



产品规格书

PRODUCT SPECIFICATION

标题:TJC2509 系列连接器

Title: TJC2509 Connector

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	审核 Check: <u>王国英 2022.10.10</u>	编号 Document No.: <u>PS4100</u>
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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	/	初版发行 First release	路欢 2021/08/25
V1	/	根据新的命名规范更新规格型号 Update specifications and part no according to new naming specifications	尹恒 2022/03/12
V2		新增 TJC2509-nAR/nARP 产品 Added TJC2509-nAR/nARP products	路欢 2022/04/20
V3	/	新增 CH-TJC2509-2 端子 Added CH-TJC2509-2 contact	尹恒 2022/05/20
V4	/	新增 TJC2509-2×nAD、TJC2509-2×nY、 CH-TJC2509-L 系列等产品 TJC2509-2×nAD、TJC2509-2×nY、CH-TJC2509-L series are added	尹恒 2022/07/11
V5	/	TJC2509 阳连接器材料更新、更新导线线号名称、 新增 TJC2509-7/8AT 产品 TJC2509 male connector material updated, updated wire number name, new TJC2509-7/8AT product	尹恒 2022/07/22
V6	/	针固定力更新、CH-TJC2509-1 适用绝缘外径更新 Needle fixing force update, CH-TJC2509-1 applicable insulation diameter update	尹恒 2022/07/28
V7	/	新增 TJC2509E-5AWJDK 产品 Added TJC2509E-5AWJDK product	尹恒 2022/08/4
V8	/	新增 TJC2509-14ARP/CZ-TJC2509-1 产品 Added TJC2509-14ARP/CZ-TJC2509-1 product	路欢 2022/08/17
V9	/	根据企标更新抗张强度 Update tensile strength according to enterprise standard	尹恒 Heng.Yin 2022/08/29
V10	/	更新使用温度范围 Update the operating temperature range	尹恒 Heng.Yin 2022/10/10

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产品名称 Product Name:	TJC2509 系列连接器	编号 Document No.	PS4100	版本号 Version No.	V10
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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&WTW 2.5 阴型 & 阳型电子连接器，产品名称:TJC2509 系列连接器。

This product specification covers the requirement for wire to board(wire) 2.5mm pitch Receptacle & Plug connector, which is designed and manufactured by CWB Electronics(ZheJiang) Co.,LTD. P/N: TJC2509 Connector.

3. 产品描述 Product description

TJC2509 系列连接器产品为家电连接器产品，产品部件组成如下：

The TJC2509 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
孔座（带外锁扣） Housing (W/Lock)	TJC2509-nY(**-*)	TJC2509-nY	PA66 UL94V-0
孔座（带外锁扣） Housing (W/Lock)	TJC2509-2×nY(**-*)	/	PA66 UL94V-0
孔座（含锁紧片保持结构，带外锁扣） Housing (W/Retainer, W/Lock)	TJC2509B-nY*(**-*)	TJC2509B-nY	PA66 UL94V-0, PA66 UL94V-0 GWT 750℃
锁紧片 Retainer	TJC2509B-nS*(**-*)	TJC2509B-nYS	PA66+GF UL94V-0 GWT 750℃
插簧 Contact	CH-TJC2509-**	CH-TJC2509	AWG#24～AWG#22
插簧 Contact	CH-TJC2509-1-**	CH-TJC2509-1	AWG#28～AWG#26
插簧 Contact	CH-TJC2509-2-**	CH-TJC2509-2	AWG#20
插簧 Contact	CH-TJC2509-L-**	/	AWG#24～AWG#22
插簧 Contact	CH-TJC2509-L-1-**	/	AWG#28～AWG#26
插簧 Contact	CH-TJC2509-L-2-**	/	AWG#20
插针 Pin contact	CZ-TJC2509-1-**	/	AWG#20
插针 Pin contact	CZ-TJC2509-**	CZ-TJC2509-D	AWG#24～AWG#22
阳连接器（立式，直插，含小弯） Header(V, DIP, W/Kink)	TJC2509-nAK*(**-*)	TJC2509-nA	Wafer: PA66 +GF UL94V-0 GWT 750℃ Post: Brass, tin plated
阳连接器（立式，直插，含小弯） Header(V, DIP, W/Kink)	TJC2509-nAK-1*(**-*)	TJC2509-nA-1	Wafer: PA66 +GF UL94V-0 GWT 750℃ Post: Brass, tin plated
阳连接器（立式，直插，含定位柱，含小弯） Header(V, DIP, W/Boss, W/Kink)	TJC2509-nADK*(**-*)	TJC2509-nAD	Wafer: PA66+GF UL94V-0 GWT 750℃ Post: Brass, tin plated
阳连接器（立式，直插，含定位柱） Header(V, DIP, W/Boss)	TJC2509-2×nAD *(**-*)	/	Wafer:PA66+GF UL94V-0 GWT 750℃ Post: Brass, tin plated

