

标题: TJC3001 系列连接器

Title: TJC3001 Connector

目录

Content

1. 更改履历 Change record
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

中国·浙江省乐清市虹桥镇幸福东路 1098 号 合兴工业园 1098, Xingfu `Road(East), CWB Industrial Zone, Hongqiao, Yueqing, Zhejiang 325608, China Tel: 86-577-61313157 (Research & Development Dept.) Tel: 86-577-62312253 (Sales Dept.)	制定 Edit: <u>王智彬 2022.8.3</u>	产品名称 <u>Product name:</u> <u>TJC3001 系列</u>
	审核 Check: <u>吴吉 2022.8.4</u>	编号 <u>Document No.:</u> <u>PS4175</u>
	批准 Approval: <u>刘冬旭 2022.8.4</u>	版本 <u>Revision:</u> <u>V1</u>



产品规格书

PRODUCT SPECIFICATION

1.更改履历 Change record

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
V0	/	首版发布 First release	王智彬 2022/8/3 Zhibin.Wang 2022/8/3
V1	/	更新端子压接不同型号导线的额定电流 Updated the rated current of the terminals crimping different types of wires	胡杰斌 2023/04/08



产品名称 Product name	TJC3001 系列	编号 Document No.	PS4175	版本号 Version No.	V1
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产品规格书

PRODUCT SPECIFICATION

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 WTW 3.0 阴型 & 阳型电子连接器，产品名称：TJC3001。

This product specification covers the requirement for wire to wire 3.0mm pitch receptacle & plug connector, which are designed and manufactured by CWB Electronics(ZheJiang) Co.,LTD. P/N: TJC3001.

3.产品描述 Product description

TJC3001 系列产品为家电连接器产品，产品部件组成如下：

The TJC3001 series connector designed for home appliances connection. part checklist as following form:

零件名称 Part name	规格型号 Part No.	曾用规格型号 Previous part No.	描述 Description
插簧 Socket contact	CH-TJC3001-**-*	TJC3001 插簧	AWG#20~AWG#18
插簧 Socket contact	CH-TJC3001-1-**-*	TJC3001 插簧 A	AWG#24~AWG#22
插针 Pin contact	CZ-TJC3001-**-*	TJC3002 插针	AWG#24~AWG#22
插针 Pin contact	CZ-TJC3001-1-**-*	TJC3002 插针 B	AWG#20~AWG#18
孔座 Plug housing	TJC3001-2×nY(**-*)	TJC3001-nY	PA66 UL94V-0
针座（面板安装） Receptacle housing(Panel mount)	TJC3001-2×nAR(**-*)	TJC3002-nA	PA66 UL94V-0
针座（自由悬挂） Receptacle housing(Free hanging)	TJC3001-2×nAR(**-*)	TJC3002-nA-1	PA66 UL94V-0
针座（自由悬挂） Receptacle housing(Free hanging)	TJC3001-2×3AR(**-*)	TJC3002-6A-2	PA66 UL94V-0

产品名称
Product name

TJC3001 系列

编号
Document No.

PS4175

版本号
Version No.

V1

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,以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,以本规格书要求为优先。

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 环境试验 概述和指南

Environmental testing —— General and guidance

GB/T 2423 环境试验 试验方法

Environmental testing —— Test methods

GB/T 2424 环境试验 支持文件及导则

Environmental testing —— Supporting documentation and guidance

GB/T 5095 电子设备用机电元件基本试验规程及测量方法

Electromechanical components for electronic equipment Basic testing procedures and measuring methods

EIA-364 EIA-364 系列标准

EIA-364 series standards

IPC EIA IPC JEDEC J STD 002E 连接器 / 插座终端可焊性测试方法

Solderability Tests for Component Leads, Terminations, Lugs, Terminals and Wires

产品符合 RoHS 标准。

The product should comply with RoHS.

5.参数范围 Parameter ratings:

额定电流 [AC(有效值)/DC] Rated current [AC(rms)/DC]	AWG#18 3A Max.	AWG#20 2.5A Max.	AWG#22 2A Max.	AWG#24 1.5A Max.	
适用 PCB 板 Applicable PCB	Board thickness:1.6 mm Hole diameter: φ 1.0(+0.1/-0) mm				
额定电压[AC(有效值)/DC] Rated voltage [AC(rms)/DC]	250 V				
使用温度范围（包含温升） Operating temperature range (include temperature rise)	-25 °C~+85 °C				
适用线型（具体适用线型请参考压接规格书） Applicable wires(Please refer to the crimping specification for details)	Wire size: AWG#24~AWG#18(0.2 mm²-0.82 mm²) Insulation diameter: φ 1.4 mm- φ 2.05 mm （压接参数由压接厂家自行定义） （The crimping parameters comply with the requirements of the crimping manufacturer）				
产品名称 Product name	TJC3001 系列	编号 Document No.	PS4175	版本号 Version No.	V1

PAGE: 4 / 8

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 5095.2 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	端子插入力与 固定力 Insertion force and retention force for contact	应测量将端子沿轴线方向插入孔座和拔出孔座的力, 测试速度不大于25 mm/min.。 The force of inserting and pulling the contact into and out of the housing along the axis shall be measured (Testing speed: <25 mm/min.) GB/T 5095.8 Method 15d / EIA-364-29B	插入力 (最大值) Insertion force (Max.)	固定力 (最小值) Retention force (Min.)
			15N	15N
6.1.3	针的固定力 Post retention force	沿插针轴线方向施加推力, 测量将插针从塑件上分离的力, 测试速度不大于 25 mm/min.。 The end of a post shall be pushed in a direction perpendicular to a wafer. The load required to make the post start moving from the wafer shall be measured. (Testing speed: <25 mm/min.) GB/T 5095.8 Method 15a / EIA-364-29B	15N Min.	
6.1.4	插簧与插针的 插拔力 Insertion and withdrawal force for pin in the contact	固定连接器和/或测力计, 在端子轴线方向将插针插入和拔出插簧, 测试速度不大于 25 mm/min.。 Insert the pin contact into and pull out the socket contact in the direction of the terminal axis (Testing speed: <25 mm/min.) GB/T 5095.7 Method 13b / EIA-364-13B	插入力 (最大值) Insertion force (Max.)	拔出力 (最小值) Withdrawal force (Min.)
			4.5N	1.5N
6.1.5	压着部位抗张 强度 Crimp tensile strength	在已压接端子的头部和导线上施加拉力, 并测量将导线从端子拉出或导线断裂所需的力, 测试速度不大于 25 mm/min.。 Pulling load shall be applied to a correctly crimped contact and a wire. The load required to pull the wire out of the contact or break the wire shall be measured. (Testing speed: <25 mm/min.) GB/T 5095.8 Method 16d / EIA-364-08B	AWG#24: 30N Min. AWG#22: 45N Min. AWG#20: 65N Min. AWG#18: 80N Min.	
6.1.6	机械振动 Vibration	插合连接器, 串联在直流电源上, 电流100 mA; 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1.52 mm。沿XYZ三轴正反方向各循环2小时。 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. Cycling time: 1min. Amplitude: 1.52 mm. 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: 30 mΩ Max. Contact resistance: 30 mΩ Max. 电流中断时间: 1 μsec Max. Current interruption: 1 μsec Max.	

