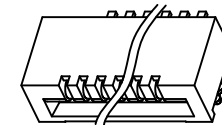


REV.	ECR/ECN No.	DESCRIPTION	DRAWN/DATE	CHECKED/DATE	APPROVED/DATE
A	/	New Version	Henry 2012-04-25	Rain 2012-04-25	Zhengxian.Ye 2012-04-25

NO.	COMPONENTS	MATERIALS	FINISH/COLOR SPECIFICATION	QUANTITY
1	Housing	Glass Filled LCP,UL94V-0	Black	1
2	Anchor-plate	Brass, T=0.20±0.01mm	Surface Plating:2~4 μm Matte TIN. Under Plating:1~3 μm Ni	2
3	Contact	Phosphor Bronze, T=0.25±0.01mm	Surface Plating:2~4 μm Matte TIN. Under Plating:1~3 μm Ni	N

NOTE:
1.ALL MATERIAL MUST BE COMPLY WITH
SS-00259 OR RoHS.
2.PART NO. LEGEND:
HRS-F518-1A7A1-110**

NO. OF POSITIONS
7A:2~4 μm MATTER TIN
1A:LCP NATURAL



3D VIEW

SECTION A-A
SCALE 2:1

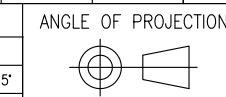
SUPPORTING TAPE

DIMENSION LIST:

NO. OF POS.	A	B	C	NO. OF POS.	A	B	C
3	2.0	4.1	6.6	17	16.0	18.1	20.6
4	3.0	5.1	7.6	18	17.0	19.1	21.6
5	4.0	6.1	8.6	19	18.0	20.1	22.6
6	5.0	7.1	9.6	20	19.0	21.1	23.6
7	6.0	8.1	10.6	21	20.0	22.1	24.6
8	7.0	9.1	11.6	22	21.0	23.1	25.6
9	8.0	10.1	12.6	23	22.0	24.1	26.6
10	9.0	11.1	13.6	24	23.0	25.1	27.6
11	10.0	12.1	14.6	25	24.0	26.1	28.6
12	11.0	13.1	15.6	26	25.0	27.1	29.6
13	12.0	14.1	16.6	27	26.0	28.1	30.6
14	13.0	15.1	17.6	28	27.0	29.1	31.6
15	14.0	16.1	18.6	29	28.0	30.1	32.6
16	15.0	17.1	19.6	30	29.0	31.1	33.6

KIND	TOLERANCE		
	P	W	M
FPC	±0.02	+0.10 -0.05	±0.05
FFC	±0.05	±0.03	±0.10

UNLESS OTHERWISE SPECIFIED TOLERANCES			
X.	±0.50	X. *	±1°
X.X	±0.30	X.X *	± 0.5°
X.XX	±0.20	X.XX *	± 0.5°
X.XXX	±0.10	X.XXX *	± 1°
LINEAR DIMS	ANGLES DIMS		