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阳连接器（卧式，直插，含挡板） Header(H, DIP, W/PCB stabilizer)	TJC2509-nAWJ *(***)	TJC2509-nAWJ	Wafer: PA66+GF UL94 V-0 GWT750℃ Post: Brass, tin plated
阳连接器（卧式，直插，含小弯，含挡板） Header(H, DIP, W/Kink, W/PCB stabilizer)	TJC2509-nAWJK *(***)	TJC2509-nAWJ-1	Wafer: PA66+GF UL94 V-0 GWT 750℃ Post: Brass, tin plated
阳连接器（卧式，直插，含挡板，带倒钩） Header(H, DIP, W/PCB stabilizer,W/Boss)	TJC2509-nAWJD *(***)	TJC2509-nAWDJ	Wafer: PA66+GF UL94 V-0 GWT 750℃ Post: Brass, tin plated
阳连接器（卧式，直插，含小弯，含挡板，含倒钩） Header(H, DIP,W/Kink,W/PCB stabilizer, W/Boss)	TJC2509- nAWJDK *(***)	TJC2509- nAWDJ-1	Wafer: PA66+GF UL94 V-0 GWT 750℃ Post: Brass, tin plated
阳连接器（卧式，直插，含小弯，含挡板，含倒钩） Header(H, DIP,W/Kink,W/PCB stabilizer, W/Boss)	TJC2509E-5AWJDK *(***)	/	Wafer: PA66+GF UL94 V-0 GWT 750℃ Post: Brass, tin plated
阳连接器（立式，直插） Header(V, DIP)	TJC2509-nAT(***)	TJC25054-nA	Wafer: PA66+GF UL94 V-0 GWT 750℃ Post: Brass, tin plated
条形连接器孔座(含锁紧片保持结构) Receptacle housing (Retainer mountable type)	TJC2509-nAR(***)	TJC2509-nAP	PA66 UL94 V-0
条形连接器针座(面板安装，含锁紧片保持结构) Receptacle housing(Panel mount,Retainer mountable type)	TJC2509-nARP(***)	TJC2509-nAP-1	PA66 UL94 V-0

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 Electromrchanical components for electronic equipment Basic testing procedures and measuring methods
EIA-364	EIA-364 系列标准 EIA-364 series standards

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产品规格书

PRODUCT SPECIFICATION

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.

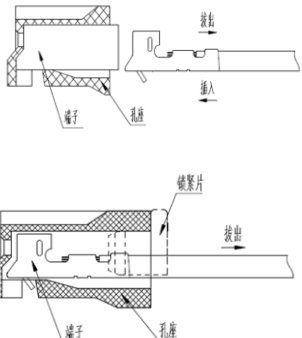
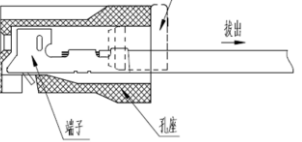
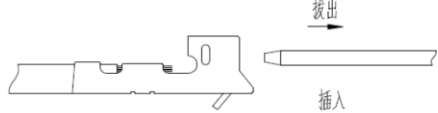
5.参数范围 Parameter ratings:

额定电流 [AC(有效值)/DC] Rated current [AC(rms)/DC]	AWG#28	AWG#26	AWG#24	AWG#22	AWG#20
	1.0A	1.5A	2.5A	3.0A	4.0A
适用 PCB 板 Applicable PCB	Board thickness: 1.6mm Hole diameter: $\phi 0.85\text{mm} \sim \phi 0.95 \text{ mm}$ Hole diameter: $\phi 1.1\text{mm} \sim \phi 1.2 \text{ mm}$ (TJC2509-nAT)				
额定电压[AC(有效值)/DC] Rated voltage [AC(rms)/DC]	250V				
使用温度范围（包含温升） Operating temperature range (include temperature rise)	$-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$				
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)	CH-TJC2509/ CH-TJC2509-L	Wire size: AWG#24 $\sim$ AWG#22 (0.2mm ² -0.33mm ²) Insulation diameter: $\phi 1.4\text{mm}-\phi 1.6\text{mm}$			
	CH-TJC2509-1/ CH-TJC2509-L-1	Wire size: AWG#28 $\sim$ AWG#26 (0.08mm ² -0.14mm ²) Insulation diameter: $\phi 0.92\text{mm}-\phi 1.4\text{mm}$			
	CH-TJC2509-2/ CH-TJC2509-L-2	Wire size: AWG#20 (0.52mm ²) Insulation diameter: $\phi 1.75\text{mm}-\phi 1.9\text{mm}$			
	CZ-TJC2509-1	Wire size: AWG#20 (0.52mm ²) Insulation diameter: $\phi 1.75\text{mm}-\phi 1.9\text{mm}$			
	CZ-TJC2509	Wire size: AWG#24 $\sim$ AWG#22 (0.2mm ² -0.33mm ²) Insulation diameter: $\phi 1.4\text{mm}-\phi 1.6\text{mm}$			

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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 (不带锁紧片)  (带锁紧片) 	插入力 (Insertion) Max.	固定力(不带锁紧片测试) Retention (Test without locking plate) Min.	固定力 (带锁紧片测试) Retention (Test with locking plate) Min.
			10N	15N	30N
6.1.3	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 (Insertion force) Max.	拔出力(Withdrawal force) Min.	
			9.8N	0.2N	
6.1.4	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。(不包括 TJC2509-nAR/ nARP) 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.) (exclude TJC2509-nAR/ nARP) GB/T 5095.8 Method 15a / EIA-364-29B	TJC2509-2AK~4AK: 50N Min. Others: 20N Min.		

