********** 目 錄 Content **********

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1. 概述 Scope:

1.1 说明 Content

此份产品规格书是针对由昆山嘉华电子有限公司设计和制造的 **PIN PUSH CARD SERIES.** 产品所定义的产品性能和测试方法。

This product specification defines the product performance and the test methods to ensure the performance of the **PIN PUSH CARD SERIES ,** which is designed and manufactured by KunShan Jiahua Electronics Co., Ltd.

1.2 限制 Qualification

所有的测试和检验必须依照本文件中所要求的规格、方法进行。一旦产品的重要制程发生变更，必须立即进行品质验证和测试。

Tests and inspection shall be performed in accordance with the requirements, tests and methods contained herein. A re-qualification test shall be conducted immediately following all major process changes.

2. 参考文件 Referenced Documents:

EIA-364
MIL-STD-202F
MIL-P-81728A
MIL-T-10727B
JIS C 0040
JIS C 0041

若某些项目被发现本规格书中的内容与以上参考文件要求不一致时，一律依本规格书中的内容为测试依据。

In case of any contradiction between this document and referenced documents, this document will take precedence.

3. 规格要求 Requirements:

3.1 应用条件 Application Condition:

3.1.1 使用环境 Operating Environment:

温度: -40°C to +85°C,相对湿度:25%~85%,此条件下功能不可失效。

Temperature:-40°C to +85°C, Relative Humidity:25%~85%, Without loss of function.

3.1.2 储存环境 Storage Environment:

温度: -40°C to +100°C,相对湿度:95%或更低,此条件下功能不可失效。

Temperature:-40°C to +100°C, Relative Humidity: 95% or Less, Without loss of function.

3.2 绿色环保要求 Health, Safety and Environment

此产品中所有涉及环保有关的有害物质管控标准请参考嘉华系统文件:**JH-GP-213**

Hazardous substances (Environment related to be controlled substances) contained in this product should comply with the regulations specified by FAF's **JH-GP-213**.

3.3 测试说明 Test Description

此产品性能须满足本文件 3.4 节中的各项规格要求。除非有特别申明，所有的测试和量测必须在以下条件中进行:

The product is designed to meet the requirements specified in section 3.4. Unless otherwise specified, all tests and measurements are to be performed under the following conditions:

温度 Temperature:15℃ to 35℃

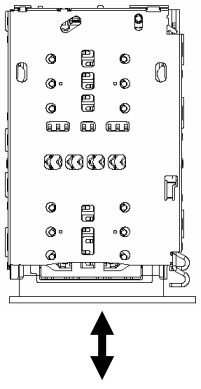
相对湿度 Relative Humidity: 20% to 70%

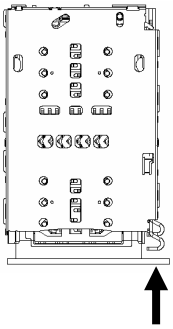
大气压 Atmospheric Pressure: 650 to 800 millimeters (25.6 to 31.5 inches) of Mercury.

