



产品规格书

PRODUCT SPECIFICATION

产品描述: TJC4203 系列连接器

Product Description: TJC4203 Connector

目录

Index

1. 更改履历 Change History
2. 范围 Scope
3. 产品描述 Product Description
4. 相关标准 Related Standards
5. 参数范围 Parameter Ratings
6. 产品性能 Performance
7. 测试分组 Test Sequences

| | | |
|--|--------------------------------------|---|
| CWB 浙江合兴电子元件有限公司 CWB Electronics (Zhejiang) Co., Ltd. | <u>制定 Edit:</u> 李亚丹 2019.1.21 | <u>产品名称 Product Name:</u> TJC4203 |
| 中国·浙江省乐清市虹桥镇幸福东路 1098 号 合兴工业园 | <u>审核 Check:</u> 王曲 2019.1.21 | <u>编号 Document No.:</u> PS3744 |
| 1098,Xingfu `Road(East),CWB Industrial Zone,Hongqiao,Yueqing,Zhejiang 325608,China Tel: 86-577-61313157 Fax: 86-577-62313681 | <u>批准 Approval:</u> 刘冬旭 2019.1.21 | <u>版本 REVISION:</u> 0 |



产品规格书

PRODUCT SPECIFICATION

1. 更改履历 Change History

| 序号 No.: | 版本号 Version No. | 更改前描述 Description Before Modification | 更改后描述 Description After Modification | 更改人/日期 Reviser/Date |
|------------|--------------------|--|---|------------------------|
| 1 | 0 | 合并 PS3744 和 PS0129 | 新版规格书初版发放 | 李亚丹 2019.1.21 |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

| | | | | | |
|-----------------------|---------|--------------------|--------|-------------------|---|
| 产品名称 Product Name: | TJC4203 | 编号 Document No. | PS3744 | 版本号 VersionNo. | 0 |
|-----------------------|---------|--------------------|--------|-------------------|---|

2. 适用范围 Scope

本产品规格书适用于浙江合兴电子元件有限公司生产的 **WTB 4.2P 阴型 & 阳型电子连接器**，产品名称：**TJC4203**。

This product specification covers the requirement for **Wire to Board 4.2mm pitch Receptacle & Plug connector**, which are designed and manufactured by CWB Electronics(ZheJiang) Co.,LTD. P/N: **TJC4203**.

3. 产品描述 Product Description

TJC4203 系列产品为家电连接器产品，产品部件组成如下：

The TJC4203 series connector designed for home appliances connection. Part checklist as following form:

| Name | Part name | Notes |
|-------------|---------------|---|
| 阳连接器 Header | TJC4203-5AW | Wafer: (PA66 UL94 V-0) Post: (Brass Tin Plating) |
| 阴连接器 Header | TJC4203-5AW-1 | Wafer: (PA66 UL94 V-0) Post: (Brass Tin Plating) |

4. 相关标准 Related Standards

以下参考文件是本规格书的一个组成部份。若本规格书中的要求与产品图纸发生冲突，则产品图中的要求为优先；若本规格书中的要求与参考文件中的要求冲突，则本规格书为优先。

The following documents form a part of this specification. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

| | | |
|-----------|--|-----------------------------|
| GB/T 2421 | 电工电子产品环境试验 第一部分 总则 Testing Method for Environmental of Electrical Connectors | Class 1: General Principles |
| GB/T 2423 | 电工电子产品环境试验方法 Testing Method for Environmental of Electrical Connectors | |
| GB/T 2424 | 电工电子产品环境试验导则 Testing Method for Environmental of Electrical Connectors | |
| GB/T 5095 | 电子设备用机电元件基本试验规程及测量方法 Testing procedure/ Method for components of electric equipment | |

产品符合合兴企标 Q/HX J1150001 《产品及所用材料的环保要求》 I 类或顾客要求。

The connector should comply with CWB standard Q/HX J1150001 Class I or customer's requests

5. 参数范围 Parameter Ratings:

| | | | | | |
|-----------------------|---------|--------------------|--------|-------------------|---|
| 产品名称 Product Name: | TJC4203 | 编号 Document No. | PS3744 | 版本号 VersionNo. | 0 |
|-----------------------|---------|--------------------|--------|-------------------|---|



