



深圳市首韩科技有限公司

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承认书
SPECIFICATION FOR APPROVAL

客户 Customer: _____

产品名称 Project: FPC连接器

规格型号 Part No: 0.5-24P CTSJ-H2.0 119

贵公司承认印 Approval signatures

料号/Part No.	签章/Signatures

日期 Date:

拟制/Drawn	李春风	
审核/Check	钟华华	
批准/Approved	罗孝金	



1. SCOPE[适用范围]

This specification covers the **0.5PH 2.0H ZIF FPC series**.

(本规范适用于 0.5 mm 间距 2.0 高度抽屉式 FPC 系列产品.)

2. CONNECTOR DIMENSIONS SEE ATTACHED DRAWING

(外观尺寸请参照图面)

3. MATERIALS(材料):

- A. Housing (主体) : Thermoplastic Without Halogen, UL94V-0, Color: Nature;
- B. Cover (后盖) : Thermoplastic Without Halogen, UL94V-0, Color: Black;
- C. Contact (端子) : Copper Alloy, Gold or Tin plating over Nickel under plating Overall.
- D. Peg (焊片) : Copper Alloy, Tin Plating over Nickel under plating overall.

4. RATINGS[额定标准值]

Item[项目]	Standard[规格]
Operating Voltage (最大容许电压)	50VAC/DC
Current Rating (最大容许电流)	0.5AAC/DC
Operating Temperature (使用温度范围)	-25℃~+85℃ (包括产品电流通过所产生的温度) -25℃~+85℃ (Including Terminal Temperature Rise)

5. TEST CONDITION[实验条件]

The test and measurement, unless otherwise specified, shall be carryout at a temperature of 15 to 35℃, Relative humidity of 25 to 85%, and atmospheric pressure of 86 to 106KPa. However, when any doubt arises on the judgment value under it, the test and measurement shall be carry out at a temperature of 20±2℃, relative humidity of 60 to 70%, and atmospheric pressure of 86 to 106KPa.

[除特殊说明之外, 一般试验及测试将于温度 15 ~ 35℃, 相对湿度 25~85%, 大气压力 86~106 KPa 之条件下完成, 但若于上述条件下有任何影响判定值的疑虑, 可考虑在温度 20±2℃, 相对湿度 60~70%及大气压力 86~106 KPa 之条件下完成试验。]

B		Electrical modification		ANLAN	2015/01/10
A		NEW REVISION		ANLAN	2014/08/20
REV.	ECN.NO.	REVISION	APPROVED	DRAMN	DATE