产品名称
Product name

TJC3001 系列

编号
Document No.

PS4175

版本号
Version No.

V1

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 (85±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 (85±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: 30 mΩ Max. Contact resistance: 30 mΩ Max. 绝缘电阻: 500 MΩ Min. Insulation resistance:500 MΩ Min. 耐电压: 1000 V Min. Withstand voltage: 1000 V Min.										
6.3.2	耐低温 Cold resistance	连接器配合后, 于 (-25±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 (-25±2) °C for 96hours, 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: 30 mΩ Max. Contact resistance: 30 mΩ Max. 绝缘电阻: 500 MΩ Min. Insulation resistance:500 MΩ Min. 耐电压: 1000 V Min. Withstand voltage: 1000 V Min.										
6.3.3	恒定湿热 Humidity	温度(40±2) °C, 相对湿度(90~95) %, 搁置时间 96 小时, 取出恢复 (1~2) 小时后检查。 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: 30 mΩ Max. Contact resistance: 30 mΩ Max. 绝缘电阻: 500 MΩ Min. Insulation resistance:500 MΩ Min. 耐电压: 1000 V Min. Withstand voltage: 1000 V 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 0.5 小时; b) 在(85±2) °C 的恒温条件下放置 0.5 小时; 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 (1~2) 小时后检查。 Mated connectors shall be tested under the following conditions <table><tr><th>Temperature °C</th><th>Duration</th></tr><tr><td>1 -55±2</td><td>0.5 h</td></tr><tr><td>2 Room Temp.</td><td>5 minutes Max.</td></tr><tr><td>3 +85±2</td><td>0.5 h</td></tr><tr><td>4 Room Temp.</td><td>5 minutes Max.</td></tr></table> Step 1 to 4 is one cycle,25 cycles shall be tested, recovery time (1~2) hours GB/T 5095.6 method 11d / EIA-364-32C	Temperature °C	Duration	1 -55±2	0.5 h	2 Room Temp.	5 minutes Max.	3 +85±2	0.5 h	4 Room Temp.	5 minutes Max.	外观: 无损伤 (参照6.1.1) Appearance: no damage.(refer to 6.1.1) 接触电阻: 30 mΩ Max. Contact resistance: 30 mΩ Max. 绝缘电阻: 500 MΩ Min. Insulation resistance:500 MΩ Min. 耐电压: 1000 V Min. Withstand voltage: 1000 V Min.
Temperature °C	Duration												
1 -55±2	0.5 h												
2 Room Temp.	5 minutes Max.												
3 +85±2	0.5 h												
4 Room Temp.	5 minutes Max.												
6.3.5	盐雾 Salt spray	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) °C 温度下连续雾化 48 小时, 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 (1~2) 小时。 48 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 GB/T 5095.6 Method 11f / EIA-364-26B	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。) Appearance: no damage (no erosion on material exposed. and plating material, slight erosion on the cutting surface is acceptable) 接触电阻: 30 mΩ Max. Contact resistance: 30 mΩ Max.										

产品名称
Product name

TJC3001 系列

编号
Document No.

PS4175

版本号
Version No.

V1

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	M	N	O	P
外观 Appearance	1	1	1	1	1,5	1	1,5	1	1	1	1,7	1,7	1,7	1,7	1,5
端子插入力与固定力 Insertion force and retention force for contact	2														
针的固定力 Post retention force		2													
插簧与插针的插拔力 Insertion and withdrawal force for pin in the contact			2												
压着部位抗张强度 Crimp tensile strength				2											
机械振动Vibration					3										
机械冲击 Shock						2									
机械寿命 Durability							3								
接触电阻 Contact resistance					2,4		2,4				2,4	2,4	2,4	2,4	2,4
绝缘电阻 Insulation resistance								2			5	5	5	5	
耐电压 Withstand voltage									2		6	6	6	6	
温升 Temperature rise										2					
耐高温 Heat resistance											3				
耐低温 Cold resistance												3			
恒定湿热 Humidity													3		
温度循环 Temperature cycling														3	
盐雾 Salt spray															3