3.4 测试规范和方法 Test Requirements and Methods

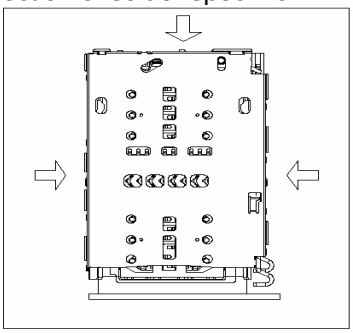
Table I: 性能要求 Performance Requirements

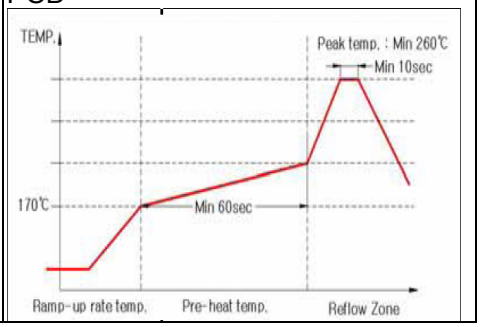
项目 Items	规格要求 Requirements	测试方法 Test Methods
3.4.1 产品外观 Visual Examination	所有零件必须组装完好,不能出现毛边,变形,刮伤,以及任何外观破坏等异常; All components shall be properly assembled and free of burrs, warps, scratches, broken chips, and other abnormalities	参考测试标准：EIA 364-18 依照相应的文件和规格书进行外观,功能,及尺寸的检验量测. Comply with method EIA 364-18 Visual, functional, and dimensional inspection complies with applicable specification and document.
3.4.2 低功率接触阻抗 Low Level Contact Resistance	端子： 接触阻抗：50 mΩ Max; 侦测 Pin: 140 mΩ Max; 测试卡厚度：T＝0.60mm Contact： LLCR: 50mΩ Max; Detect Pin: 140 mΩ Max; Test card thickness :T=0.60mm	参考测试标准：EIA-364-23 必须保证量测结果为产品以及与之对应配对产品的焊接部位之间的阻抗值; Comply with method EIA–364-23, with the exception of the resistance readings, which shall be measured between the termination points of tested plug and connector
3.4.3 绝缘阻抗 Insulation Resistance	初始绝缘阻抗：1000 MΩ Min. 末态绝缘阻抗：500 MΩ Min. Initial: 1000MΩ Min. Final：500MΩ Min	参考测试标准：EIA-364-21. 在相邻两支端子之间加载 500V 直流电压并保持 1 分种，然后进行测试. Comply with method EIA-364-21. Insulation resistance is measured between adjacent contacts after applying 500V DC for 1 minutes.
3.4.4 耐电压 Dielectric Withstanding Voltage	加电压期间漏电流不超过 0.5mA. 同时不能产生电弧以及而产生的短路和破坏产品的绝缘性能. No evidence of breakdown or flash burn. No burn caused by short circuit. No insulation destruction. Current leakage: 0.50mA Max.	参考测试标准：EIA-364-20,方法 B; 在产品以及与之配对的 plug 之间加 500V 交流电压保持 1 分种,监控漏电流. Comply with method EIA-364-20, Test Method B. apply 500 VAC 1 minute at sea level on tested plug and connectors.
3.4.5 温升测试 Temperature rise	通过电流：1A/Pin 测试卡厚度：T＝0.60mm Current rating:1A Per Pin Test card thickness :T=0.60mm	将配合的测试样本通以工作电流2小时，测试样本温度上升值，要求温升≤30℃。 Rated current is passed on testing specimens for 2 hours . The temperature rise should not exceed 30℃

项目 Items	规格要求 Requirements	测试方法 Test Methods
3.4.6 振动 Vibration	不产生超过 1 微秒的瞬断, 产品没有物理破坏以及零件脱落,端子接触阻抗满足规格要求. 测试卡厚度：T＝0.60mm No electrical discontinuity longer than 1 u sec. No mechanical damage or looseness. Contact resistance specifications remain satisfied. Test card thickness :T=0.60mm	参考测试标准：EIA-364-28, 频率：10-55~10HZ 振幅：1.50mm, X,Y,Z 三个方向，每个方向 2H Comply with method EIA-364-28E. Frequency: 10-55~10HZ, Amplitude: 1.50mm. along X, Y, and Z axis.(2H per axis);
3.4.7 机械冲击 Physical Shock	不产生超过 1 微秒的瞬断, 产品没有物理破坏以及零件脱落,端子接触阻抗满足规格要求. 测试卡厚度：T＝0.60mm No electrical discontinuity longer than 1 u sec. No mechanical damage ， t resistance specifications remain satisfied. Test card thickness :T=0.60mm	参考测试标准：EIA-364-27. 波形:半正弦波; 加速度: 50G, 时间: 11 毫秒；沿 X,Y,X 三个方向进行, 每个方向完成正反 3 次冲击(总计 18 次冲击) Comply with method EIA-364-27, Shock Waveform: Half sine-wave, Duration Pulse : 11 ms., Acceleration: 50G, Total impacts delivered along 3 mutually each X. Y. and Z axes.(Total:18 impacts)
3.4.8 插入力/拔出力 Insertion/Withdrawal Force	插入力：0.2～1kgf （用 T＝0.84mm 厚的卡进行测试） 拔出力：0.4~1kgf（不带卡测试）	参考测试标准：EIA-364-13. 用装有 SIM CARD 的 Tray 盘 以每分 25+/-3mm 的速度插入（如上图+Z 方向）. When applied SIM CARD mating at speed 25+/-3mm/min Push the ejecting bar when the tray is ejected from the connector. 

3.4.9 顶退力 Operating Force	顶退力：1.2kgf Max. （用 T＝0.84mm 的卡测试）	参考测试标准：EIA-364-13.. 用顶针顶住退卡机构将 Tray 盘顶出 When applied SIM CARD mating at speed 25+/-3mm/min Push the ejecting bar when the tray is ejected from the connector. 