产品规格书

PRODUCT SPECIFICATION

| | |
|--|-----------------------|
| 额定电流 Rated Current | 5A |
| 额定电压 Rated Voltage | 250V [AC(有效值 rms)/DC] |
| 使用温度范围 (包含温升) Operating temperature range (Include temperature rise) | -25°C ~ +85°C |

| | | | | | |
|-----------------------|---------|--------------------|--------|-------------------|---|
| 产品名称 Product Name: | TJC4203 | 编号 Document No. | PS3744 | 版本号 VersionNo. | 0 |
|-----------------------|---------|--------------------|--------|-------------------|---|

6. 产品性能 Performance

6.1 机械性能 Mechanical

| 序号 No. | 项目 Item | 测试条件 Test Condition | 规格 Requirement |
|--------|----------------------------------|---|--|
| 6.1.1 | 外观 Appearance | 目测 Checking by eyes 视力: 1.0 以上 Eyesight: > 1.0 照明: (200~300) lx Lamp: (200~300) lx 目测距离: (0.3~0.5) m Space: (0.3~0.5) m GB/T 5095.1 Method 1a | 1. 塑料件表面应无明显疤痕、凹陷、开裂及影响使用的变形。 Plastic part: smooth and flat surface without discolor, broken, crack, and distortion, etc. 2 金属件表面无锈蚀、氧化、无明显的机械损伤及电镀层脱落等缺陷。 Metal part: bright and even surface without rust, oxide, fog and obvious physical damage, etc. |
| 6.1.2 | 针的固定力 Retention Force for Pin | 固定连接器和测力计, 在连接器轴线方向施加规定的推力进行测试, 25 mm/min. Apply thrust force on the Pin in the wafer at a rate less than 25 mm/min . GB/T 5095.8 Method 15a / EIA-364-29B | 30NMin |
| 6.1.3 | 机械振动 Random Vibration | 插合连接器, 串联在一直流电源上, 电流100mA; 并模拟正常工作状态; 振频为 (10~55~10) Hz, 每个循环时间为1分钟, 振幅1.52mm。沿XYZ三轴正反方向各循环2h。 Mate connectors subjected them to following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axes, 100 mA current shall be applied. Frequency: (10~55~10) HZ/min. Amplitude: 1.52mm GB/T 5095.4 Method 6d / EIA-364-28D | 外观: 无损伤 (参照6.1.1) Appearance: No damage.(refer to 6.1.1) 接触电阻: 0.02Ω Max. Contact resistance: 0.02Ω Max. 中断: 1μsec Max. |
| 6.1.4 | 机械冲击 Shock | 连接器相配, 沿XYZ三轴正反方向各冲击3次(总共18次), 在测试过程中通以100mA电流。 冲击强度: 490m/s ² 持续时间: 11ms Mate connectors and subject them to the following shock conditions, 3 times of shock shall be applied for each 6 directions along 3 mutually perpendicular axes, passing DC 100mA current during the test.(Total of 18 shocks) Test Pulse: : 490m/s ² Duration: 11ms GB/T 5095.4 Method 6c / EIA-364-27B | 外观: 无损伤 (参照6.1.1) Appearance: No damage.(refer to 6.1.1) 接触电阻: 0.02Ω Max. Contact resistance: 0.02Ω Max. 中断: 1μsec Max. <1μsec discontinuity |
| 6.1.5 | 机械寿命 Durability | 以每分钟 10 次的速度插拔 30 次。 Thirty cycles for mating and unmating test at the speed of 10 cycles per minute GB/T 5095.5 Method 9a / EIA-364-09C | 外观: 无损伤 (参照6.1.1) Appearance: No damage.(refer to 6.1.1) 接触电阻: 0.02Ω Max. Contact resistance: 0.02Ω Max. |

6.2 电气性能 Electrical

| | | | | | |
|-----------------------|---------|--------------------|--------|-------------------|---|
| 产品名称 Product Name: | TJC4203 | 编号 Document No. | PS3744 | 版本号 VersionNo. | 0 |
|-----------------------|---------|--------------------|--------|-------------------|---|