产品名称
Product name

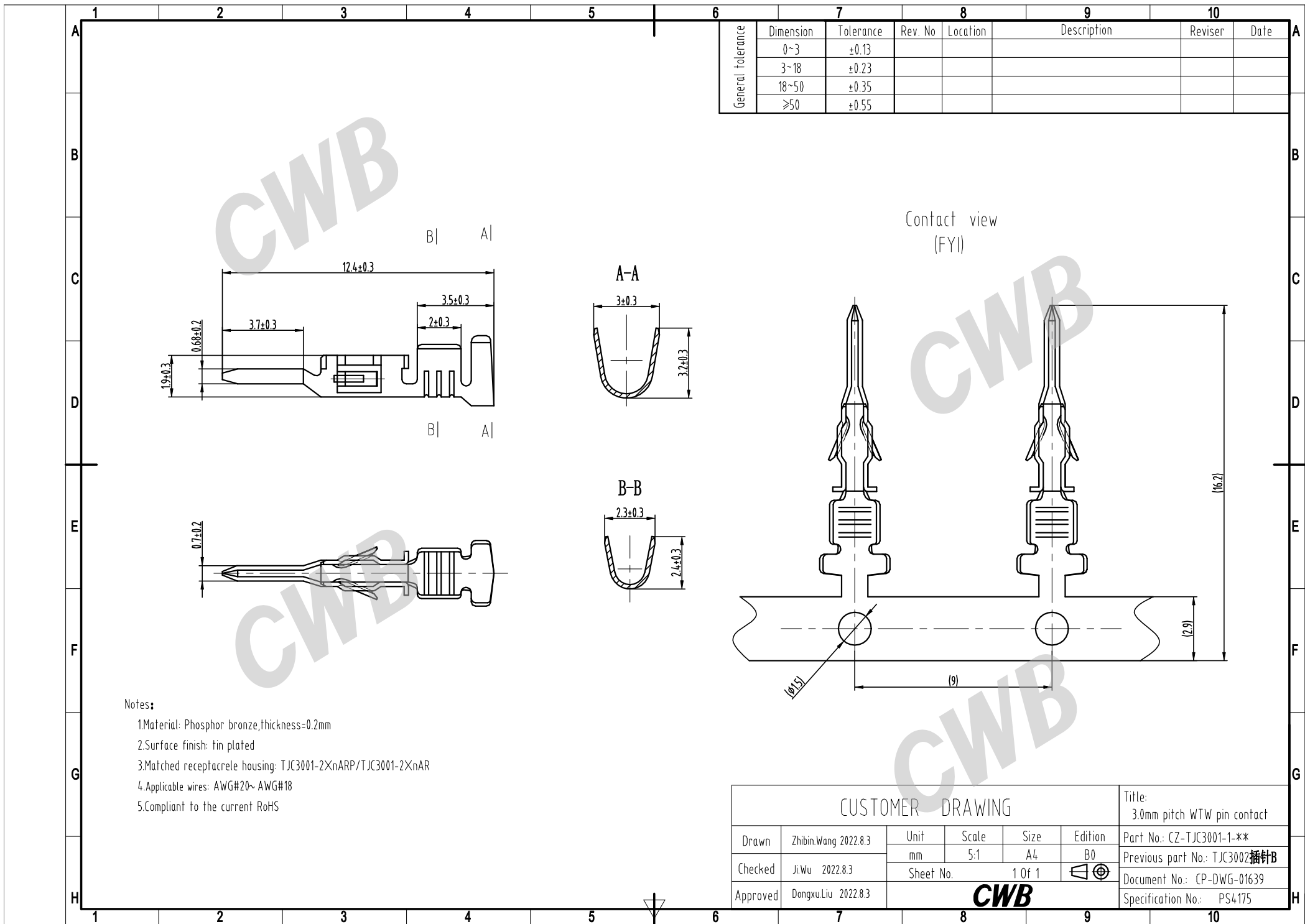
TJC3001 系列

编号
Document No.

PS4175

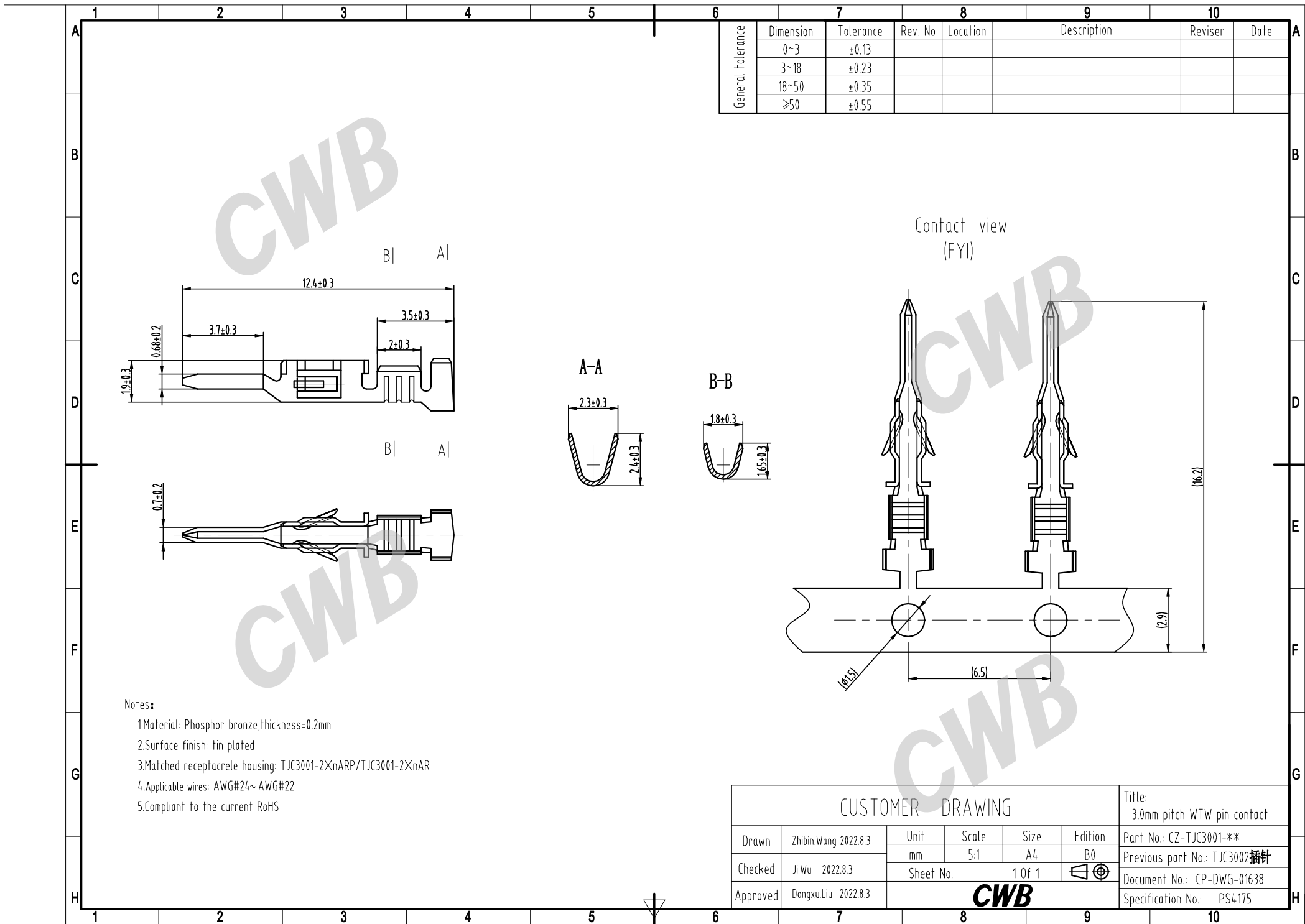
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Version No.