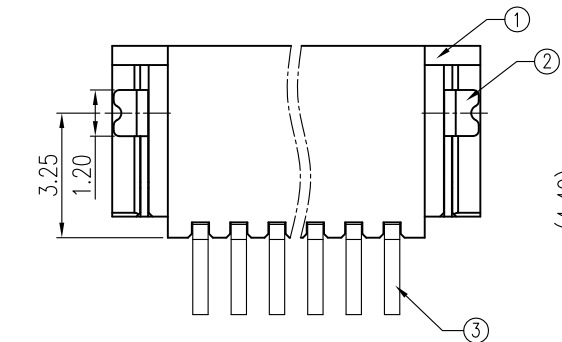
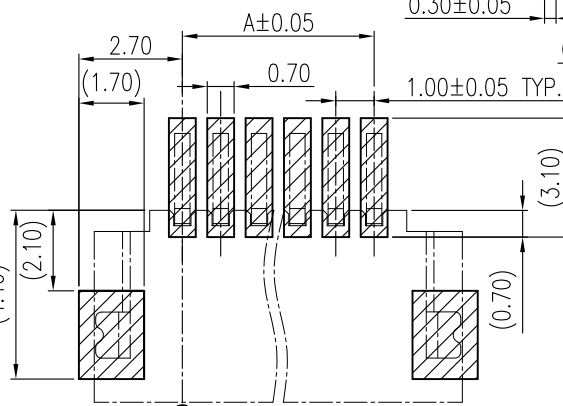
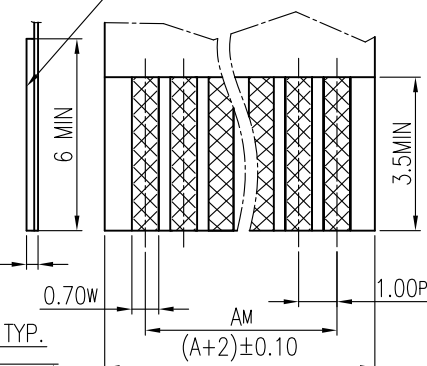
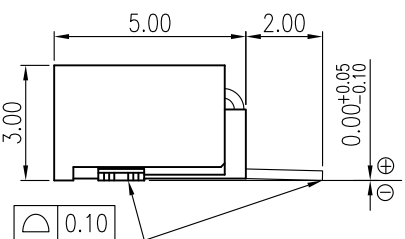
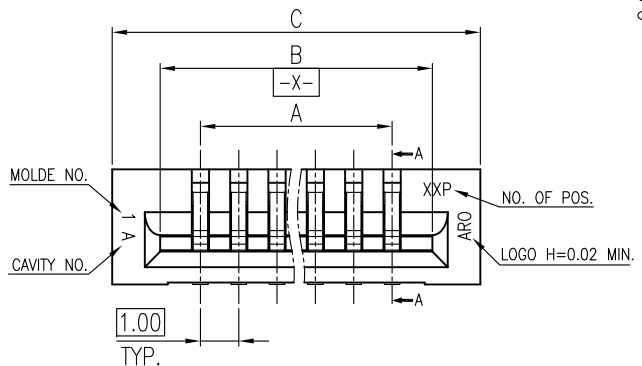
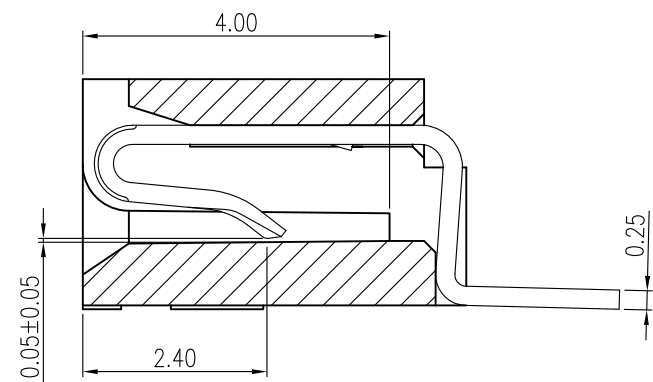
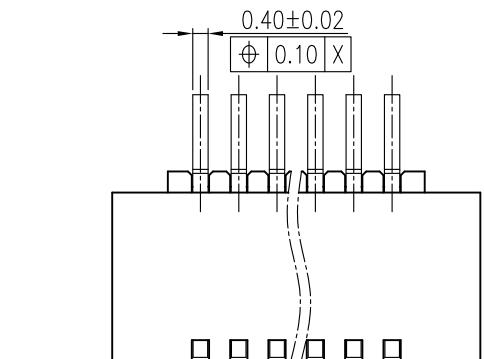


DOC TYP	Customer Drw
DRAWN	Henry
DATE	2012-04-25
DESIGN	Henry
DATE	2012-04-25
CHECKED	Rain
DATE	2012-04-25
APPROVED	Zhengxian.Ye
DATE	2012-04-25

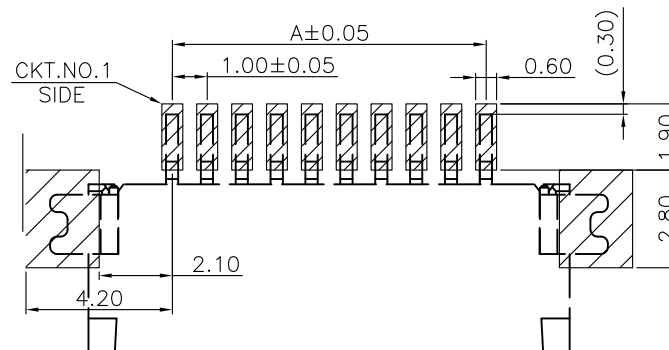
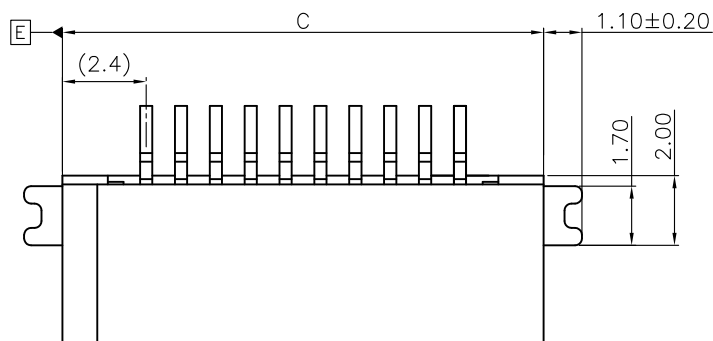
Horus Int. Electronics. Co., LTD.
Horustech Electronics. Co., LTD.