产品规格书

PRODUCT SPECIFICATION

| 序号 No. | 项 目 Item | 测试条件 Test Condition | 规格 Requirement |
|-----------|----------------------------------|--|---|
| 6.2.1 | 接触电阻 Contact Resistance | 插配阴阳连接器后,用小功率电路进行测试 Mate connectors with dry circuit to test Contact Resistance GB/T 5095.2 Method 2a / EIA-364-23B | 0.01 Ω Max. (Initial) 0.02 Ω Max. (Final) |
| 6.2.2 | 绝缘电阻 Insulation Resistance | 在相邻接触件之间或地线之间,用 500V DC 电压进行测试. Apply a voltage of 500V DC between adjacent contacts and between contacts to ground. GB/T 5095.2 Method 3a / EIA-364-21C | 1000 MΩ Min. (Initial) 800 MΩ Min. (Final) |
| 6.2.3 | 耐电压 Withstand Voltage | 相邻接触件之间或地线之间施加 1500V AC (有效值),漏电流 1mA 的电压作用,时间 1min . Apply a voltage of AC 1500V for 1 minute between adjacent contacts and between contacts to ground. GB/T 5095.2 Method 4a / EIA-364-20B | 外观: 无击穿和飞弧现象 Appearance: No Breakdown or flashover |
| 6.2.4 | 温升 Temperature Rise | 插合连接器, 通以最大允许电流, 测温度的差值 Mate connectors and measure the temperature rise of contact when the maximum AC rated current is passed. GB/T 5095.3 Method 5a / EIA-364-70A | Δ30°C Max. |

6.3 环境性能 Environmental

| 序号 No. | 项 目 Item | 测试条件 Test Condition | 规格 Requirement |
|-----------|--------------------------------|---|--|
| 6.3.1 | 耐高温 Heat Resistance | 连接器配合后, 于 105±2°C 的空气中放置 96 小时, 再回到室温中放置 1-2 小时测定 Mated connectors exposed to the condition of 105±2°C for 96 hours. Recovery time 1~2 hours GB/T 5095.6 Method 11i / EIA-364-17B | 外观: 无损伤 (参照6.1.1) Appearance: No damage.(refer to 6.1.1) 接触电阻: 0.02Ω Max. Contact resistance: 0.02Ω Max. |
| 6.3.2 | 耐低温 Cold Resistance | 连接器配合后, 于 -40±2°C 的空气中放置 96 小时, 再回到室温中放置 1-2 小时测定 (新开发产品温度设置为使用温度范围下限, 建议放置时间 48h) Mated connectors exposed to the condition of -40±2°C for 96 hours. Recovery time 1~2 hours GB/T 5095.6 Method 11j / EIA-364-17B | 外观: 无损伤 (参照6.1.1) Appearance: No damage.(refer to 6.1.1) 接触电阻: 0.02Ω Max. Contact resistance: 0.02Ω Max. |
| 6.3.3 | 恒定湿热 Humidity | 温度 40±2°C , 相对湿度(90~95)% 搁置时间 96h , 取出恢复 1~2h 后检查. Mated connectors exposed to the condition of temperature 40±2°C , humidity (90~95)% for 96 hours. Recovery time 1~2 hours GB/T 5095.6 Method 11c / EIA-364-31B | 外观: 无损伤 (参照6.1.1) Appearance: No damage.(refer to 6.1.1) 接触电阻: 0.02Ω Max. Contact resistance: 0.02Ω Max. 绝缘电阻: 1000 MΩ Min. Insulation Resistance : 1000 MΩ Min. 耐电压: 1500V Min. Withstand Voltage: 1500V Min. |
| 6.3.4 | 温度循环 Temperature Cycling | 把试验样品分别放入高、低温试验箱中, 按下列步骤调试温度: a) 在 (-55±2)°C 的恒温条件下放置 0.5h ; b) 在 (85±2)°C 的恒温条件下放置 0.5h ; 从 a)到 b)为一个循环, 周期温度转换时间应不大于 5 分钟, 共进行 25 个循环,恢复 1~2h 后检查。 | 外观: 无损伤 (参照6.1.1) Appearance: No damage.(refer to 6.1.1) 接触电阻: 0.02Ω Max. Contact resistance: 0.02Ω Max. |

| | | | | | |
|-----------------------|---------|--------------------|--------|-------------------|---|
| 产品名称 Product Name: | TJC4203 | 编号 Document No. | PS3744 | 版本号 VersionNo. | 0 |
|-----------------------|---------|--------------------|--------|-------------------|---|