产品名称
Product Name:

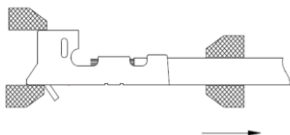
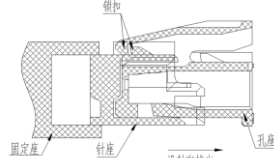
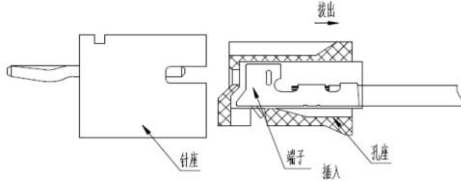
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6.1.5	压着部位抗张强度 Crimp tensile strength	在已压接端子的头部和导线上施加拉力，并测量将导线从端子拉出或导线断裂所需的力，测试速度不大于 25 mm/min。 Pulling load shall be applied to a correctly crimped contact and a wire. The load required to pull the wire out of the contact or break the wire shall be measured. (Testing speed: <25 mm/min.) GB/T5095.8 Method 16d / EIA-364-08B 	AWG#28: 8.9N Min. AWG#26: 13.4N Min. AWG#24: 22.3N Min. AWG#22: 35.6N Min. AWG#20: 57.9 N Min.			
6.1.6	锁扣强度 Lock strength	固定连接器和测力计，在连接器轴线方向将配合后的连接器拔出，速度不大于25 mm/min.，测量时连接器应无端子或端子不影响锁扣强度的测量结果 Apply axial withdraw force on the connector which without contact or the contacts shall not affect lock strength at a rate less than 25 mm/min. GB/T 5095.8 Method 15f / EIA-364-29B 	2pin: 20N Min. 3pin~16pin: 30N Min.			
6.1.7	成品插入力与拔出力（去锁扣） Insertion force and withdrawal force (without lock)	将装有已压接端子的孔座与阳连接器做插入和拔出，测量首次插入力、首次拔出力及第30次拔出力，测试速度不大于25 mm/min。 注：单排阴连接器需使用CH-TJC2509系列端子进行测试；双排阴连接器需使用CH-TJC2509-L系列端子进行测试。 A housing with crimped contacts and a header shall be mated and unmated on the mating axis. Initial insertion and withdrawal forces and withdrawal force at 30th shall be measured. (Testing speed: <25 mm/min.) Note: The single row housing should be tested with CH-TJC2509 series contact. The two rows housing should be tested with CH-TJC2509-L series contact. GB/T 5095.7 Method 13b / EIA-364-13B 	No. of Poles. 极数	插入力（最大值） Insertion (Max.)	拔出力（最小值） Withdrawal (Min.)	
				初次 1st.	初次 1st.	第三十次 30th.
			3P	25N	1.5N	1.0N
			4P	30N	2.0N	1.2N
			5P	35N	2.5N	1.5N
			6P	40N	3.0N	2.0N
			7P	45N	3.5N	2.5N
			8P	50N	4.0N	3.0N
			9P	55N	4.5N	3.5N
			10P	60N	5.0N	4.0N
			11P	65N	5.5N.	4.5N
			12P	70N	6.0N	5.0N
			13P	75N	6.5N	5.5N
			14P	80N	7.0N	6.0N
			15P	85N	7.5N	6.5N
			16P	90N	8.0N	7.0N
			2×9P	95N	9.0N	8.0N
2×10P	100N	10.0N	9.0N			
2×11P	105N	11.0N	10.0N			
2×14P	120N	14.0N	13.0N			

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			2×17P	135N	17.0N	16.0N
			2×18P	140N	18.0N	17.0N
6.1.8	机械振动 Vibration	插合连接器，串联在直流电源上，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: 1 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：20mΩ Max. Contact resistance: 20mΩ Max. 电流中断时间：1μsec Max. Current interruption: 1μsec Max.			
6.1.9	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) 电流中断时间：1μsec Max. Current interruption: 1μsec Max.			
6.1.10	机械寿命 Durability	以每分钟 10 次的速度插拔 50 次 50 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：20mΩ Max. Contact resistance: 20mΩ Max.			

6.2 电气性能 Electrical

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	10mΩ Max. (Initial) 20mΩ 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) 500 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 1000V AC （有效值），漏电流 1mA 的电压作用,时间 1min. Apply a voltage of 1000V AC (rms) and leakage current of 1mA between adjacent contacts or ground cables for 1 minute. GB/T 5095.2 Method 4a / EIA-364-20B	外观：无击穿和飞弧现象 Appearance: no breakdown or flashover

