



Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	WTB SERIES 1.43&1.20H CONN.	PS-0070			
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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 **WTB SERIES 1.43&1.20H CONN.**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 **WTB SERIES 1.43&1.20H CONN.**, 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:

EIA364

MIL-STD-883B: Methods 2022 solder Testing.

ISO 7816-1:Identification Cards-integrated circuit cards with contact-dimension and location of the contacts.

GSM11.11:IETS subscriber identity module-interface specification

EIA 481-3 ,SMD tapping standard

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 额定电流: 2.5Amps(1.43H)/2.0Amps(1.20H)Max. per contact
CURRENT RATING : 2.5Amps(1.43H) /2.0Amps(1.20H)Max. per contact

3.1.2 额定电压: 50 Volt DC(1.43H)/ 30 Volt DC(1.20H) Max.
VOLTAGE RATING : 50 Volt DC(1.43H)/ 30 Volt DC(1.20H)Max

3.1.3 使用环境 Operating Environment:

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

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

3.1.4 储存环境 Storage Environment:

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

Temperature:-40°C to +85°C, Relative Humidity: 25%~85% 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第 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°C

相对湿度 Relative Humidity: 25% to 75%

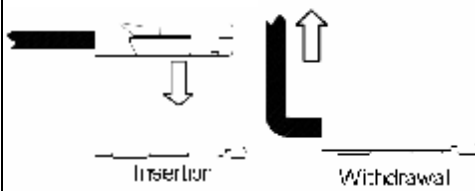
大气压 Atmospheric Pressure: 650 to 800 millimeters (25.6 to 31.5 inches) of Mercury.

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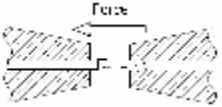
4.测试规范和方法 Test Requirements and Methods		
4.1 外观 Appearance		
项目 Items	规格要求 Requirements	测试方法 Test Methods
4.1 产品外观和尺寸检查 Appearance	所有零件必须组装完好,不能出现毛边,变形,刮伤,以及任何外观破坏等异常; All components shall be properly assembled and free of burrs, warps, scratches, broken chips, and other abnormalities	依照相应的文件和规格书进行外观,功能,及尺寸的检验量测. Visual, functional, and dimensional inspection complies with applicable specification and document.
4.2 电气性能 Electrical Performance :		
4.2.1 接触阻抗 Low level contact resistance	初始接触阻抗: 10mΩ Max; 试验后接触阻抗: 20mΩ Max; Initial: 10mΩ Max; After test: 20mΩ Max;	测量接触阻抗, 测试电流小于 10mA Measure contact resistance of product and test card PCB with less than current of 10 mA (exception for the conductor resistance)
4.2.2 绝缘阻抗 Insulation resistance	初始绝缘阻抗: 1000 MΩ Min 试验后绝缘阻抗: 1000 MΩ Min Initial:1000 MΩ Min After test:1000 MΩ Min	测试电压: 直流 500V, 测试时间: 1 分钟, 测试相邻两端子之间的绝缘阻抗 Give DC 500V Voltage for 1 minutes and then measure insulation resistance of contact and contact
4.2.3 耐电压 Dielectric withstanding voltage	产品既无电火花也无气体产生 漏电流最大 0.5mA After the test, Neither creeping discharge nor flashover shall occur. Leakage current 0.5 mA Max	两相邻端子之间加载交流 500V 电压 1 分钟;温度冲击和恒温恒湿后为交流 300V Give AC 500 V in near contact and insulator for 1 minute After tests:300V AC(Thermal shock& Humidity)
4.3 机械性能 Mechanical Performance :		
4.3.1 插拔力 Insertion force& Withdrawal force	1. Plug 端插入力: 35N Max 2. Plug 端拔出力 : 2.5N Min 1. Plug Insertion force: 35N Max 2. Plug withdrawal force : 2.5N Min	产品焊板后, 测量 Plug 端的插拔力, 测试速度: 1~5mm/sec 测试时 plug 端须以插入轴向上下插拔 After Soldering of testing product at PCB, Measure insertion and withdrawal force of Plug at 1~5mm/sec to mating axis 