TITLE: FPC P1.0mm NON-ZIF R/A SMT			
SIZE	DWG NO.	REV.	
A4	A-S0005	A	
SCALE	1:1	UNIT : mm	SHEET 1 OF 1

MOUNTING LAYOUT (CONN.MOUNTING SIDE)

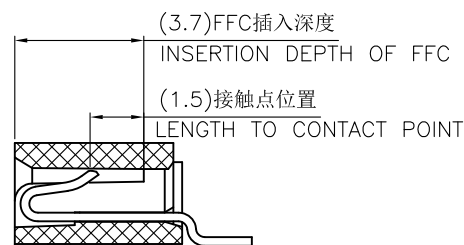
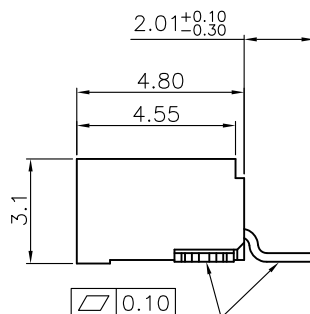


REV.	ECR/ECN No.	DESCRIPTION	DRAWN/DATE	CHECKED/DATE	APPROVED/DATE
A	/	NEW RELEASE	May 2017-12-08	Rain 2017-12-08	Hongkui.liu 2017-12-08
B	/	New gold-plated specification	May 2018-11-27	Rain 2018-11-27	Hongkui.liu 2018-11-27



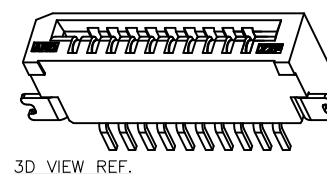
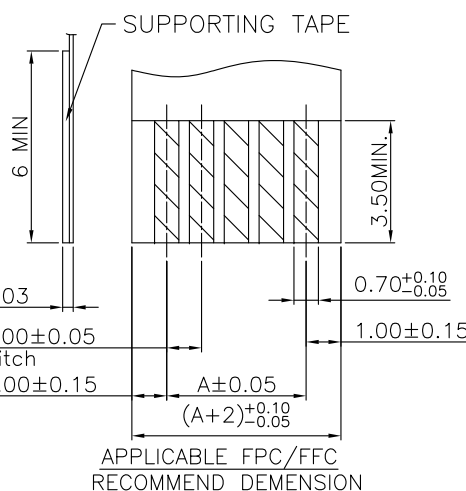
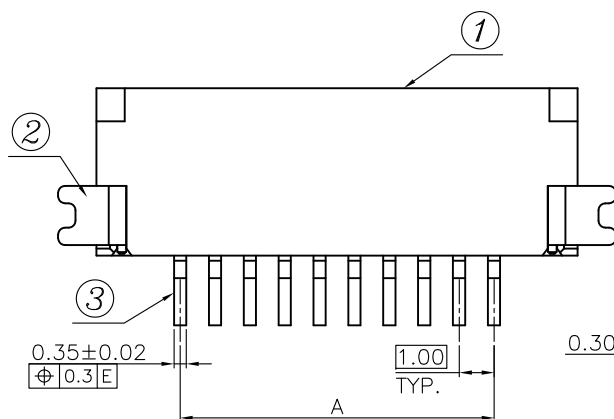
RECOMMENDED P.C.BOARD LAYOUT TOL:±0.05