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6.2.4	温升 Temperature rise	插入连接器，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	$\Delta 30^{\circ}\text{C}$ Max.
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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）℃的空气中放置 240 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)℃ for 240 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：20mΩ Max. Contact resistance: 20mΩ Max. 绝缘电阻：500 MΩ Min. Insulation resistance: 500 MΩ Min. 耐电压：1000V Min. Withstand voltage: 1000V Min.										
6.3.2	耐低温 Cold resistance	连接器配合后，于（-40±2）℃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 (-40±2)℃ 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：20mΩ Max. Contact resistance: 20mΩ Max. 绝缘电阻：500 MΩ Min. Insulation resistance: 500 MΩ Min. 耐电压：1000V Min. Withstand voltage: 1000V Min.										
6.3.3	恒定湿热 Humidity	温度（40±2）℃ 相对湿度（90~95）% 搁置时间 240 小时，取出恢复（1~2）小时后检查。 Mated connectors exposed to the condition of temperature (40±2)℃, humidity (90~95)% for 240 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：20mΩ Max. Contact resistance: 20mΩ Max. 绝缘电阻：500 MΩ Min. Insulation resistance: 500 MΩ Min. 耐电压：1000V Min. Withstand voltage: 1000V 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）℃的恒温条件下放置 0.5 小时； b) 在（85±2）℃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 ℃</th><th>Duration</th></tr><tr><td>1 -55±2</td><td>0.5h</td></tr><tr><td>2 Room Temp.</td><td>5 minutes Max.</td></tr><tr><td>3 +85±2</td><td>0.5h</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-364-32CGB/T	Temperature ℃	Duration	1 -55±2	0.5h	2 Room Temp.	5 minutes Max.	3 +85±2	0.5h	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：20mΩ Max. Contact resistance: 20mΩ Max. 绝缘电阻：500 MΩ Min. Insulation resistance: 500 MΩ Min. 耐电压：1000V Min. Withstand voltage: 1000V Min.
Temperature ℃	Duration												
1 -55±2	0.5h												
2 Room Temp.	5 minutes Max.												
3 +85±2	0.5h												
4 Room Temp.	5 minutes Max.												

产品名称 Product Name:	TJC2509 系列连接器	编号 Document No.	PS4100	版本号 Version No.	V10
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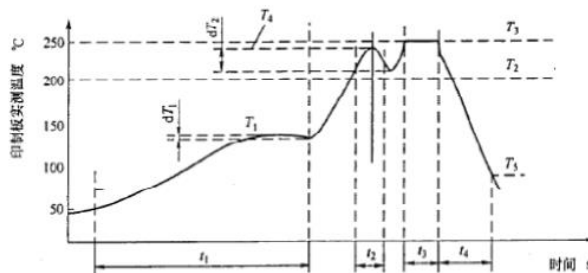
产品规格书

PRODUCT SPECIFICATION

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)℃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)℃, 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:20mΩ Max. Contact resistance: 20mΩ Max.
6.3.6	工业气体(氨气) Industrial gas(Ammonia)(NH ₃)	连接器在每升容积内含25毫升3%氨溶液的氨气箱中暴露7小时 After 7 hours exposure in ammonia chamber with 25 mL of 3% ammonia solution for every liter of chamber capacity	无应力腐蚀开裂 No stress corrosion cracking
6.3.7	硫化氢气体测试 (H ₂ S gas test)	连接器配合后,在温度(40±2)℃、湿度(80±5)%、H ₂ S气体浓度为(3±1)ppm的环境中放置96小时 Mated connectors exposed to the condition of temperature (40±2)℃, humidity(80±5)%, H ₂ S gas concentration of (3±1)ppm for 96 hours	接触电阻:20mΩ Max. Contact resistance: 20mΩ Max.
6.3.8	可焊性 Solderability	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)秒。(不包括TJC2509-nAR/nARP) Dip solder tails into the molten solder held at (245±5)℃ for (4~5) seconds. (exclude TJC2509-nAR/ nARP) IPC EIA IPC JEDEC J STD 002E	上锡率≥95% Solder coverage: ≥95%
6.3.9	耐焊接热 Resistance to soldering heat	1.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)秒后,在正常条件下恢复(1~2)小时。(温度曲线见图1)(不包括TJC2509-nAR/nARP) Resistance to wave soldering heat: Dip solder tails into the molten solder held at (260±5)℃ for (5±1) seconds, recovery time (1~2) hours. (The temperature curve is shown in Figure 1) (exclude TJC2509-nAR/ nARP)	外观:无损伤(参照6.1.1) Appearance: no damage.(refer to 6.1.1)
		2.手工焊接:温度(350±10)℃,时间(1~2)s。(不包括TJC2509-nAR/nARP) Manual soldering: (350±10)℃ for (1~2) s. (exclude TJC2509-nAR/ nARP)	
6.3.10	灼热丝 Glow wire (只针对GWT750℃产品 Only for GWT750℃ product)	750℃灼热丝顶部接触试验样品, 接触时间:(30±1)s; 接近和离开速率:10mm/s~25mm/s; 灼热丝进入或贯穿试验样品深度:(7±0.5)mm。 750℃glow wire contacts with mated connector, Contact time: (30±1)s; Speed of closing to and leaving from: 10mm/s~25mm/s; Depth that glow wire penetrates mated connector:(7±0.5)mm. GB/T 5169.10	1.试验样品燃烧时间不超过2s。 The time that mated connector burns should be not more than 2s. 2、灼热丝离开后的30s内样件无火焰或灼热情况,且无滴落物或滴落物不燃烧。 Thirty seconds after glow wire leaves mated connector, it does not burn or have no incandescence and it does not fall something, or the falling thing does not burn.