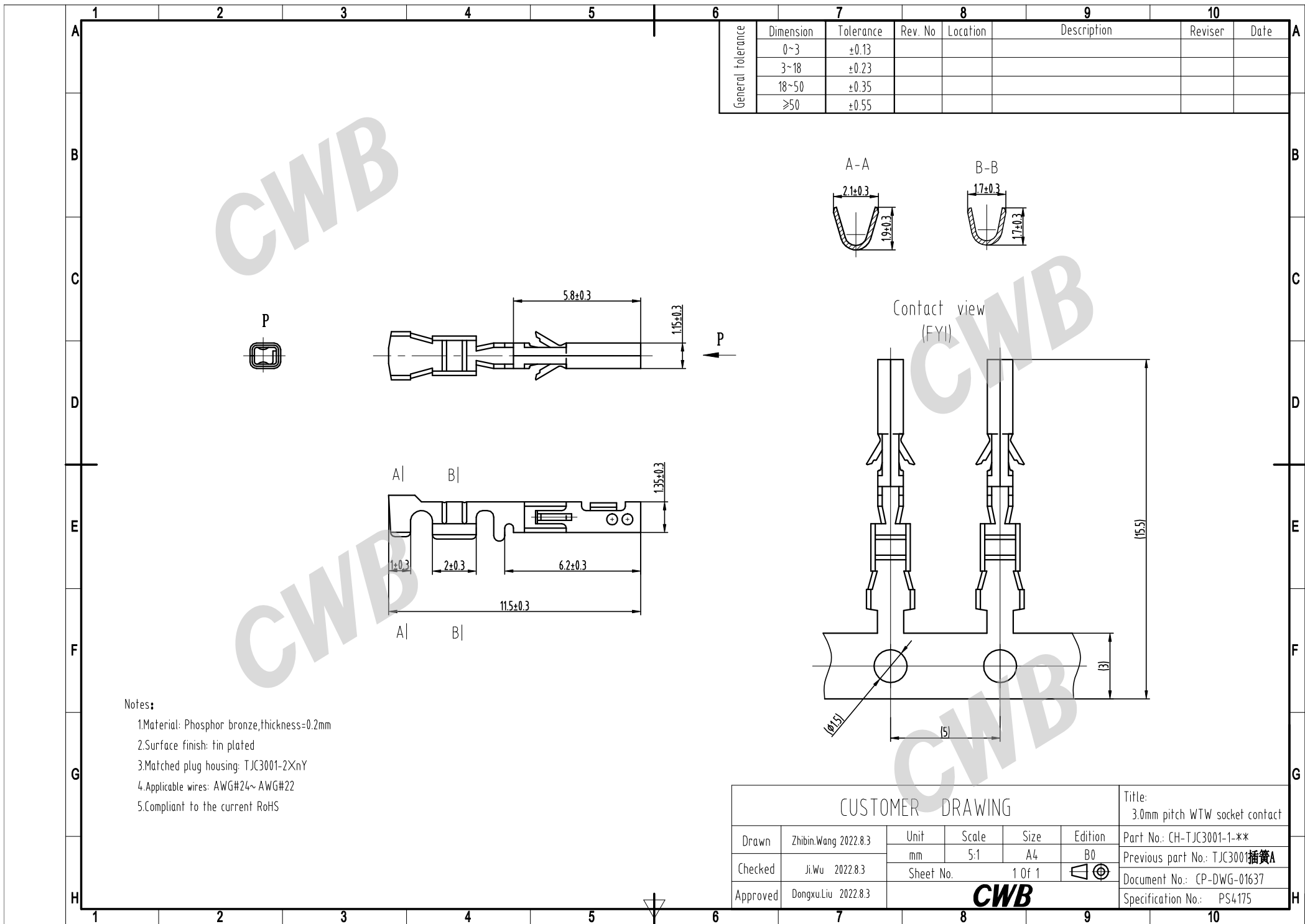
V1

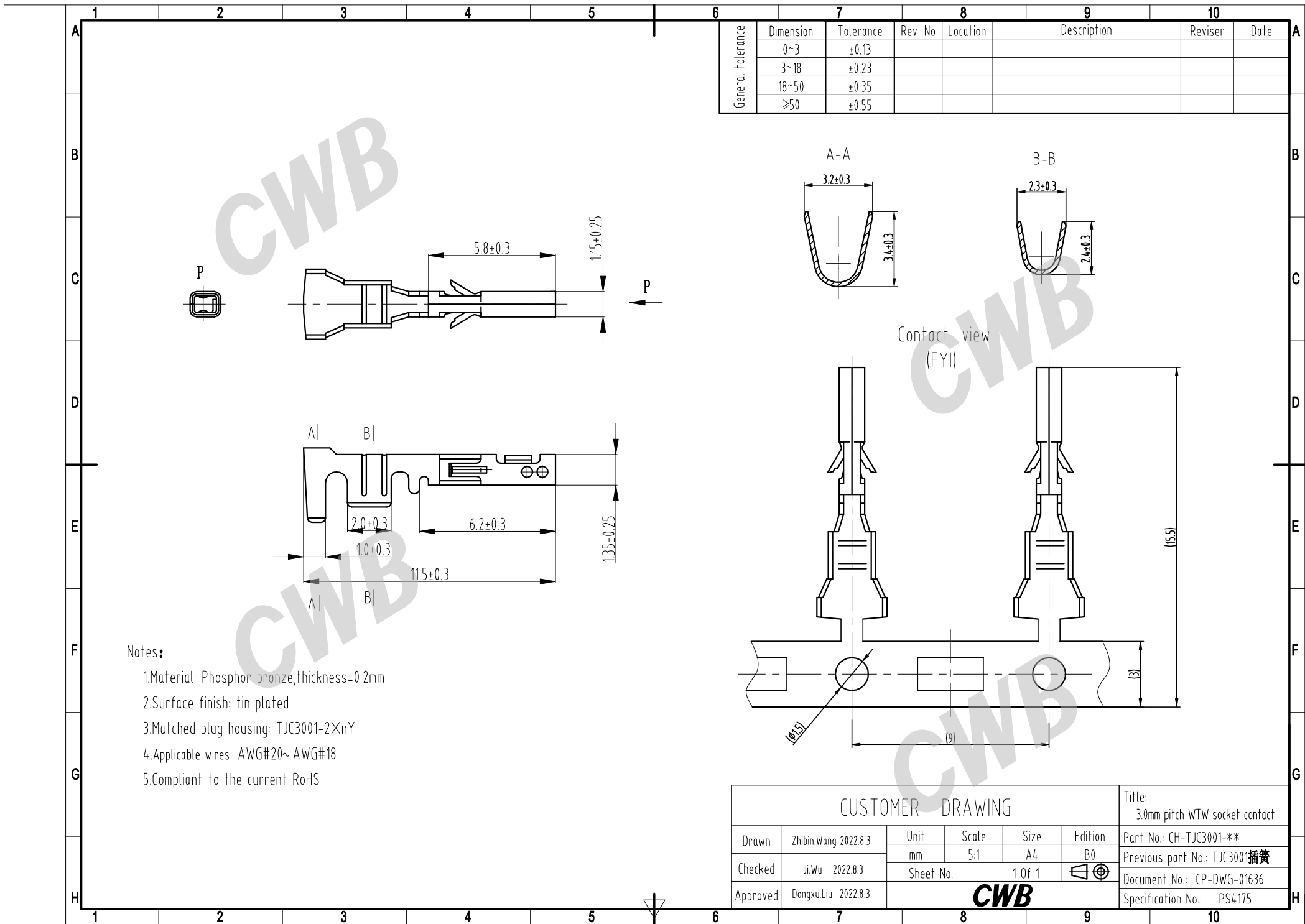


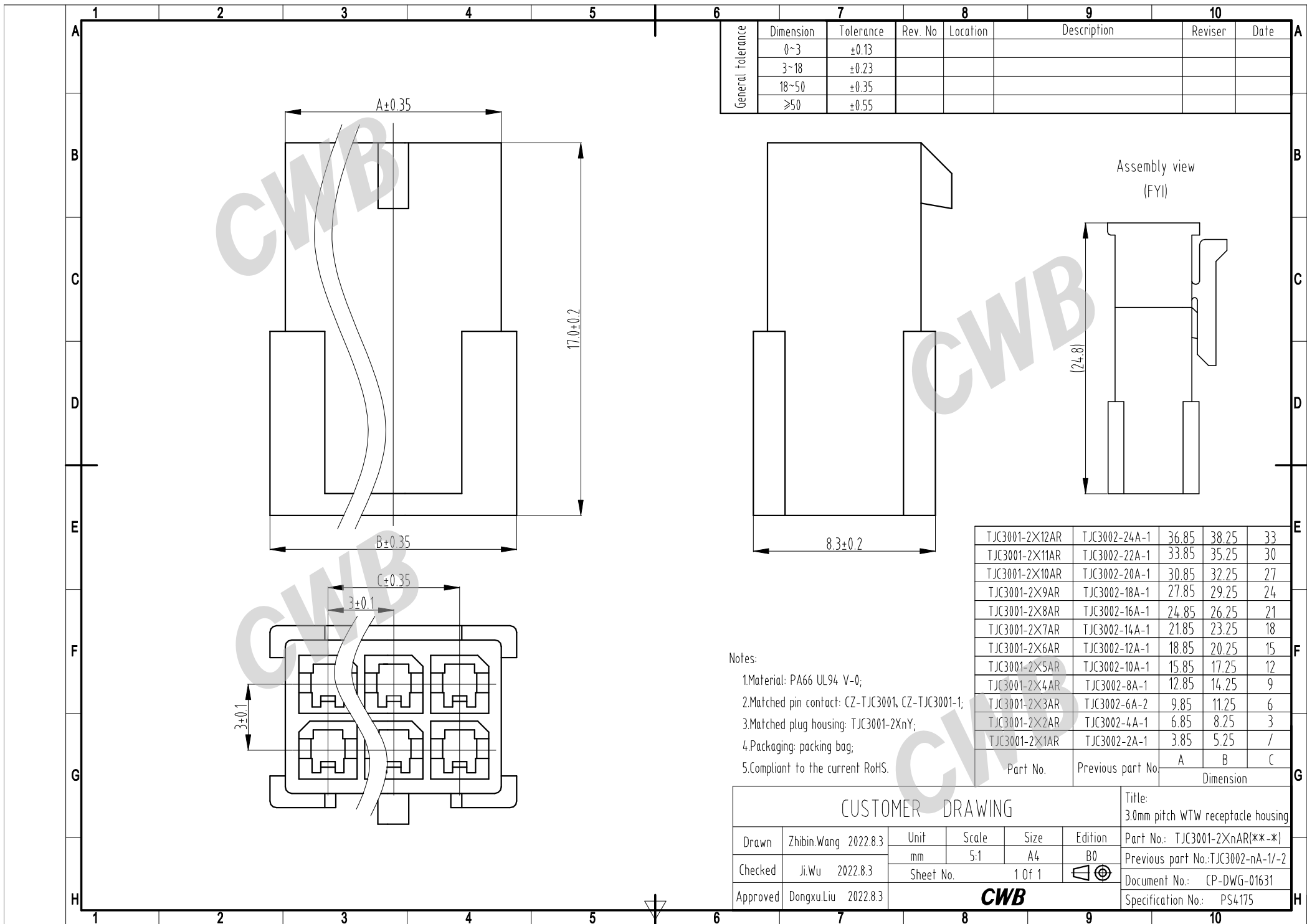
General tolerance	Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
	0~3	±0.13					
	3~18	±0.23					
	18~50	±0.35					
	≥50	±0.55					

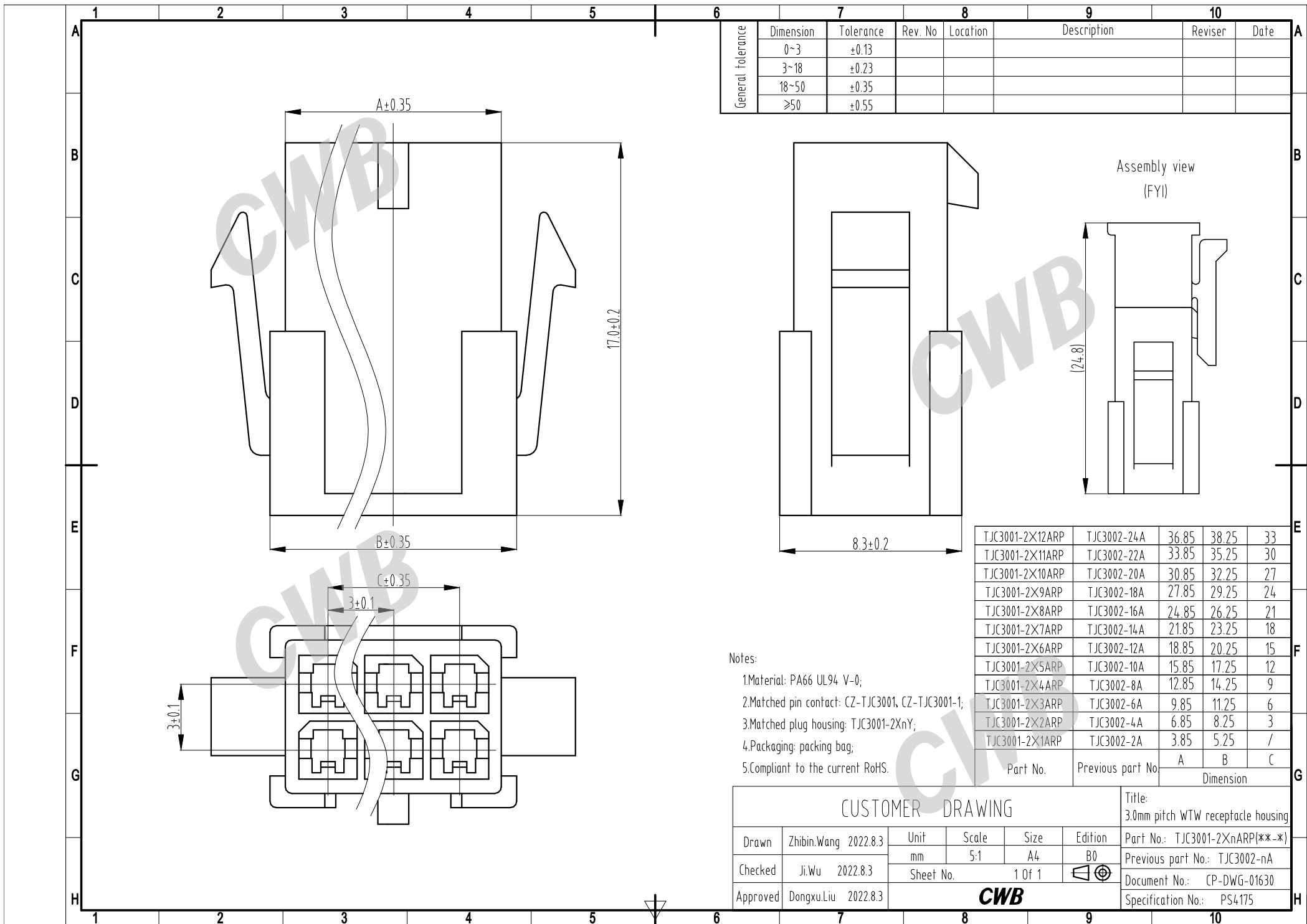
CUSTOMER DRAWING						Title: 3.0mm pitch WTW pin contact	
Drawn	Zhibin.Wang 2022.8.3	Unit	Scale	Size	Edition	Part No.: CZ-TJC3001-1-**	
Checked	Ji.Wu 2022.8.3	mm	5:1	A4	B0	Previous part No.: TJC3002 插针B	
Approved	Dongxu.Liu 2022.8.3	Sheet No.	1 of 1			Document No.: CP-DWG-01639	
CWB						Specification No.: PS4175	