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4.3.2 耐久 Durability	<p>1. 试验后接触阻抗: 20mΩ Max;</p> <p>2. 产品无断裂、无破损;</p> <p>3. 插入力: 35N Max, 拔出力: 1N Min;</p> <p>1. After testing, contact resistance : 20mΩ Max;</p> <p>2. No have fracture, crack, terminal contact point deflection and shake of product</p> <p>3. Insertion force: 35N Max, Withdrawal force: 1N Min;</p>	<p>产品焊板后, 重复插拔 Plug 端, 耐久 20(1.43H)/10(1.20H)次;</p> <p>After Soldering of testing product at PCB, Repeat insert/ withdrawal of plug as 20(1.43H)/10(1.20H) cycle;</p>
4.3.3 振动 Vibration	<p>1. 试验后接触阻抗: 20mΩ Max;</p> <p>2. 没有物理损坏, 端子无变形</p> <p>3. 不产生超过 1 微秒的瞬断</p> <p>1. After testing, contact resistance : 20mΩ Max;</p> <p>2. No have fracture , crack, terminal contact point shake of product</p> <p>3. No electrical discontinuity longer than 1 u sec.</p>	<p>产品焊板后测试,</p> <p>测试频率: 10-55-10HZ,</p> <p>振幅: 1.52mm, X, Y, Z 三个方向每个方向 振动两个小时, (sweep time: 30s)</p> <p>After attach at vibration plate and Soldering at test PCB, it test follow conditions :</p> <p>As condition of frequency: 10-55-10HZ, amplitude 1.52mm, it test for two hours about each of X, Y, Z, axis (sweep time: 30s)</p>
4.3.4 引张强度 Crimp tensile strength	<p>AWG#28 线: 至少 10N;</p> <p>AWG#30 线: 至少 5N;</p> <p>Cable AWG#28: 10N Min;</p> <p>Cable AWG#30: 5N Min;</p>	<p>以每分钟 25mm 的速度将 Cable 和端子反向拉拔, 测试将 Cable 线从端子铆线结构拉出的力; Pulling load shall be applied between a correctly crimped contact and wire. The load required to pull the wire out of the contact or break the wire shall be measured. (Testing speed: 25mm/min.)</p> 
4.3.5 端子保持力 Contact retention force	<p>至少 4N;</p> <p>4N Min;</p>	<p>以每秒 1~5mm 的速度将 Cable 线从塑胶中轴向拉出, 测试其力量; A crimped contact shall be mounted in a housing and pulled in the axial direction. The load required to pull the contact out of the housing shall be measured. (Testing speed: 1 to 5mm/sec.);</p>

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项目 Items	规格要求 Requirements	测试方法 Test Methods
4.4 环境性能 Environmental Performance :		
4.4.1 耐高温 High temperature	1 产品无损坏, 端子无变形 2. 试验后接触阻抗: 20mΩ Max; 1.No have fracture crack ,terminal contact point deflection and shake of product 2.After testing contact resistance: 20mΩ Max;	配合后的产品在以下条件下测试: 温度: 85±2°C 时间: 250h Mated connectors shall be subjected to the following condition: temperature: 85±2°C Duration: 250h
4.4.2 二氧化硫气体 Sulfur dioxide gas	1. 试验后接触阻抗: 20mΩ Max; 2. 1.After testing contact resistance: 20mΩ Max;	配合后的产品在以下条件下测试: 浓度: 10±3ppm 温度: 40±2°C 相对湿度: 80±5% 时间: 96h Mated connectors shall be subjected to the following condition: Concentration: 10±3ppm Temperature: 40±2°C Relative humidity: 80±5% Period: 96 hours
4.4.3 热冲击 Thermal shock	测试后满足相应机械及电气规格; 测试后接触阻抗: 20mΩ Max; After test: 20mΩ Max;	参考测试标准: EIA-364-32; -55°C和+85°C各30分钟, 总计25个循环。 Comply with method EIA-364-32. -55°C for 30 minutes and +85°C for 30 minutes for 25 cycles.
4.4.4 恒温恒湿 Humidity	1. 产品无损坏, 端子无变形 2. 试验后接触阻抗: 20mΩ Max; 3. 试验后绝缘阻抗: 100MΩ Min. 1.No have fracture crack ,terminal contact point deflection and shake of product 2. After testing contact resistance: 20mΩ Max; 3. After testing insulation resistance:	配合后的产品在以下条件下测试: 温度: 40±2°C; 相对湿度: 90~95% 时间: 240 hours Mated connectors shall be subjected to the following condition: Temperature: 40±2°C Relative humidity: 90 to 95% Period: 240 hours