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Pb-free Wave soldering Temperture profile



图中: $T_1 > 150^{\circ}\text{C}$ $T_2 > 220^{\circ}\text{C}$ $T_3 = 250^{\circ}\text{C} \pm 2^{\circ}\text{C}$ $T_4 > 230^{\circ}\text{C}$ $T_5 < 80^{\circ}\text{C}$
 $dT_1 < 5^{\circ}\text{C}$ $dT_2 < 15^{\circ}\text{C}$ $t_1 > 60\text{s}$ $t_2 + t_3 > 3\text{s} \sim 5\text{s}$ $T_3 - T_1 < 100^{\circ}\text{C}$

图 1 波峰焊曲线图

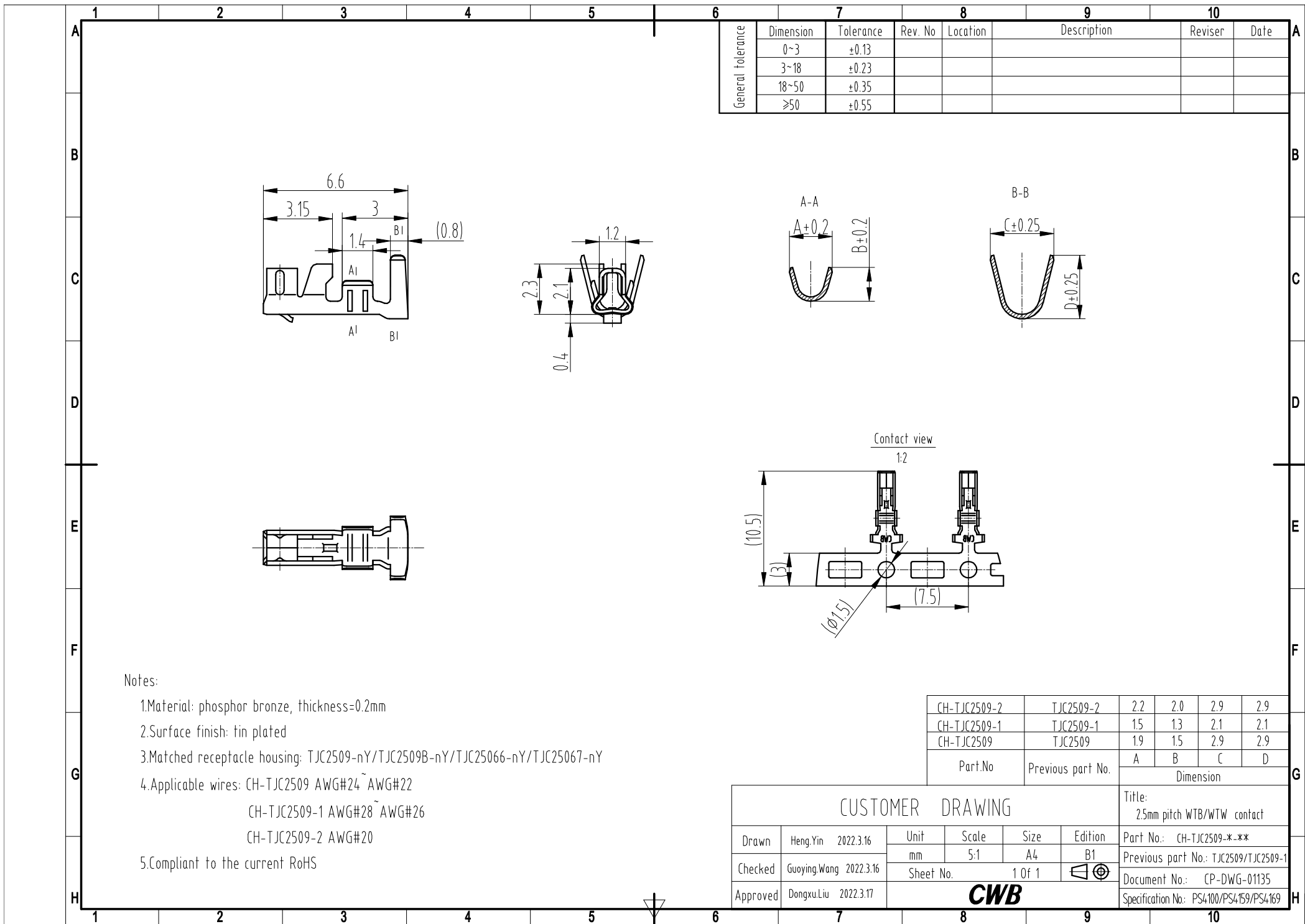


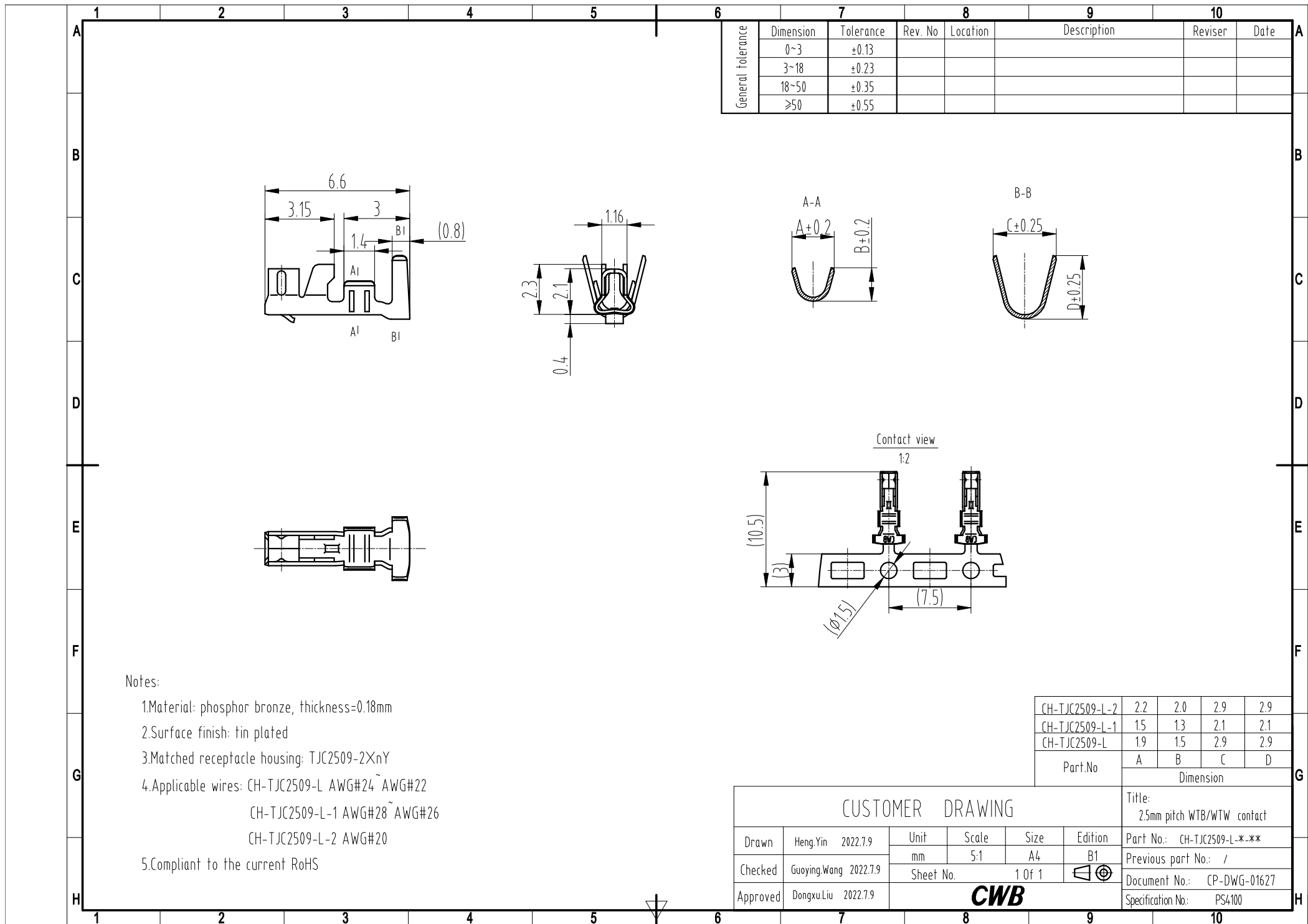
产品规格书

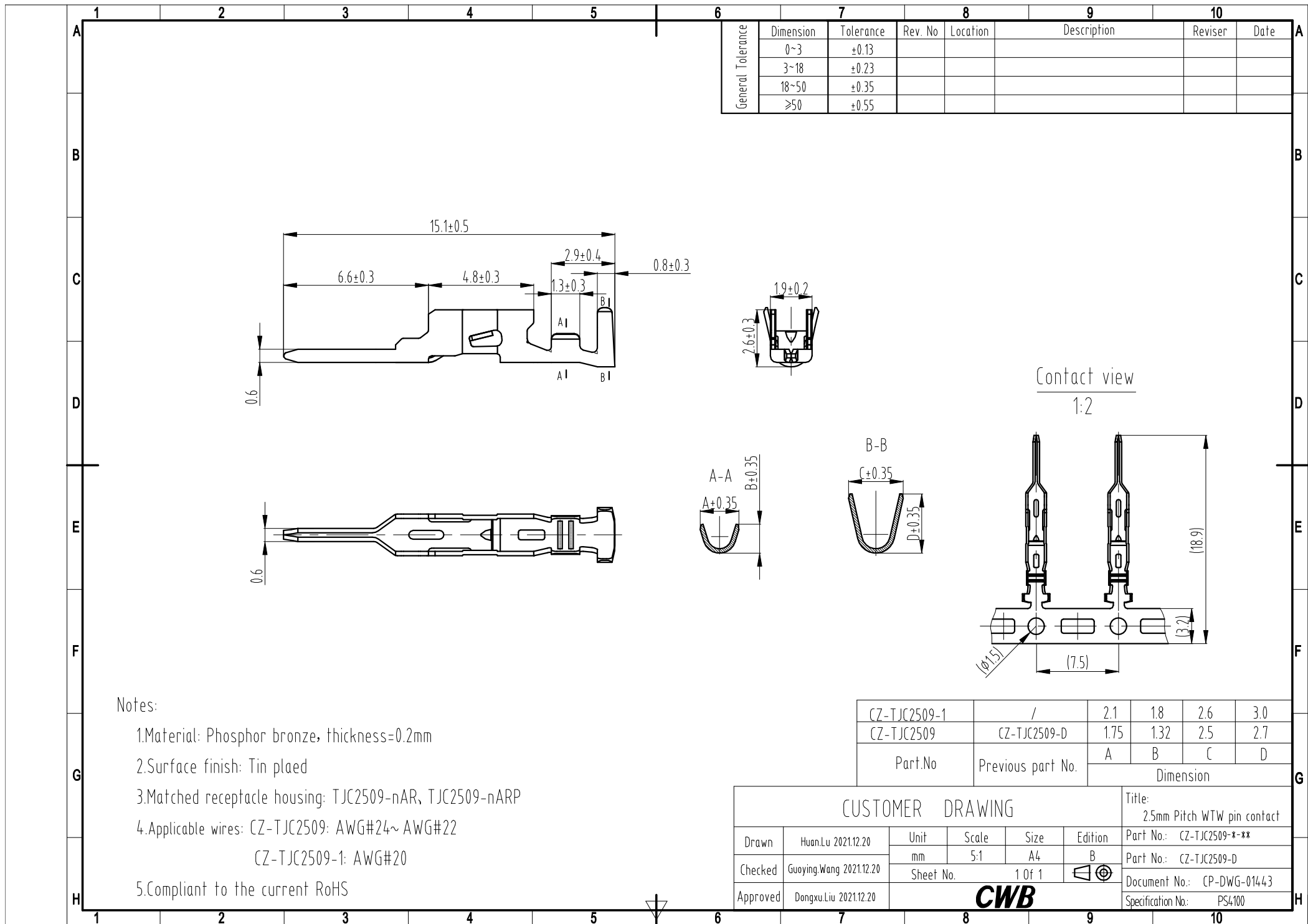
PRODUCT SPECIFICATION

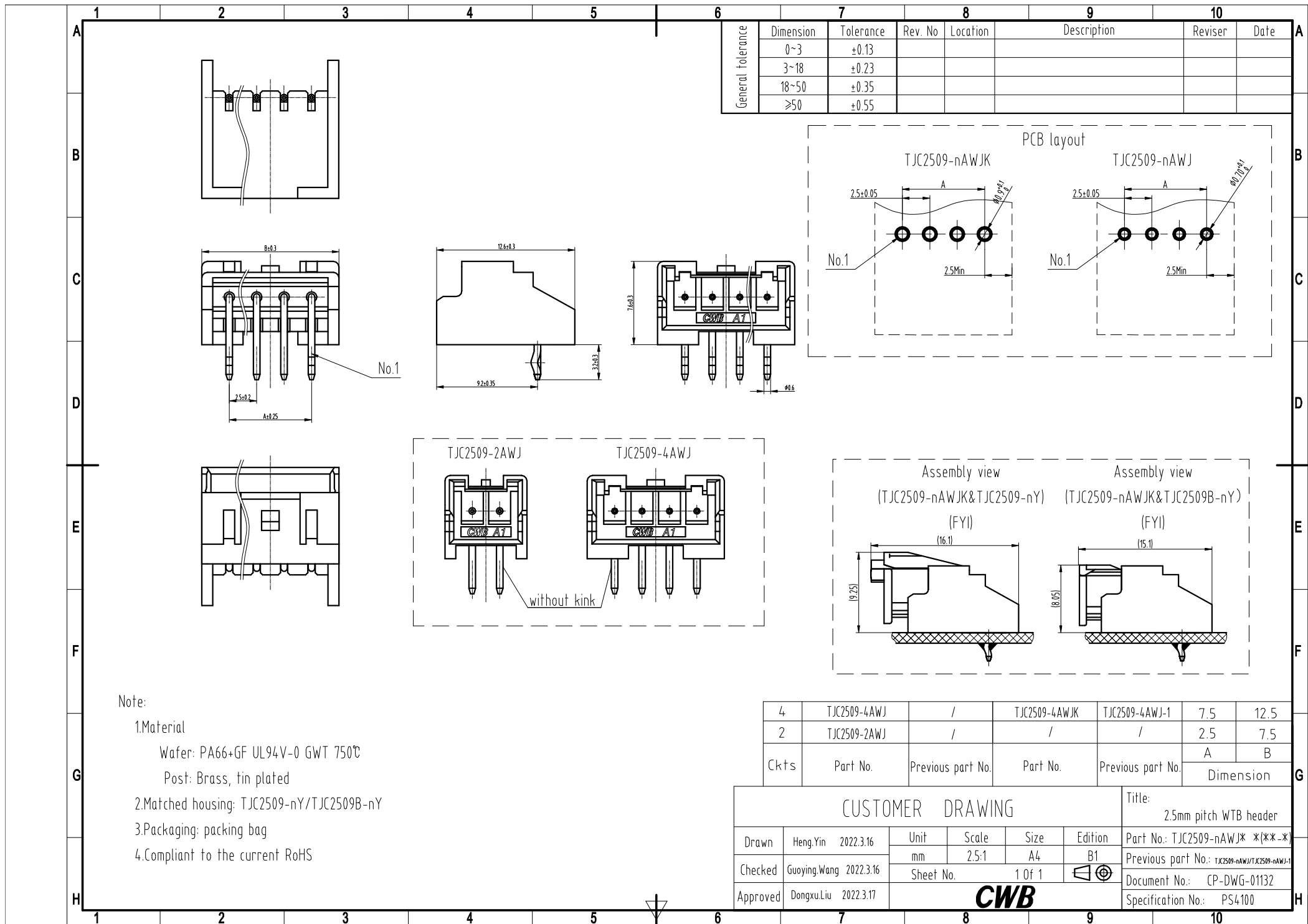
7. 测试分组 Test sequences (Samples:5PCS)