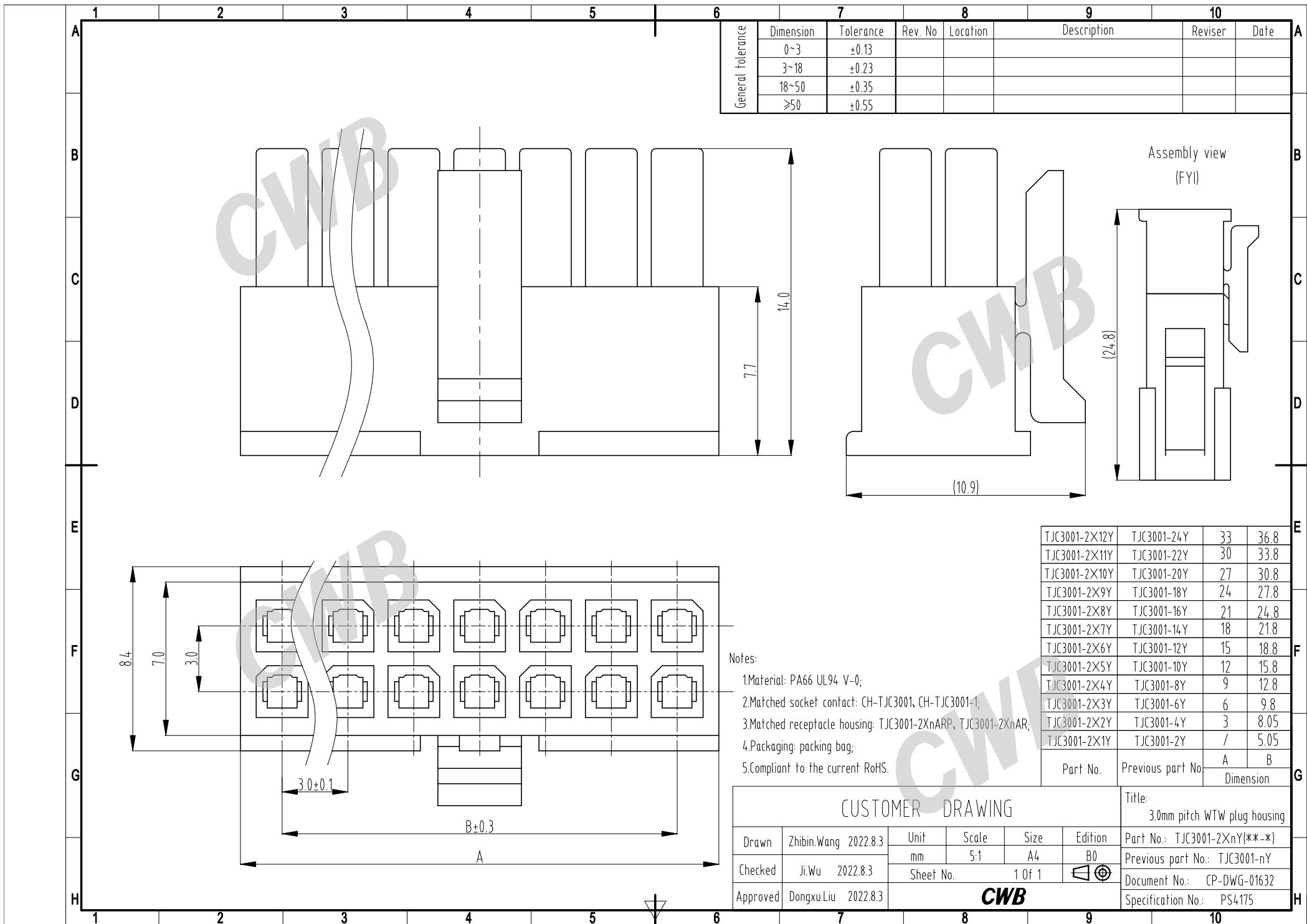


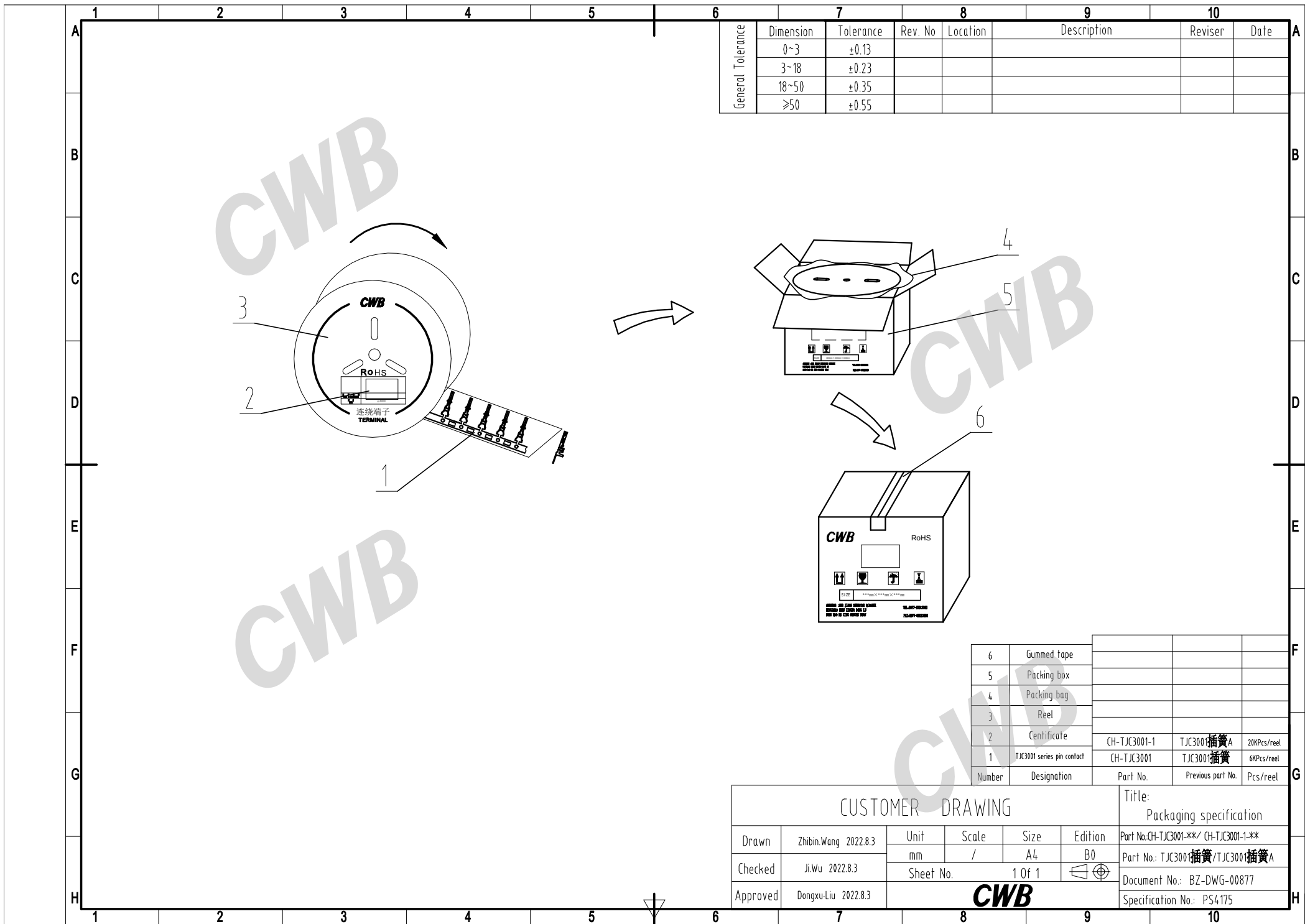


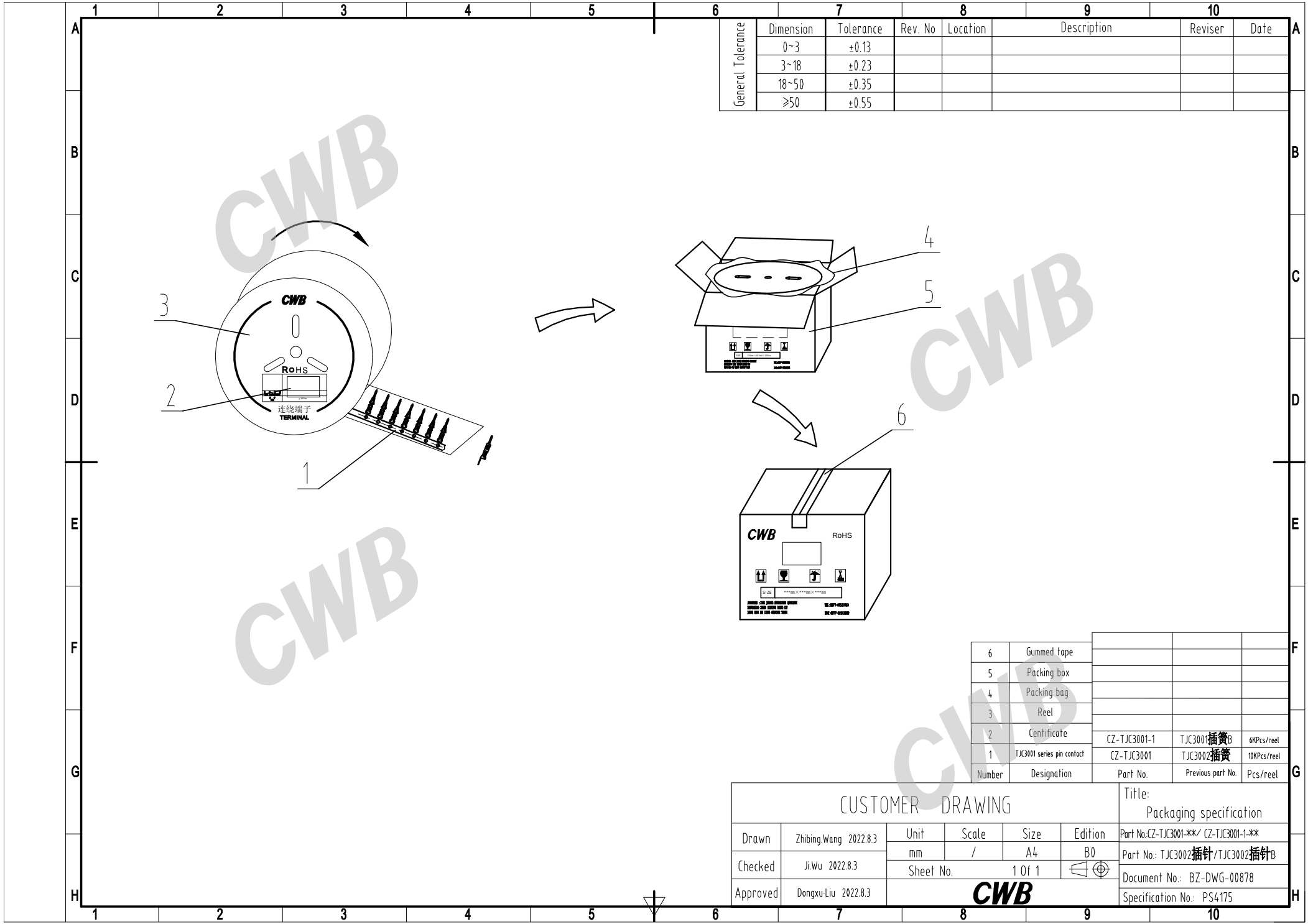








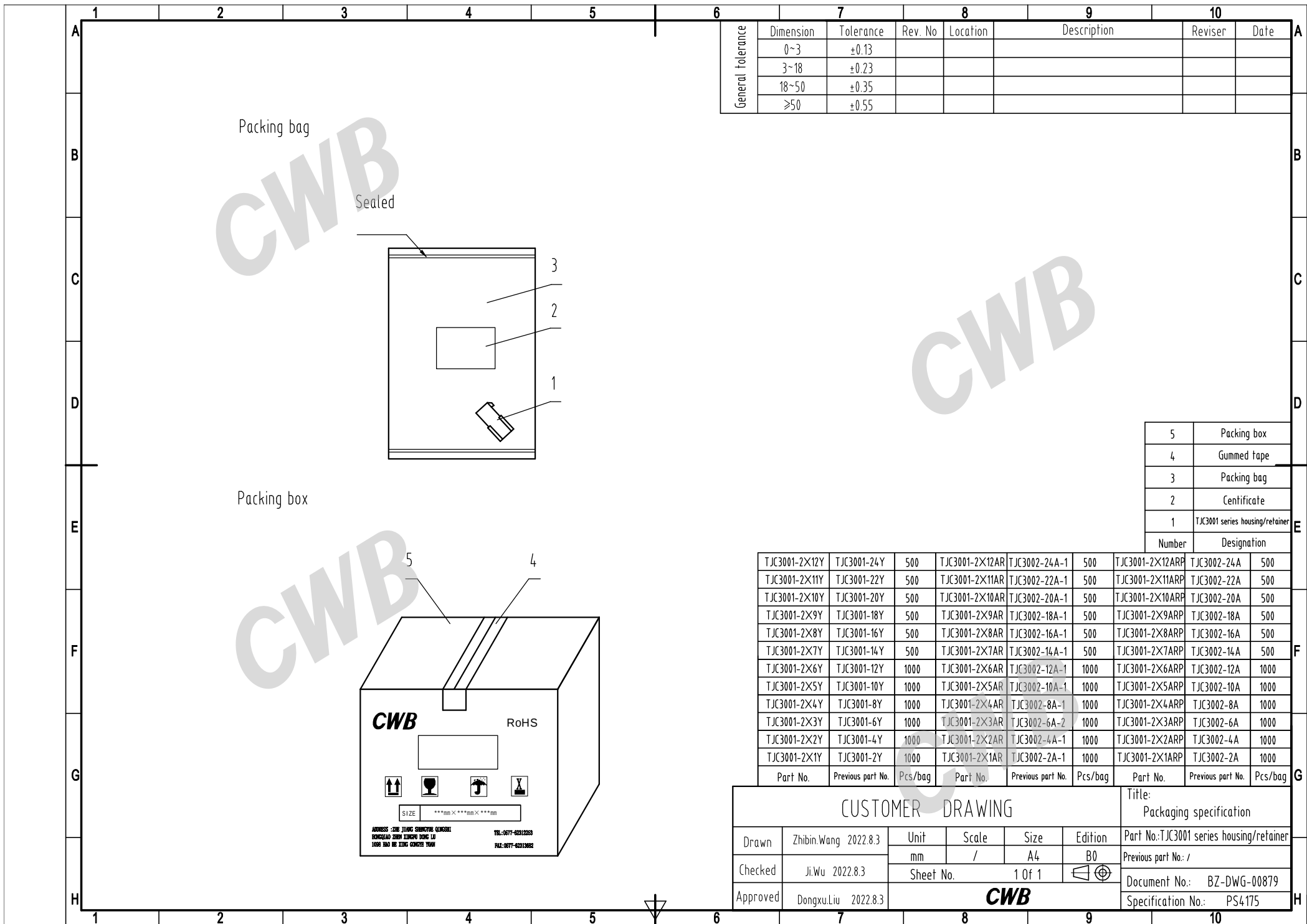




General Tolerance	Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
	0~3	±0.13					
	3~18	±0.23					
	18~50	±0.35					
	≥50	±0.55					

6	Gummed tape			
5	Packing box			
4	Packing bag			
3	Reel			
2	Certificate			
1	TJC3001 series pin contact	CZ-TJC3001-1	TJC3001 插簧B	6KPCs/reel