产品规格书

PRODUCT SPECIFICATION

| | | <p>Mated connectors shall be tested under the following conditions</p> <table border="1"> <thead> <tr> <th>Temperature °C</th> <th>Duration (Minutes)</th> </tr> </thead> <tbody> <tr> <td>1 -55</td> <td>30</td> </tr> <tr> <td>2 +25</td> <td>5Max.</td> </tr> <tr> <td>3 +85</td> <td>30</td> </tr> <tr> <td>4 +25</td> <td>5Max.</td> </tr> </tbody> </table> <p>Step 1 to 4 is one cycle, 25 cycles shall be tested. Recovery time 1~2 hours.</p> <p>GB/T 5095.6 method 11d / EIA-364-32C</p> | Temperature °C | Duration (Minutes) | 1 -55 | 30 | 2 +25 | 5Max. | 3 +85 | 30 | 4 +25 | 5Max. | |
|----------------|--------------------------------------|---|--|--------------------|-------|----|-------|-------|-------|----|-------|-------|--|
| Temperature °C | Duration (Minutes) | | | | | | | | | | | | |
| 1 -55 | 30 | | | | | | | | | | | | |
| 2 +25 | 5Max. | | | | | | | | | | | | |
| 3 +85 | 30 | | | | | | | | | | | | |
| 4 +25 | 5Max. | | | | | | | | | | | | |
| 6.3.5 | 盐雾 Salt Spray | <p>把试验样品从试验箱顶悬挂下来，采用浓度为(5±1)% (质量百分比)的氯化钠溶液，在(35±2)℃温度下连续雾化48h,试验后用流动的蒸馏水轻轻洗去表面沉积物。在常温常湿条件下恢复 1~2h</p> <p>Forty-eight hours spray, at temp (35±2) °C, NaCl mist concentration (5±1)%. After test, wash parts and put it into room ambient for 1~2 hours</p> <p>GB/T 5095.6 Method 11f / EIA-364-26B</p> | <p>外观：无损伤(五金件应无露出底金属的严重锈蚀;使用预镀好的型材，其落料面允许有不影响其性能的轻微腐蚀。)</p> <p>Appearance: No Damage (No erosion on material exposed. and plating material, slight erosion on the cutting surface is acceptable)</p> <p>接触电阻: 0.02Ω Max.</p> <p>Contact resistance: 0.02Ω Max.</p> | | | | | | | | | | |
| 6.3.6 | 可焊性 Solderability | <p>把试验样品需要焊接的部位浸入焊锡炉中，锡炉温度(245±5)℃，时间(4~5)s</p> <p>Dip solder tails into the molten solder held at (245±5) °C for ((4~5) sec.</p> <p>EIA-364-52</p> | <p>上锡率≥90%:</p> <p>Solder coverage: ≥90%</p> | | | | | | | | | | |
| 6.3.7 | 耐焊接热 Resistance to Soldering Heat | <p>耐波峰焊热：把试验样品需要焊接的部位浸入焊锡炉中，锡炉温度(260±5)℃；时间(5±1)s后，在正常条件下恢复 1~2h。</p> <p>手工焊接：温度 350±10℃，时间 1-2 seconds</p> <p>Resistance to Wave Soldering Heat : Dip solder tails into the molten solder held at (260±5) °C for (5 ±1) sec.,</p> <p>Recovery time 1~2 hours</p> <p>Manual soldering : 350±10℃ for 1-2 seconds</p> | <p>外观：无损伤(参照6.1.1)</p> <p>Appearance: No damage.(refer to 6.1.1)</p> | | | | | | | | | | |

| | | | | | |
|-----------------------|---------|--------------------|--------|-------------------|---|
| 产品名称 Product Name: | TJC4203 | 编号 Document No. | PS3744 | 版本号 VersionNo. | 0 |
|-----------------------|---------|--------------------|--------|-------------------|---|