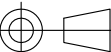
NOTE:
 1.ALL MATERIAL MUST BE COMPLY WITH SS-00259 OR RoHS.
 2.PART ON. LEGEND:
 HRS-F519-1A7*1-110**-E200
 NO. OF POSITIONS
 7A:2~4μm TIN
 7Q:GOLD FLASH (1B)
 1A:LCP NATURAL



DIMENSION LIST:

NO. OF POS.	A	B	C	NO. OF POS.	A	B	C
3	2.0	4.05	6.8	17	16.0	18.05	20.8
4	3.0	5.05	7.8	18	17.0	19.05	21.8
5	4.0	6.05	8.8	19	18.0	20.05	22.8
6	5.0	7.05	9.8	20	19.0	21.05	23.8
7	6.0	8.05	10.8	21	20.0	22.05	24.8
8	7.0	9.05	11.8	22	21.0	23.05	25.8
9	8.0	10.05	12.8	23	22.0	24.05	26.8
10	9.0	11.05	13.8	24	23.0	25.05	27.8
11	10.0	12.05	14.8	25	24.0	26.05	28.8
12	11.0	13.05	15.8	26	25.0	27.05	29.8
13	12.0	14.05	16.8	27	26.0	28.05	30.8
14	13.0	15.05	17.8	28	27.0	29.05	31.8
15	14.0	16.05	18.8	29	28.0	30.05	32.8
16	15.0	17.05	19.8	30	29.0	31.05	33.8



UNLESS OTHERWISE SPECIFIED TOLERANCES				ANGLE OF PROJECTION		 Horus Int. Electronics. Co., LTD. Horustech Electronics. Co., LTD.			
X.	±0.50	X. °	± 1°			TITLE: Assembly Drawing For FFC/FPC P1.0 NON-ZIF HORIZONTAL TYPE SMT SERIES (BOTTOM CONTACT)			
X.X	±0.30	X.X °	± 0.5°	Customer Drw					
X.XX	±0.20	X.XX °	± 0.5°	DRAWN DATE May 2018-11-27		SIZE DWG NO. A-S0472		REV. B	
X.XXX	±0.10	X.XXX °	± 1°	DESIGN DATE May 2018-11-27					
LINEAR DIMS		ANGLES DIMS		CHECKED DATE Rain 2018-11-27		SCALE 1:1 UNIT : mm SHEET 1 OF 1			
P/N:HRS-F519-1A7*1-110**-E200				APPROVED DATE Hongkui.liu 2018-11-27					
MATERIAL		SEE NOTES							
FINISHED		SEE NOTES							

1. 适用范围 Scope:

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

This product specifications is applied for: 1.0mm PITCH FPC CONN. NO-ZIF R/A SMT TYPE

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 : $0.30 \pm 0.03\text{mm}$

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 473i Black	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: $-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$;

4.3.2 储存温度范围 storage temperature: $-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$;

4.3.3 开封使用温度范围 Kaifeng temperature range: $+5^{\circ}\text{C} \sim +35^{\circ}\text{C}$;

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 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	1.0mm PITCH FPC CONN. NO-ZIF R/A SMT TYPE		
Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.		Part No.	HRS-F518-1A7A1-110**	1/4	
Document No. : IS.EQC. 005	Date: 2017/2/27	Rev. : C	Written by: May	Checked by: Rain	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
	力 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.	30gf/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.	300gf/terminal MIN.
4	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.	300gf/terminal MIN.
5	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 拔出力 Withdrawal force: 30gf/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±2℃, 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

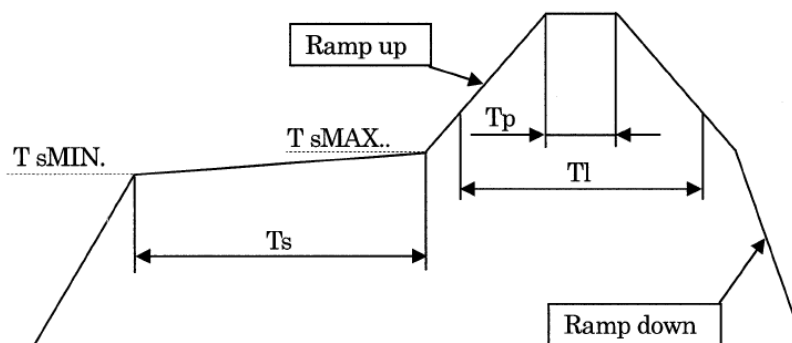
本制品不含 SS-00259 和 ROHS 禁止使用的环境物质
This product does not contain SS-00259 and ROHS banned the use of environmental substances

