



Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	0.4mm PITCH BTB 1.5H SINGLE	PS-0008			
	TOUCH TYPE CONNECTOR	Page	1 OF 9	Rev.	B

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***** Revised history *****

Edition	ECN NO.	Revised Page	Remark
A	ECN1306030	None	Initial Release

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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 0.4mm PITCH BTB 1.5H SINGLE TOUCH TYPE CONNECTOR 型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 0.4mm PITCH BTB 1.5H SINGLE TOUCH TYPE CONNECTOR (P/N: 5.004A*; 5.007A*), 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.

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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:20%~85%,此条件下功能不可失效。

Temperature:-40°C to +85°C, Relative Humidity:20%~85%, Without loss of function.

3.1.2 额定电流: 0.3A

Current Rating: 0.3A

3.1.3 额定电压: 30VAC

Voltage Rating: 30VAC

3.1.2 储存环境 Storage Environment:

温度: -25°C to +85°C,相对湿度:30%~70%,此条件下功能不可失效。

Temperature:-25°C to +50°C, Relative Humidity: 30%~70%, 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: 20°C±5°C

相对湿度 Relative Humidity: 40% to 70%

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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,功能的检验. 尺寸查阅图面要求. Comply with method EIA 364-18 Visual, functional complies with applicable specification and document. Refer to drawings .
3.4.2 低功率接触阻抗 Low Level Contact Resistance	初始接触阻抗: 60 mΩ Max; 测试后接触阻抗: 80 mΩ Max; Initial: 60mΩ Max; After test: 80 mΩ Max	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, 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. 测试后绝缘阻抗: 100 MΩ Min. Initial: 1000MΩ Min. After Test: 100MΩ Min.	参考测试标准: EIA-364-21. 在相邻两支端子之间加 250V 直流电压并保持 1 分钟, 测出阻抗值. Comply with method EIA-364-21. Insulation resistance is measured between adjacent contacts after applying 250V DC for 1 minutes.
3.4.4 耐电压 Dielectric Withstanding Voltage	加电压期间漏电流不超过 2mA. 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: 2 mA 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 150V 交流电压保持 1 分钟,监控漏电流. Comply with method EIA-364-20, Test Method B. apply 150 VAC 1 minute at sea level on tested plug and connectors.
3.4.5 可焊性 Solder-ability.	焊锡表面浸渍超过 95%.	焊锡温度: 240°C±3°C 焊锡时间: 3 秒 Temperature: 240°C±3°C. Immersion duration: 3 seconds.

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	Wet solder coverage: 95%Min	
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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. No electrical discontinuity longer than 1 microsecond. No mechanical damage or looseness. Contact resistance specifications remain satisfied.	参考测试标准: EIA-364-28, 频率: 10-55~10HZ(1 分钟) 振幅: 1.50mm, X,Y,Z 三个方向, 各 2 小时 Comply with method EIA-364-28. Frequency: 10-55~10HZ , Amplitude: 1.52mm, Specimen to be excited along X, Y, and Z axis.(Total:2 hours);
3.4.7 机械冲击 Mechanical Shock	不产生超过 0.1 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. No electrical discontinuity longer than 0.1 microsecond. No mechanical damage or looseness. Contact resistance specifications remain satisfied.	参考测试标准: EIA-364-27. 波形:半正弦波; 加速度: 50G , 沿 X,Y,X 三个方向进行, 每个方向完成正反各 3 次冲击(总计 18 次冲击) Comply with method EIA-364-27B, Shock Waveform: Half sine-wave, Acceleration: 50G, Total impacts delivered 3. each along X. Y. and Z axes.(Total:18 impacts)
3.4.8 耐久插拔 Durability	完成 50 次插拔以后, 必须满足相应机械及电气规格. Mating and Unmating 50 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, 且每分路运动距离不超过 10mm; Comply with method EIA 364-09 Mated and unmated each connector at Max rate of 500 cycles per hour and 10 mm per minute.
3.4.9 插拔力 Mating and Unmating Force	插拔力要求如下; 详见说明 2	插拔速度为 25±3mm/每分钟. Measure the force required to mate