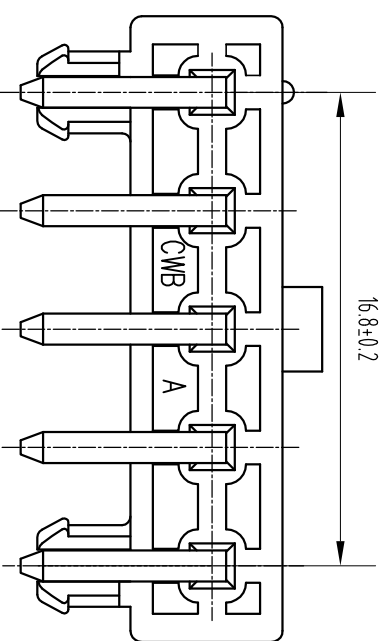
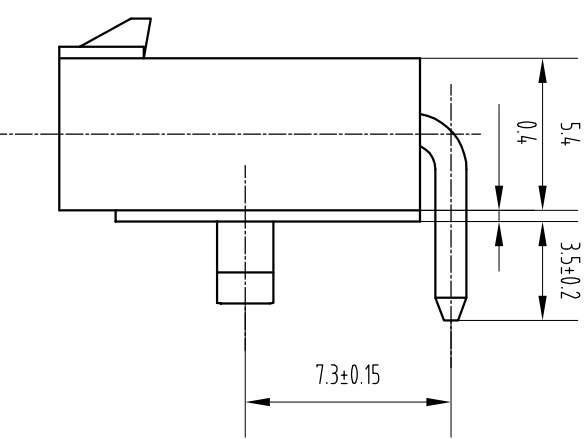
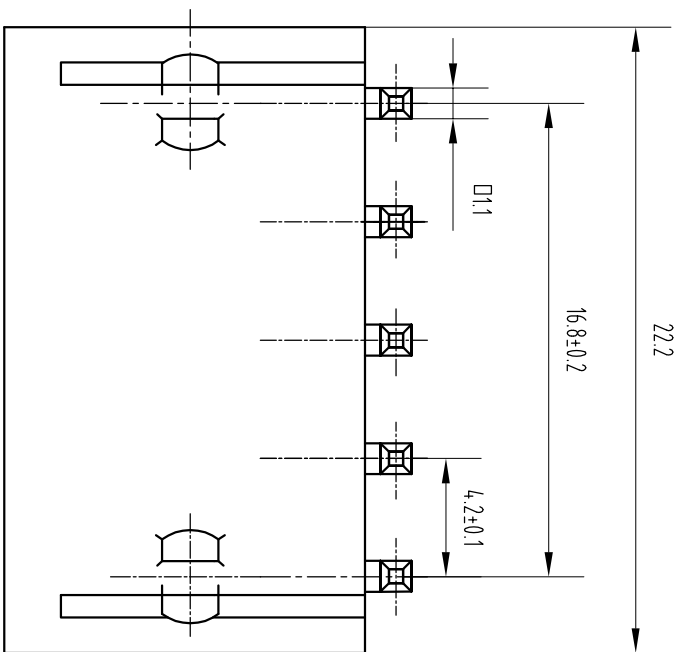
产品规格书

PRODUCT SPECIFICATION

7. 测试分组 Test Sequences (Samples: 5PCS)

| 测试组 GROUP NUMBER | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|--------------------------------------|---|---------|---------|---------|---|---------|---|---------|---------|---------|---------|---------|---------|---------|
| 外观 Appearance | 1 | 1, 5 | 1, 4 | 1, 4 | 1 | 1, 3 | 1 | 1, 4 | 1, 4 | 1, 6 | 1, 4 | 1, 3 | 1, 3 | 1, 3 |
| 针的固定力 Retention Force for Pin | 2 | | | | | | | | | | | | | |
| 机械振动 Random Vibration | | 3 | | | | | | | | | | | | |
| 机械冲击 Shock | | | 2 | | | | | | | | | | | |
| 机械寿命 Durability | | | | 2 | | | | | | | | | | |
| 接触电阻 Low Level Contact Resistance | | 2, 4 | 3 | 3 | | | | 3 | 3 | 3 | 3 | | | |
| 绝缘电阻 Insulation Resistance | | | | | 2 | | | | | 4 | | | | |
| 耐电压 Withstand Voltage | | | | | | 2 | | | | 5 | | | | |
| 温升 Temperature Rise | | | | | | | 2 | | | | | | | |
| 耐高温 Heat Resistance | | | | | | | | 2 | | | | | | |
| 耐低温 Cold Resistance | | | | | | | | | 2 | | | | | |
| 恒定湿热 Humidity | | | | | | | | | | 2 | | | | |
| 温度循环 Temperature Cycling | | | | | | | | | | | 2 | | | |
| 盐雾 Salt Spray | | | | | | | | | | | | 2 | | |
| 可焊性 Solderability | | | | | | | | | | | | | 2 | |
| 耐焊接热 Resistance to Soldering Heat | | | | | | | | | | | | | | 2 |

| General Tolerance | | Dimension | Tolerance | Rev No | Location | Description | Reviser | Date |
|-------------------|--|-----------|-----------|--------|----------|-------------|---------|------|
| 0-3 | | ±0.13 | | | | | | |
| 3-18 | | ±0.23 | | | | | | |
| 18-50 | | ±0.35 | | | | | | |
| 50-120 | | ±0.55 | | | | | | |



Note:
 1. Material: PA66 UL94 V-0;
 2. Packaging: Packing bag;
 3. Compliant To The Current RoHS.