制 品 仕 样 书 Product specification		Part name	1.0mm PITCH FPC CONN. NON-ZIF R/A SMT TYPE		
Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.		Part No.	HRS-F518-1A7A1-110**	2/4	
Document No. : IS.EQC.005	Date: 2017/02/27	Rev. : C	Written by: May	Checked by: Rain	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
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	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
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 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.	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	100um max

Reflow Condition:

Profile Feature	Lead-free Eutectic Assembly
温度上升 Ramp up Rate (TSmax to Tp)	: $1\sim 4^{\circ}\text{C}/\text{S}$
. 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



本产品不含 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	1.0mm PITCH FPC CONN. NO-ZIF R/A SMT TYPE		
Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.		Part No.	HRS-F518-1A7A1-110**		3/4
Document No.: IS.EQC.005	Date: 2017/02/27	Rev.: C	Written by: May	Checked by: Rain	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	Enhai.he	Roy
B	2015/12/25	FFC 拔出力更新为 30gf/MIN 。 FFC output updated to pull 30gf/MIN	May	Rain, Roy
C	2017/02/27	修正接触电阻参数, 焊锡温度条件。 Modify contact resistance parameters , Soldering temperature condition	May	Rain

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	1.0mm PITCH FPC CONN. NON-ZIF R/A SMT TYPE		
Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.		Part No.	HRS-F518-1A7A1-110**		4/4
Document No. : IS.EQC.005	Date: 2017/02/27	Rev. : C	Written by: May	Checked by: Rain	Approved by: Hongkui.Liu

1. 适用范围 Scope:

此作业规范适用于: FPC PITCH 1.0 卧式 NO-ZIF SMT 下接触系列

This product specifications is applied for: 1.0mm PITCH FPC CONN. NO-ZIF R/A SMT TYPE (Bottom contact)

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 : $0.30 \pm 0.03\text{mm}$

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 473i Black or 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: 0.5A

4.3 温湿度范围 Temperature and humidity range

4.3.1 使用温度范围 operation temperature: $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$;

4.3.2 储存温度范围 storage temperature: $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$;

4.3.3 开封使用温度范围 Kaifeng temperature range: $+5^{\circ}\text{C} \sim +35^{\circ}\text{C}$;

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 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	20mΩ Max. 各实验后 50 mΩ 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

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制 品 仕 样 书 Product specification		Part name	1.0mm PITCH FPC CONN. NO-ZIF R/A SMT TYPE (Bottom contact)		
Horus Int. Electronics. Co., LTD. HorusTech Electronics. Co., LTD.		Part No.	HRS-F519-1A7A1-110**E200 HRS-F519-1A7Q1-110**E200	1/4	
Document No.: IS.EQC.148	Date: 2018/12/12	Rev.: B	Written by: May	Checked by: Rain	Approved by: Alice

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/FPC(标配厚度 0.30mm)插入 FPC 连接产品后, 以 25~100mm/分 匀速垂直拔出。 FFC/FPC(standard thickness 0.30mm) is inserted into the FPC connection product and pulled out vertically at a constant speed of 25-100mm/min.	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	参照第 6 项 Refer to paragraph 6
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.	600gf/terminal MIN.
4	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.	300gf/terminal MIN.
5	插拔耐久性 Durability	以下动作进行 20 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: 50mΩ MAX 无变形 no deformation 拔出力 Withdrawal force: 30gf/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: 50 mΩ Max. 不连续导通 1μs 以内; Not even the conduction within 1 mu s
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	外观无异常 No abnormal appearance
3	耐寒性 Cold Resistance	配合合适的 FPC, -40±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: 50 mΩ 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, 105 ± 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±2℃, 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 : 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

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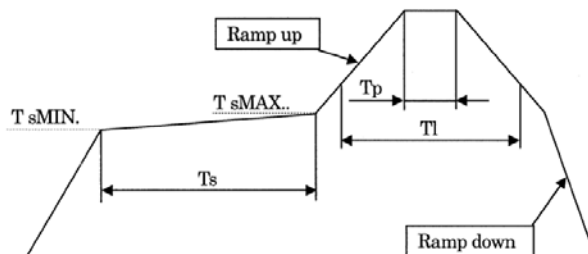
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Document No. : IS.EQC.148	Date: 2018/12/12	Rev. : B	Written by: May	Checked by: Rain	Approved by: Alice