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	more than 100 MΩ	
4.4.5 盐雾测试 Salt Spray Test	<p>1.产品无损坏，端子无变形 2. 试验后接触阻抗：20mΩ Max;</p> <p>1. No have fracture crack ,terminal contact point deflection and shake of product 2. After testing contact resistance: 20mΩ Max;</p>	<p>盐水浓度：5±1% 时间：48 小时 温度：35±2°C</p> <p>Mated connector shall be subjected to the following condition Concentration : 5±1% Spray time : 48hours Temperature : 35±2°C</p>
4.4.6 耐 Reflow 高温 Resistance to Reflow Soldering Heat	<p>1.无损坏，端子无变形； 2.产品结构无破坏；</p> <p>1.No have fracture crack ,terminal contact point deflection and shake of product 2.No have break down outer feature/structure</p>	<p>根据下图温度条件测试产品的耐焊接热</p> <p>The connector shall be tested resistance to soldering heat in the following conditions, The temperature shall be measured on the surface of PCB</p> <p>[Temperature profile for reflow soldering]</p>
4.4.7 吃锡性测试 Solder ability	<p>焊脚吃锡面积 90%以上</p> <p>More than 90% of area dipped in molten solder should be coated by solder</p>	<p>温度：245°C ±3°C 粘锡时间：3±0.5 秒 Solder Temperature : 245°C ±5°C Immersion Duration : 3±0.5 seconds</p>

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4.5 Test Sequence

Group number	A	B	C	D	E	F	G	H	J	K
产品外观 Appearance	1,7	1,10	1	1	1,5	1,5	1,3	1,3	1	1
低功率接触阻抗 Low level Contact Resistance	2,6,	2,7	2,4	2,4	2,4,	2,4				
绝缘阻抗 Insulation Resistance		3,8								
耐电压 Dielectric Withstanding Voltage		4,9								
插拔力 Insertion force &Withdrawal force	3,5									
耐久 Durability	4									
振动 Vibration				3						
引张强度 Crimp tensile strength									2	
端子保持力 Contact retention force										2
耐高温 High Temperature					3					
二氧化硫气体 Sulfur dioxide gas			3							
热冲击 Thermal Shock		5,								
恒温恒湿 Humidity		6,								
盐雾测试 Salt Spray						3				
耐 Reflow 高温 Resistance to Reflow Soldering Heat								2		
可焊性 Solder ability							2			

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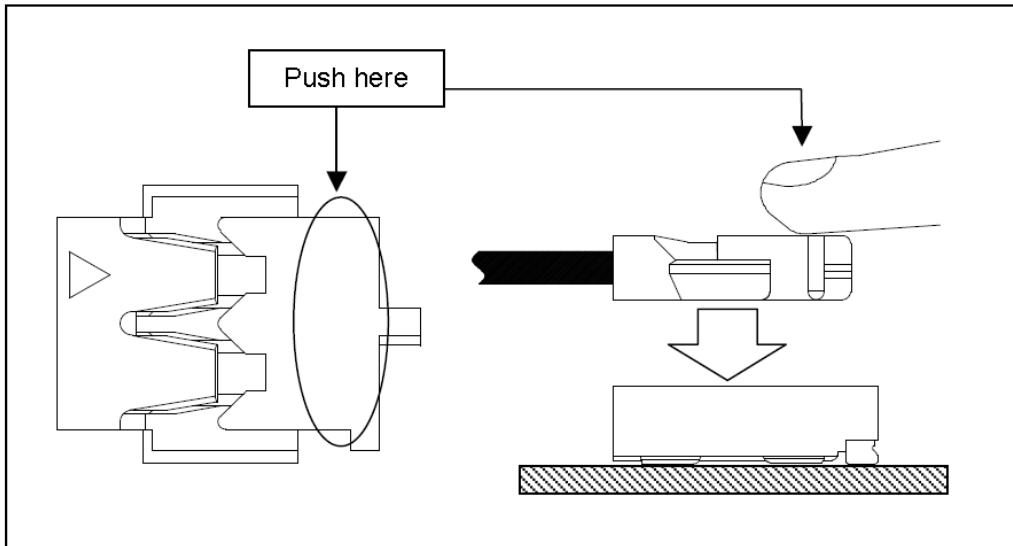
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4.6 插入操作方法

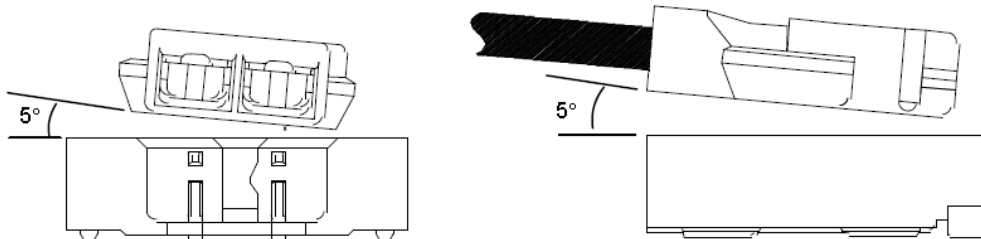
Mating operation

Mate plug with receptacle on the mating axis.

