperature condition	May	Rain
D	2016. 10. 10	更新 FFC/FPC 保持力标准 Update the FFC/FPC retention standard	May	Rain
E	2017. 10. 12	更新掀盖作用力	May	Rain

Reflow Condition:

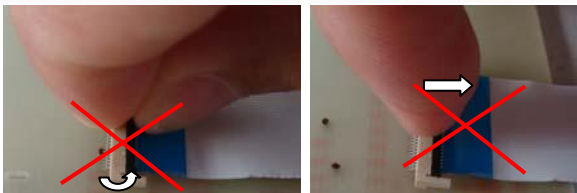
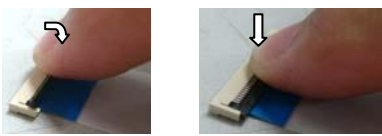
Profile Feature	Sn-Pb Eutectic Assembly
温度上升 Ramp up Rate(Tsmax to Tp)	:1~4℃/S
. Pre-heat Ts MIN. Ts MAX. Time(Ts MIN. TO Ts MAX.)	:170℃ MIN :190℃ MAX :60~180S
T l 温度 (temperature) 时间 (time)	:225℃ MIN :60~150S
T p(Peak) 温度 (temperature) 时间 (time)	:260℃ MAX(255℃ MIN.) :10S MAX



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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状态下实施; 将掀盖向上推, 以解除锁定, 靠人的食指和拇指甲向上拨动, 可以很简单的操作. FFC 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. 	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 FFC, please don't put on top of, or in the direction of terminal spacing pry power. 
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. Insert the FFC, please lift the cover under the fully open position, FFC conductor face down, FPC relative to vertical insertion connector, to confirm the FFC to resist at the base of ontology. In the structural design of this product, lift the lid open should not exceed 100°, so don't exert on the back of the beyond this range, or lift the lid will loose or damaged. 	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 avoid using fingers or lift the lid (especially with fingernails), and other operations 
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. Down the middle of according to lift the lid, FFC is half insert, dislocation or insert great lift poor guy's stuck state, will float. At this point, according to the pull out of 4) method to take out the FFC, again starting from 1) operation. At the same time, the lock operations, to fasten the connector. 	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. 7): please put the FFC correctly inserted into the mouth of the connector. Make sure FFC inserted to the bottom of the resist ontology, if not correct insertion, could lead to short circuit, bad conduction. Insert the FFC, don't rub rubs below connector is inserted into the mouth, or terminal will collide with the FFC strong, lead to terminal deformation, bad FFC conductor spalling, etc. 
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. 4): pull out FFC method; According to method 1 opens the cover; After removing the FFC, please lift the lid under the fully open position. The lift in one thousand have not completely open state, the FFC is extracted and repack FFC, please make sure the contact area to see if there is attachment. 	8): 如果是大 PIN 数的时候请按盖子的两端进行关闭. 8): If it is the PIN number please click while the ends of the lid to close.

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

Product specification	Part Name	0.5/1.0 PITCH FPC CONN. ZIF R/A SMT H=2.0		
Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.	Part Number	HRS-F326-1A7*1-210** HRS-F316-1A7*1-210** HRS-F526-1A7*1-210** HRS-F516-1A7*1-210**	6/6	
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