Test Requirements and Procedures Summary 测试要求和程序摘要。

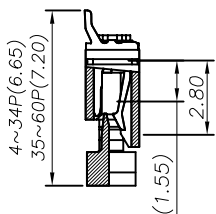
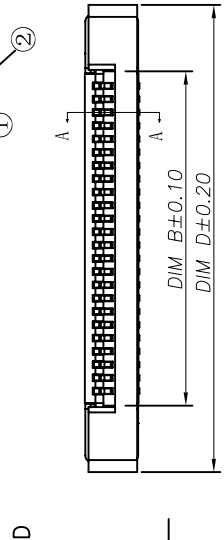
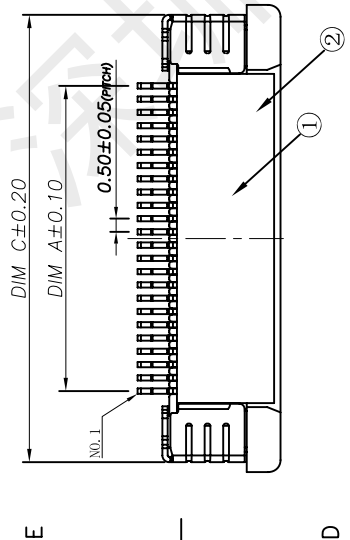
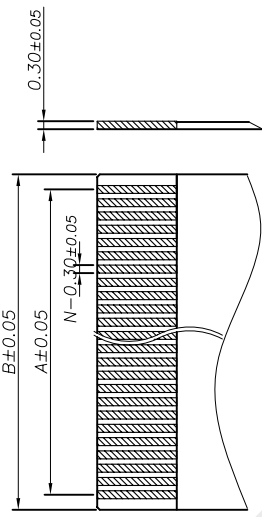
Item(项目)		TEST CONDITION (测试条件)	Procedure(规格)
1	Examination of Product (产品检验)	Visual inspection. (外观检验)	Meets requirements of Product drawing, NO Breakdown 符合图面要求, 目视外观无任何损坏异状
Electrical Requirement (电气特性)			
2	Contact Resistance (接触阻抗)	Mate applicable FPC and measure by dry circuit 20mV Msx,10mA (将样品与 FPC 连接, 测试电压 20mV, 限电流 10mA 进行阻抗测试)	30m Ohm Max (30m Ohm 最大)
3	Dielectric withstanding Voltage (耐电压)	[250]VAC for 1 minute Test between adjacent circuits of unmated connector.(将样品与 FPC 连接, 相邻端子间可以承受 250VAC 1 分钟)	NO Breakdown (目视外观无任何损坏异状)
4	Insulation Resistance (绝缘阻抗)	[500]VAC for 1 minute Test between adjacent circuits of unmated connector.(将样品与 FPC 连接, 提供相邻端子间测试电压 500VDC 进行绝缘阻抗测试)	500 M Ohm Min. (500M Ohm 最小)
MECHANICAL CHARACTERISTICS (机械特性)			
5	Contact/Peg Retention Force (保持力)	Apply axial pull out force at the rate of [25.4±3]mm/min on the terminal assembled in the housing. (端子与 PEG 插进主体水平方向拔出力量)	0.250kgf Min. (0.250kgf 最小)
6	Actuator Retention Force (后盖压入/拔出力)	Operation Speed:[25.4±3] mm/min Measure the force required to mated connector. (产品连接 FPC 后以操作速度每分钟 25.4±3mm 进行后盖压入或拔出力测试。)	0.200kgf/Pin Max. (后盖压入或拔出力每 PIN 0.200Kg 最大)
	FPC/FFC Retention Force (FPC/FFC 保持力)	Operation Speed:[25.4±3] mm/min Measure the force required to unmated connector. (将盖子盖上, 与 FPC 连接后以操作速度每分钟 25.4±3mm 进行 FPC 保持力测试。)	0.030kgf/Pin Min.(PIN≥17) 0.500kgf Min.(PIN<17) (片数大于等于 17PIN 时 FFC/FPC 每 PIN 保持力 0.030kg 以上, 片数小于 17PIN 时 FFC/FPC 保持力 0.500kg 以上。)



7	Durability (耐久性)	Operation Speed: (10) cycle-max./min Durability Cycles: 20 Cycles 操作速度: 10 次最大每分钟 耐久次数: 20 次	Contact Resistance: 60m Ohm Max 接触阻抗: 60m Ohm 最大	
8	Vibration (振动试验)	Amplitude: 1.52m; Frequency; 10~55~10HZ; Vibration time:2 hours for 3 axis total 6 hours. (振幅: 1.52mm: 振动频率: 10~55~10HZ; 振动时间: X、Y、Z 轴各 2 小时)	Appearance (外观)	No damage (不可破坏)
			Contact Resistance (接触阻抗)	60mOhm Max (60mOhm 最大)
			Discontinuity (断电时间)	1u sec. Max.
9	Mechanical Shock (冲击试验)	The connectors shall be soldered on the P.C. board. /Acceleration: 50G. Time: 11ms.(half sine wave). Cycle: 3 cycle for 3 axis total 9 cycle. (FPC 焊接于 PC 板上, /加速度: 50G.) (冲击作用时间: 11ms.) [冲击次数: X、Y、Z 轴各 3 次 (共 9 次)] {JIS C0041/MIL-STD-202Method213}	Appearance (外观)	No damage (不可破坏)
			Contact Resistance (接触阻抗)	60mOhm Max 60mOhm 最大
			Discontinuity (断电时间)	1u sec. Max.
10	Temperature Rising (温升)	Mate applicable FPC and measure the temperature rise of contact when the maximum AC mated current is. (量测通过 FPC 最大容许电流时, 样品接触之温升)	Temperature Rising (温升)	30°C Max 30°C 以下
11	Solder ability (焊锡性)	Tip of Solder tails and fitting nails into the molten solder(held at 245 ±5°C) up to 0.1mm from the bottom of the housing for 3±0.05sec	Solder wetting (湿润性)	95%of immersed area must show no voids, Pinholes(焊接覆盖面积必须有 95%以上, 不得有漏焊现象)
12	Resistance to Reflow Soldering Heat (回焊高温测试)	Pre Heat:150~180°C,90±30sec. Heat: 230°C Min.,30±10sec Peak Temp.: <u>260+0/-5°C</u> , 10sec. Or less Duration: 3 cycles Refer to Fig.4	Appearance (外观)	No damage (不可破坏)