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	(See Fig. 2)	and unmate the connector. Speed: 25±3mm/min.															
3.4.10 温度冲击 Thermal shock	测试后满足相应机械及电气规格; 初始接触阻抗: 60 mΩ Max; 测试后接触阻抗: 80 mΩ Max; Meet related mechanical and electrical specification. Initial: 60mΩ Max; After test: 80 mΩ Max.	参考测试标准: EIA-364-32; -55℃和+85℃各 30 分钟, 总计 5 个循环. <table border="1"> <tr> <th>STEP</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> <tr> <td>Temperature</td> <td>+0 -55 -3</td> <td>+10 25 -5</td> <td>+3 85 -0</td> <td>+10 25 -5</td> </tr> <tr> <td>Time</td> <td>30</td> <td>5</td> <td>30</td> <td>5</td> </tr> </table> Comply with method EIA-364-32. -55℃ for 30 minutes and +85℃ for 30 minutes for 5 cycles.	STEP	1	2	3	4	Temperature	+0 -55 -3	+10 25 -5	+3 85 -0	+10 25 -5	Time	30	5	30	5
STEP	1	2	3	4													
Temperature	+0 -55 -3	+10 25 -5	+3 85 -0	+10 25 -5													
Time	30	5	30	5													
3.4.11 盐雾实验 Salt Spray	测试后满足相应机械及电气规格; 初始接触阻抗: 60 mΩ Max; 测试后接触阻抗: 80 mΩ Max; Meet related mechanical and electrical specification. Initial: 60mΩ Max; After test: 80 mΩ Max	参考测试标准: EIA-364-26 中方法 101,条件 B; 盐水温度: 35±2℃, 条件: 24 小时; Comply with method EIA-364-26B. condition B Method 101. Salt mist 35±2℃, 24 hours.															
3.4.12 耐湿性能 Humidity Verification	测试后产品须满足此规格中 3.4.2,3.4.4 规格要求. 测试后绝缘阻抗: 100 MΩ Min Meet 3.4.2,specification After Test Insulation Resistance: 100 MΩ Min.	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: 40℃ 相对湿度: 90~95% Comply with method II. Test condition A of EIA-364-31. Subject mated connectors to 96 hours at 40℃ with 90~95% relative humidity.															
3.4.13 耐 Reflow 高温 Resistance to Reflow Soldering Heat	外观无损坏 Appearance: No damage	根据下图温度条件测试产品的耐焊接热 The graph shows a temperature profile for reflow soldering. It starts with a 30s minimum ramp to a temperature range of 150-200°C. This is followed by a dwell of 90-120s. Then, there is a 'heat up' phase to a minimum of 230°C. Finally, there is a dwell at 260°C with a tolerance of +0/-5°C for 20-40s.															

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		Put the connector on the P.C. Board and expose them to the reflow oven for 2 times
3.4.14 温度寿命 Temperature life	测试后产品须满足此规格中 3.4.2,3.4.3 以及规格要求. Meet 3.4.2, 3.4.3 specification	参考测试标准: EIA-364-17; 产品互配后放置在 85°C 条件下总计 96 小时。 Comply with EIA-364-17. Subject mated connectors to temperature life at 85°C for 96 hours.
3.4.15 低温测试 Cold Resistance	测试后产品须满足此规格中 3.4.2,3.4.3 以及规格要求. Meet 3.4.2, 3.4.3 specification	参考测试标准: EIA-364-59; 产品互配后放置在-40°C±2°C条件下总计 96 小时。 Mated connector. -40°C±2°C, 96 Hours. After test, recondition under standard atmospheric condition for 2 hours. EIA-364-59

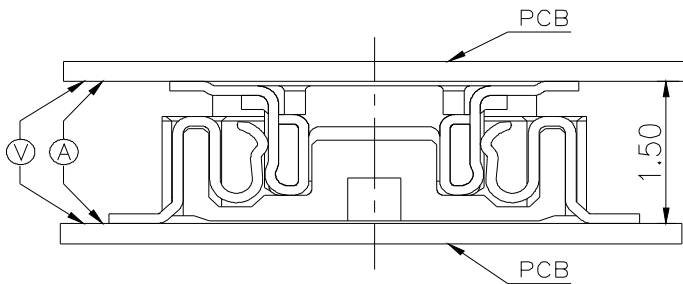


Figure 1 (P/N: 5.007/5.004)
图一 (料号:5.007/5.004)

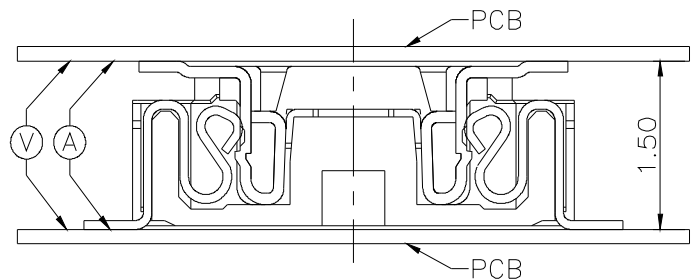


Figure 2(P/N: 5.016/5.009)
图一 (料号:5.016/5.009)

Pin No.	Mating Force (Kgf Max.)	Unmating Force (Kgf Min)	
		First	After 50 Cycles
20	2.50	0.30	0.25
24	3.00	0.35	0.30
30	3.50	0.40	0.35
40	4.50	0.50	0.45
50	5.50	0.60	0.50
60	6.50	0.65	0.60

Figure 2
Mating and Unmating Force

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3.5 Test Sequence

Test, Measurement or Examination	A	B	C	D	E	F	G	H	I	J
	Sample size 5	Sample size 5	Sample size 5	Sample size 5	Sample size 5	Sample size 5	Sample size 5	Sample size 5	Sample size 5	Sample size 5
1. Visual examination 产 品外观	1, 9	1, 7	1, 3	1, 6	1, 5	1, 3	1, 7	1, 7	1, 7	1
2. Low Level Contact Resistance 低功率接触 阻抗	2, 6	2, 6		2, 5	2, 4		2, 5	2, 5	2, 5	
3. Insulation Resistance 绝缘阻抗	3, 7						3, 6	3, 6	3, 6	
4. Dielectric Withstanding Voltage 耐电压	4, 8									
5. Solder-ability 可焊性			2							
6. Vibration 振动				3						
7. Mechanical Shock 机械冲击				4						
8. 插拔力 Mating and Unmating Force		3, 5								
9. Durability 耐久插拔		4								
10. Thermal shock 温度冲击					3					
11. Salt Spray 盐雾实验							4			
12. Humidity 耐湿性能	5									
13. Resistance to Solder Heat 耐焊锡热						2				
14. Temperature life 低温测试									4	
15. Cold Resistance 温度寿命								4		

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