		CZ-TJC3001	TJC3002 插簧	10KPCs/reel
Number	Designation	Part No.	Previous part No.	Pcs/reel

CUSTOMER DRAWING						Title: Packaging specification	
Drawn	Zhibing.Wang 2022.8.3	Unit	Scale	Size	Edition	Part No.CZ-TJC3001-1**/ CZ-TJC3001-1-1**	
Checked	Ji.Wu 2022.8.3	mm	/	A4	B0	Part No.: TJC3002 插针/TJC3002 插针B	
Approved	Dongxu.Liu 2022.8.3	Sheet No.	1 Of 1			Document No.: BZ-DWG-00878	
CWB						Specification No.: PS4175	



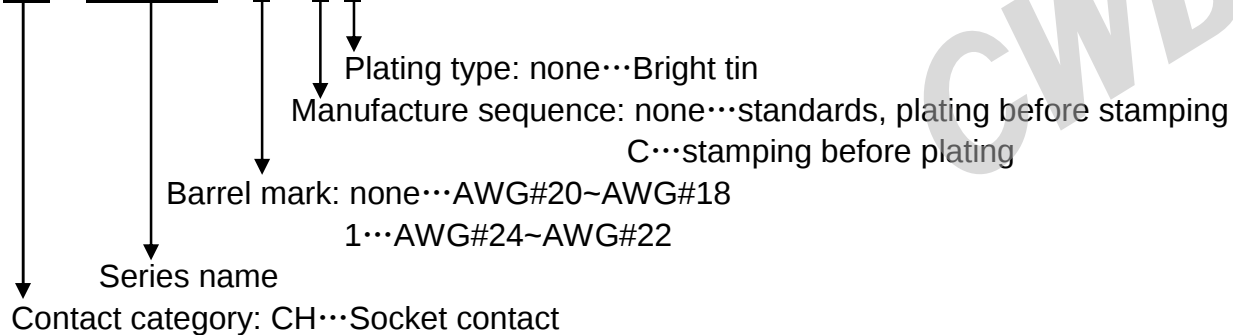
TJC3001 系列命名规则

TJC3001 series naming conventions

1. Contact

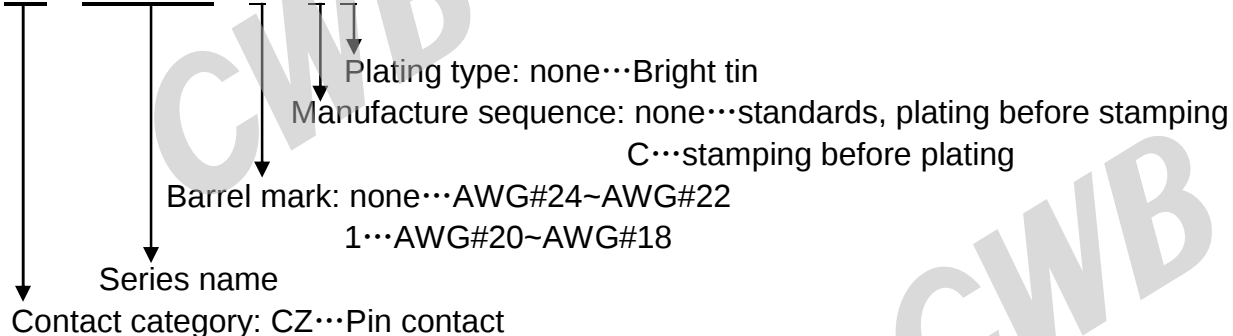
CH-TJC3001-**, CH-TJC3001-1-**

CH - TJC3001 - * - * - *



CZ-TJC3001-**, CZ-TJC3001-1-**

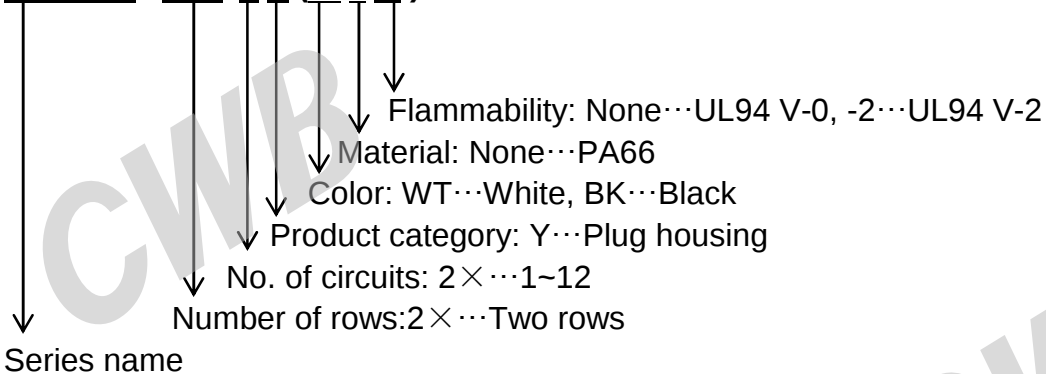
CZ - TJC3001 - * - * - *



2. Housing

TJC3001-2×nY(**-*)

TJC3001 -m× n Y (* -*)**



TJC3001-2×nARP(**-*),TJC3001-2×nAR(**-*)

TJC3001-m×nAR*(**-*-*)