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, 试验后常温水洗干净干燥后进行测试。 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: $50\text{m}\Omega$ Max. 2. 绝缘阻抗: $50\text{M}\Omega$ 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, $-55\pm 3^{\circ}\text{C}$; $85\pm 2^{\circ}\text{C}$ 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	1. Contact Resistance: $50\text{m}\Omega$ Max. 2. Insulation Resistance : $100\text{M}\Omega$ Min. 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	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 $350\pm 10^{\circ}\text{C}$ (Sn: Lead Free); 时间 $10+1/-0\text{S}$ Terminal welding feet and fitting nail front 0.3mm, soldering Iron temperature $350\pm 10^{\circ}\text{C}$ (Sn: Lead Free), time: $10+1/-0\text{S}$	
10	Reflow 耐热性	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.	共面度 0.10mm Max. 外观无异常, Coplanar degree 0.10mm Max. No abnormal appearance.
11	Whisker (Tin 镀锡品)	过 reflow 后插入 FPC, 放置 500H, 观察 WHISKER 长度 Insert FPC after reflow, place 500H, observe the length of Whisker	100um max

Reflow Condition:

Profile Feature	Lead-free Eutectic Assembly
温度上升 Ramp up Rate (TSmax to Tp)	: $1\sim 4^{\circ}\text{C}/\text{S}$
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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6. 插入力明细 Insertion force list: {单位 UNT: N (Kgf)}

极数 No.	插入力最大值 Insertion force MAX.			极数 No.	插入力最大值 Insertion force MAX.		
	首次 1st	第 6 次 6th	第 20 次 20th		首次 1st	第 6 次 6th	第 20 次 20th
3PIN	9.8 (1.00)	12.7 (1.30)	12.7 (1.30)	17PIN	30.3 (3.10)	33.3 (3.40)	33.3 (3.40)
4PIN	11.2 (1.15)	14.2 (1.45)	14.2 (1.45)	18PIN	31.8 (3.25)	34.7 (3.55)	34.7 (3.55)
5PIN	12.7 (1.30)	15.6 (1.60)	15.6 (1.60)	19PIN	33.3 (3.40)	36.2 (3.70)	36.2 (3.70)
6PIN	14.2 (1.45)	17.1 (1.75)	17.1 (1.75)	20PIN	34.7 (3.55)	37.7 (3.85)	37.7 (3.85)
7PIN	15.6 (1.60)	18.6 (1.90)	18.6 (1.90)	21PIN	36.2 (3.70)	39.2 (4.00)	39.2 (4.00)
8PIN	17.1 (1.75)	20.0 (2.05)	20.0 (2.05)	22PIN	37.7 (3.85)	40.6 (4.15)	40.6 (4.15)
9PIN	18.6 (1.90)	21.5 (2.20)	21.5 (2.20)	23PIN	39.2 (4.00)	42.1 (4.30)	42.1 (4.30)
10PIN	20.0 (2.05)	23.0 (2.35)	23.0 (2.35)	24PIN	40.6 (4.15)	43.6 (4.45)	43.6 (4.45)
11PIN	21.5 (2.20)	24.5 (2.50)	24.5 (2.50)	25PIN	42.1 (4.30)	45.0 (4.60)	45.0 (4.60)
12PIN	23.0 (2.35)	25.9 (2.65)	25.9 (2.65)	26PIN	43.6 (4.45)	46.5 (4.75)	46.5 (4.75)
13PIN	24.5 (2.50)	27.4 (2.80)	27.4 (2.80)	27PIN	45.0 (4.60)	48.0 (4.90)	48.0 (4.90)
14PIN	25.9 (2.65)	28.9 (2.95)	28.9 (2.95)	28PIN	46.5 (4.75)	49.4 (5.05)	49.4 (5.05)
15PIN	27.4 (2.80)	30.3 (3.10)	30.3 (3.10)	29PIN	48.0 (4.90)	50.9 (5.20)	50.9 (5.20)
16PIN	28.9 (2.95)	31.8 (3.25)	31.8 (3.25)	30PIN	49.4 (5.05)	52.4 (5.35)	52.4 (5.35)

7. 包装 Packaging

参考包装图 Refer to the packing figure

8. 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	2018/04/21	New	王梅芳	Rain
B	2018/12/12	新增镀金规格	王梅芳	Rain

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