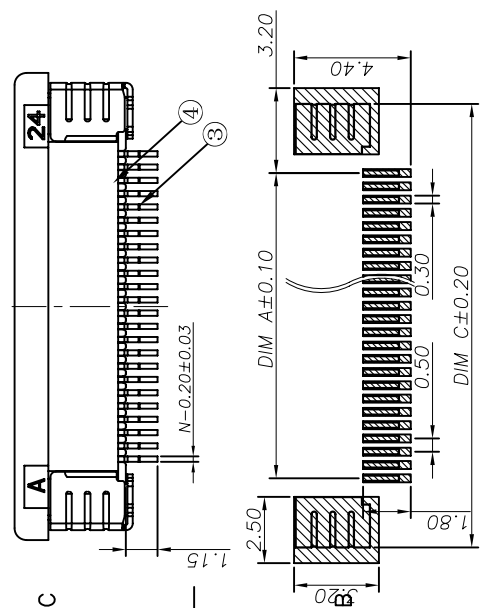


13	Thermal Shock (热冲击试验)	<p>Temperature range form -55°C to $+85^{\circ}\text{C}$.Start from -55°C ,after 30 min. Change to $+85^{\circ}\text{C}$;Cchang time is no more than 30 seconds. Total 5 cycles.</p> <p>温度变化范围：$-55^{\circ}\text{C}\sim+85^{\circ}\text{C}$；从$-55^{\circ}\text{C}$开始，30分钟换到$+85^{\circ}\text{C}$；转换时间不超过30秒；共5个循环。</p> <p>{MIL-STD-202, 方法 107D,条件 A}</p>	Appearance (外观)	No damage (不可破坏)
			Contact Resistance (接触阻抗)	60mOhm Max 60 m Ohm 最大
14	Humidity-Temp erature Cycle (耐湿性试验)	<p>$40 \pm 20\text{C}$ in temperature and 90~95%RH for 96 hours.</p> <p>After testing connector shall be left alone for 1 to 2 hours in a room ambient.</p> <p>[温度 $40\pm 20\text{C}$，相对湿度 90~95%，持续 96 小时。经试验后，连接器须于室温中放置 1~2 小时，再测定其值。]</p> <p>{EIA-364-31A, Method II, condition A}</p>	Appearance (外观)	No damage (不可破坏)
			Contact Resistance (接触阻抗)	60mOhm Max 60 m Ohm 最大
			Insulation Resistance (绝缘阻抗)	100M Ohm Min
15	Temperature Life (恒温恒室试验)	Mated, Connector 85°C , 250 hours,	Contact Resistance (接触阻抗)	60mOhm Max 60 m Ohm 最大
16	Salt Spray (盐水喷雾试验)	<p>Salt concentration: 5%/</p> <p>Temperature: $35\pm 20\text{C}$,Testing time: 24 ± 2 hours, After salt is removed by running water and a dropis removed, it is measured.</p> <p>(盐水比重：5% / 温度：$35\pm 20\text{C}$)</p> <p>(试验时间：24 ± 2 小时，用清水将残留盐份清洗并将水滴清除后，才可测量。)</p> <p>{EIA-364-26A, Condition A}</p>	Appearance (外观)	No damage (不可破坏)
			Contact Resistance (接触阻抗)	60mOhm Max 60 m Ohm 最大

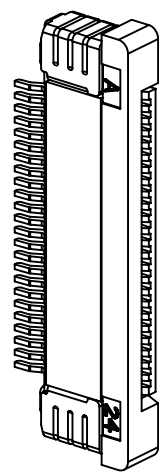


NOTE:

- 1.Current Rating: 0.5A
- 2.Rated voltage: 50V AC\DC
- 3.Dielectric Withstanding Voltage: 250V/minute
- 4.Contact resistance: ≤30mΩ
- 5.Insulation resistance: ≥500MΩ
- 6.Temperature range: -25°C to +85°C



RECOMMENDED PCB Layout
DEFAULT TOLERANCES:±0.05(TOP VIEW)



NO.OF PIN#	Dimensions				NO.OF PIN#	Dimensions			
	DIM A	DIM B	DIM C	DIM D		DIM A	DIM B	DIM C	DIM D
04	1.50	2.60	6.85	7.60	33	16.00	17.10	21.35	22.10
05	2.00	3.10	7.35	8.10	34	16.50	17.60	21.85	22.60
06	2.50	3.60	7.85	8.60	35	17.00	18.10	22.35	23.10
07	3.00	4.10	8.35	9.10	36	17.50	18.60	22.85	23.60
08	3.50	4.60	8.85	9.60	37	18.00	19.10	23.35	24.10
09	4.00	5.10	9.35	10.10	38	18.50	19.60	23.85	24.60
10	4.50	5.60	9.85	10.60	39	19.00	20.10	24.35	25.10
11	5.00	6.10	10.35	11.10	40	19.50	20.60	24.85	25.60
12	5.50	6.60	10.85	11.60	41	20.00	21.10	25.35	26.10
13	6.00	7.10	11.35	12.10	42	20.50	21.60	25.85	26.60
14	6.50	7.60	11.85	12.60	43	21.00	22.10	26.35	27.10
15	7.00	8.10	12.35	13.10	44	21.50	22.60	26.85	27.60
16	7.50	8.60	12.85	13.60	45	22.00	23.10	27.35	28.10
17	8.00	9.10	13.35	14.10	46	22.50	23.60	27.85	28.60
18	8.50	9.60	13.85	14.60	47	23.00	24.10	28.35	29.10
19	9.00	10.10	14.35	15.10	48	23.50	24.60	28.85	29.60
20	9.50	10.60	14.85	15.60	49	24.00	25.10	29.35	30.10
21	10.00	11.10	15.35	16.10	50	24.50	25.60	29.85	30.60
22	10.50	11.60	15.85	16.60	51	25.00	26.10	30.35	31.10
23	11.00	12.10	16.35	17.10	52	25.50	26.60	30.85	31.60
24	11.50	12.60	16.85	17.60	53	26.00	27.10	31.35	32.10
25	12.00	13.10	17.35	18.10	54	26.50	27.60	31.85	32.60
26	12.50	13.60	17.85	18.60	55	27.00	28.10	32.35	33.10
27	13.00	14.10	18.35	19.10	56	27.50	28.60	32.85	33.60
28	13.50	14.60	18.85	19.60	57	28.00	29.10	33.35	34.10
29	14.00	15.10	19.35	20.10	58	28.50	29.60	33.85	34.60
30	14.50	15.60	19.85	20.60	59	29.00	30.10	34.35	35.10
31	15.00	16.10	20.35	21.10	60	29.50	30.60	34.85	35.60
32	15.50	16.60	20.85	21.60					

TOLERANCE	NAME(INTENDED USE) CUSTOMER DRAWING	
X.X ±0.30 X.° ±10°	深圳市首韩科技有限公司	
.XX ±0.20 .X.° ±8°	PART NO.	
.XXX ±0.10 .XX.° ±5°	FP0502A-XXP-SSAC-LP00X	
UNITS mm	DESIGN: 李春风	
MATERILA	CHED: 钟文华	
FINISH	APPD: 罗孝金	
	TITLE: 0.5-24P CTSJ-H2.0 119	
	DRAWG NO.	
	SCALE SHEET REV.	

④	FITTING NAIL	2	BRASS	Sn plating
③	TERMINAL	N	PHOSPHOR BRONZE	Sn plating
②	SLIDER	1	LCP UL94V-0	Black
①	HOUSING	1	LCP UL94V-0	White
NO	PART NAME	QTY.	MATERIAL	REMARK

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