项目 Items	规格要求 Requirements	测试方法 Test Methods
3.4.10 耐久插拔 Durability	完成 2000 次插拔以后, 必须满足相应机械及电气规格.（用 T＝0.84mm 的卡测试） Mating and un mating 2000 cycles Meet related mechanical and electrical specification.	参考测试标准：EIA-364-09; 公母互配的产品进行插拔测试,每小时不超过 500 次; Comply with method EIA 364-09 Mated and unmated each connector at Max rate of 500 cycles per hour.
3.4.11 正向力 Normal Force	耐久前： 0.20 的位置：25g/PIN Min 0.10 的位置：35~60g/PIN 0 的位置：80g /PIN Max. 耐久后： 0.20 的位置：20gf/PIN Min After durability: 0.20 Postion:20gf/PIN Min.	测量每 Pin 端子的正向力，垂直测试，测试速度 25+/-3mm/min，测试时端子压平插卡基准面,(记录基准面以上 0.2/0.10/0.0 毫米位置的数据)。 Measured contact normal force per Pin, Press contact to working plane as velocity of 25+/-3mm/min in a vertical state.(Record the data at above datum plane 0.2/0.10/0.0 mm position)

3.4.12 跌落测试 Drop Test	1. 产品无损坏，端子无变形 1.No have fracture ， crack，terminal contact point shake of product	产品焊板后测试，每个面跌落 3 次，共计 18 次，跌落高度 120mm With soldered specimen by SMT SPEC ,It perform drop test each three times at height of 120 mm in 6 directions including join axis （total:18 times）
3.4.13 焊接强度 Solder joint strength	5.0Kgf Min More than 5.0Kgf	产品焊板后， 如下图 X 方向测试产品脱落 PCB 板所需要的力 It measure strength that give force for X direction of solder specimen 
3.4.14 温度冲击 Thermal shock	测试后满足相应机械及电气规格; 测试卡厚度：T＝0.84mm Meet related mechanical and electrical specification. Test card thickness :T=0.84mm	参考测试标准：EIA-364-32; -40℃和+70℃各 30 分钟，过渡时间: 最大 5 分钟, 总计 10 个循环. Comply with method EIA-364-32. -40℃ for 30 minutes and +70℃ for 30 minutes for 10 cycles. Transition time:5 minutes. max.
3.4.15 盐雾实验 Salt Spray	测试后产品须满足 3.4.2,规格要求. 测试卡厚度：T＝0.60mm After the test, the sample shall pass the test specified in 3.4.2 Test card thickness :T=0.60mm	参考测试标准: EIA-364-26 盐水温度: 35±2℃, 浓度 5±1%， 时间: 48 小时. Comply with method EIA-364-26. Salt solution temperature 35±2℃, Concentration 5±1%， Duration: 48H
3.4.16 耐湿度 Humidity Verification	测试后产品须满足 3.4.2, 3.4.3 以及 3.4.4 规格要求. 测试卡厚度：T＝0.60mm After the test, the sample shall pass the test specified in 3.4.2, 3.4.3, 3.4.4 Test card thickness :T=0.60mm	参考测试标准：EIA-364-31 中方法 II, 条件 A; 产品互配在以下条件中放置 96 小时： 温度；60°C 相对湿度：90~95% Comply with method II. Test condition A of EIA-364-31. Subject

		mated connectors to 96 hours at 60°C with 90~95% relative humidity.
3.4.17 温度寿命 Temperature life	测试后产品须满足 3.4.2, 3.4.3 以及 3.4.4 规格要求. 测试卡厚度：T＝0.60mm After the test, the sample shall pass the test specified in 3.4.2, 3.4.3, 3.4.4 Test card thickness :T=0.60mm	参考测试标准：EIA-364-17 产品互配后放置在 70°C 条件下总计 96 小时。 Comply with EIA-364-17. Subject mated connectors to temperature life at 70°C for 96 hours.
3.4.18 耐焊接热 Resistance to soldering heat	1. 无损坏，端子无变形； 2. push 功能无损坏，内部组成零件无脱落，无歪斜； 3. 产品结构无破坏； 1. No have fracture crack ,terminal contact point deflection and shake of product 2. No have break down push faction no have fall off and deflection 3. No have break down outer feature/structure	根据下图温度条件测试产品的耐焊接热 The connector shall be tested resistance to soldering heat in the following conditions, The temperature shall be measured on the surface of PCB 

3.5 Test Sequence

Test, Measurement or Examination	A	B	C	D	E	F	G	H
	5pcs	5pcs	5pcs	5pcs	5pcs	5pcs	5pcs	5pcs
1. Visual examination	1,10	1,6	1	1,7	1,6	1,11	1,10	1,6
2.Resistance to soldering heat	2	2	2	2	2	2	2	2
3. Low Level Contact Resistance	3,9			3,6	3,5	3,8	3,7	3,5
4 Insulation Resistance						4,9	4,8	
5. Dielectric Withstanding Voltage						5,10	5,9	
6.Temperature rise								4
7. Insertion/Withdrawal Force	4,7							
8.Operating Force	5,8							
9.Durability	6	4						
10.Normal Force		3,5						
11.Drop test			3					
12. Solder joint strength			4					
13. Vibration				4				
14. Physical shock				5				
15. Salt Spray					4			
16. Thermal shock						6		
17. Humidity Verification						7		
18. Temperature life							6	