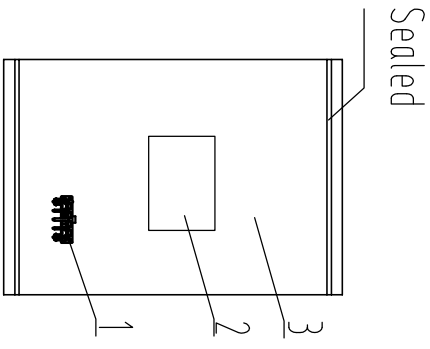
| No. | Part No. | Remarks |
|-----|---------------|--------------------|
| 2 | TJCL203-5AW-1 | Foggy Tin-plating |
| 1 | TJCL203-5AW | Bright Tin-plating |

| CUSTOMER DRAWING | | | | Title: 4.2mm Pitch WTB Header | |
|------------------|---------------------|-----------|----------------------------|-------------------------------|-------------|
| Drawn | YadanLi 2019.131 | Unit | mm | Scale | 4:1 |
| Checked | Qu Wang 2019.121 | Sheet No. | 1 OF 1 | Size | A4 |
| Approved | Dengxu Liu 2019.121 | Edition | B | Part No.: | TJCL203-NAW |
| | | | Document No.: CP-DWG-00813 | | |
| | | | Specification No.: PS37L4 | | |

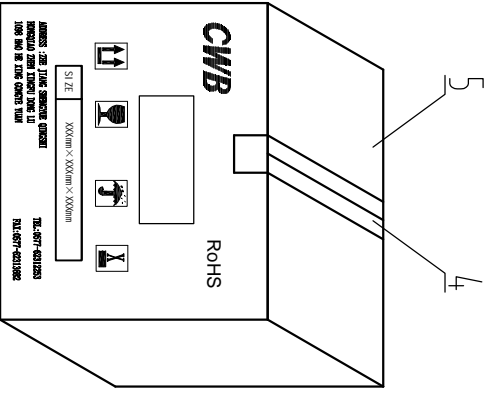
CWB 浙江台兴电子元件有限公司
 CWB Electronics (Zhejiang) Co., Ltd.

| General Tolerance | | Dimension | Tolerance | Rev. No | Location | Description | Reviser | Date |
|-------------------|--|-----------|-----------|---------|----------|-------------|---------|------|
| | | 0~3 | ±0.13 | | | | | |
| | | 3~18 | ±0.23 | | | | | |
| | | 18~50 | ±0.35 | | | | | |
| | | 50~120 | ±0.55 | | | | | |

Packing bag



Packing box



| | | | | |
|--------|-----------------------|---------------|---------|---------|
| 5 | Packing box | TJC4203-5AW-1 | 200 | |
| 4 | Gummed tape | TJC4203-5AW | 200 | |
| 3 | Packing bag | | | |
| 2 | Certification | | | |
| 1 | TJC4203 Series Header | | | |
| Number | Designation | Part No. | Pcs/bag | Remarks |

CUSTOMER DRAWING

| | | | | | | | | | | | |
|----------|--------------------|--|--------|---------------|---------------|------|--------------------|---------|---|-----------|---|
| Drawn | Yadanli 2019.12.1 | Unit | mm | Scale | / | Size | A4 | Edition | B | Title | Packaging Specification of 4.2mm Pitch WTB Header |
| Checked | Qu Wang 2019.12.1 | Sheet No. | 1 OF 1 | | | | | | | Part No.: | TJC4203-nAW |
| Approved | Dengxuli 2019.12.1 | 浙江合共电子有限公司 CWB Electronics (Zhejiang) Co., Ltd. | | Document No.: | BZ-DWG-004.78 | | Specification No.: | P53744 | | | |