Push the part shown in the figure below on plug housing to check secure locking.



Mate connectors as nearly parallel as possible (MAX. 5°).



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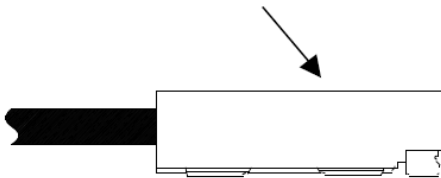
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Precautions

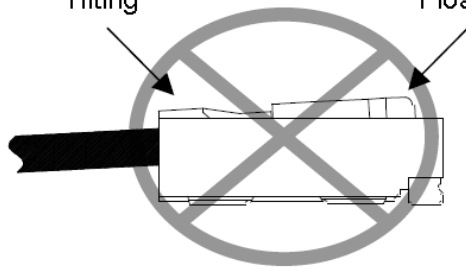
- (1) After mating connectors, check secure locking, referring to the following.
In case of insufficient mating, push the plug up to mate securely.

No floating between plug and receptacle



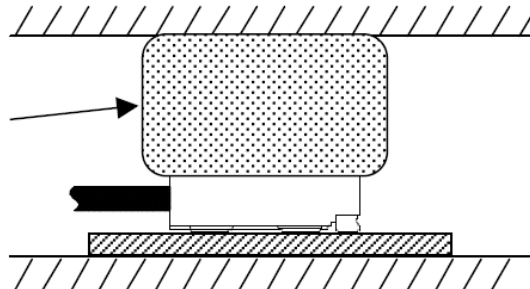
Tilting

Floating



- (2) Hold the plug with sponge etc, so that keeping inserted connector and from coming off.

Hold with sponge, etc.



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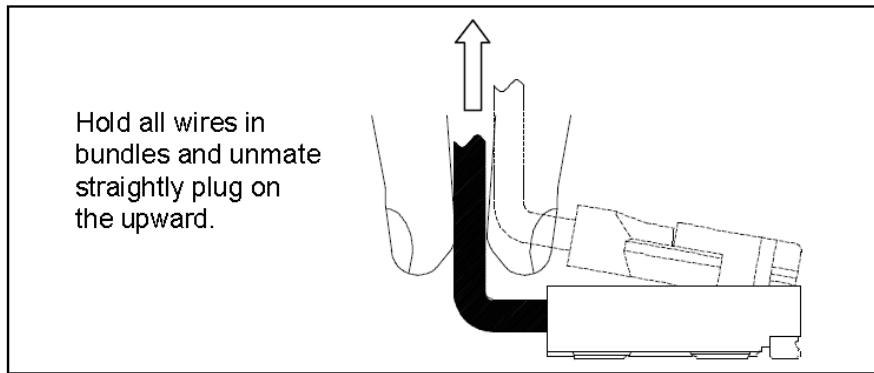
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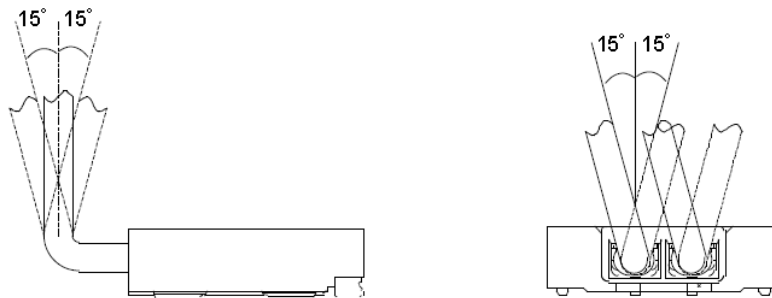
4.7 拔出操作方法

Unmating operation

Hold all wires in bundles and unmate straightly plug on the upward.



Unmate connector by holding wires at the angle within 15 degrees to the mating axis.



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