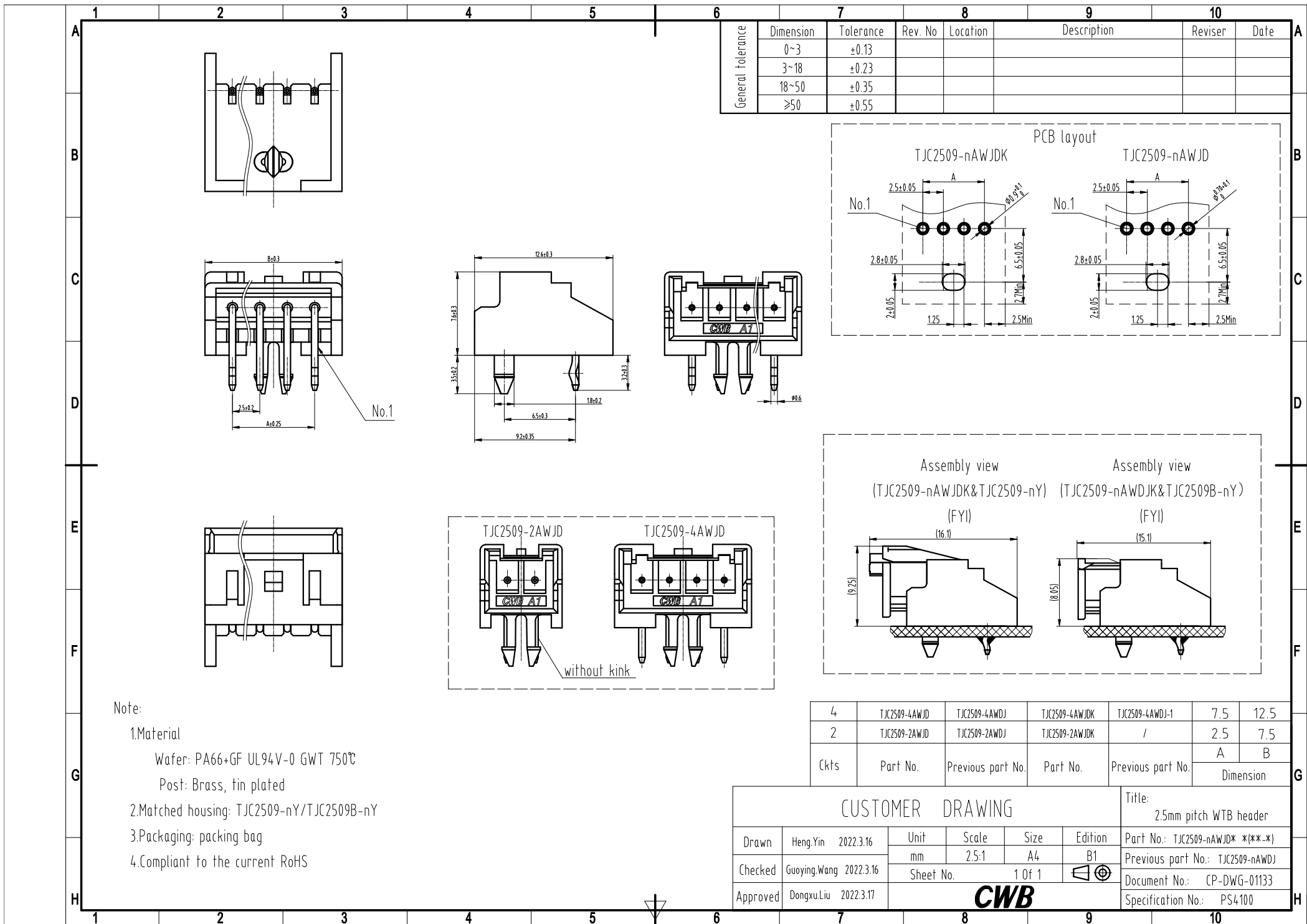
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外观 Appearance	1	1	1	1	1	1	1, 5	1, 3	1, 7	1	1, 7	1, 5	1, 7	1, 7	1, 5	1, 3	1, 5	1, 3	1, 3	1
端子的插入力与固定力 Insertion force and retention force for contact	2																			
插簧与插针的插拔力 Insertion and withdrawal force for pin in the contact		2																		
针的固定力 Post retention force			2																	
压着部位抗张强度 Crimp tensile strength				2																
锁扣强度 Lock strength					2															
成品插入力与拔出力（去锁扣） Insertion force and withdrawal force(without lock)						2														
机械振动 Vibration							3													
机械冲击 Shock								2												
机械寿命 Durability									5											
接触电阻 Contact resistance							2, 4		2, 6		2, 4	2, 4	2, 4	2, 4	2, 4		2, 4			
绝缘电阻 Insulation resistance									3		5		5	5						
耐电压 Withstand voltage									4		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					
工业气体(氨气)Industrial gas(Ammonia)(NH ₃)																2				
硫化氢气体测试 (H ₂ S gas test)																	3			
可焊性 Solderability																		2		
耐焊接热 Resistance to soldering heat																			2	
灼热丝 Glow wire																				2

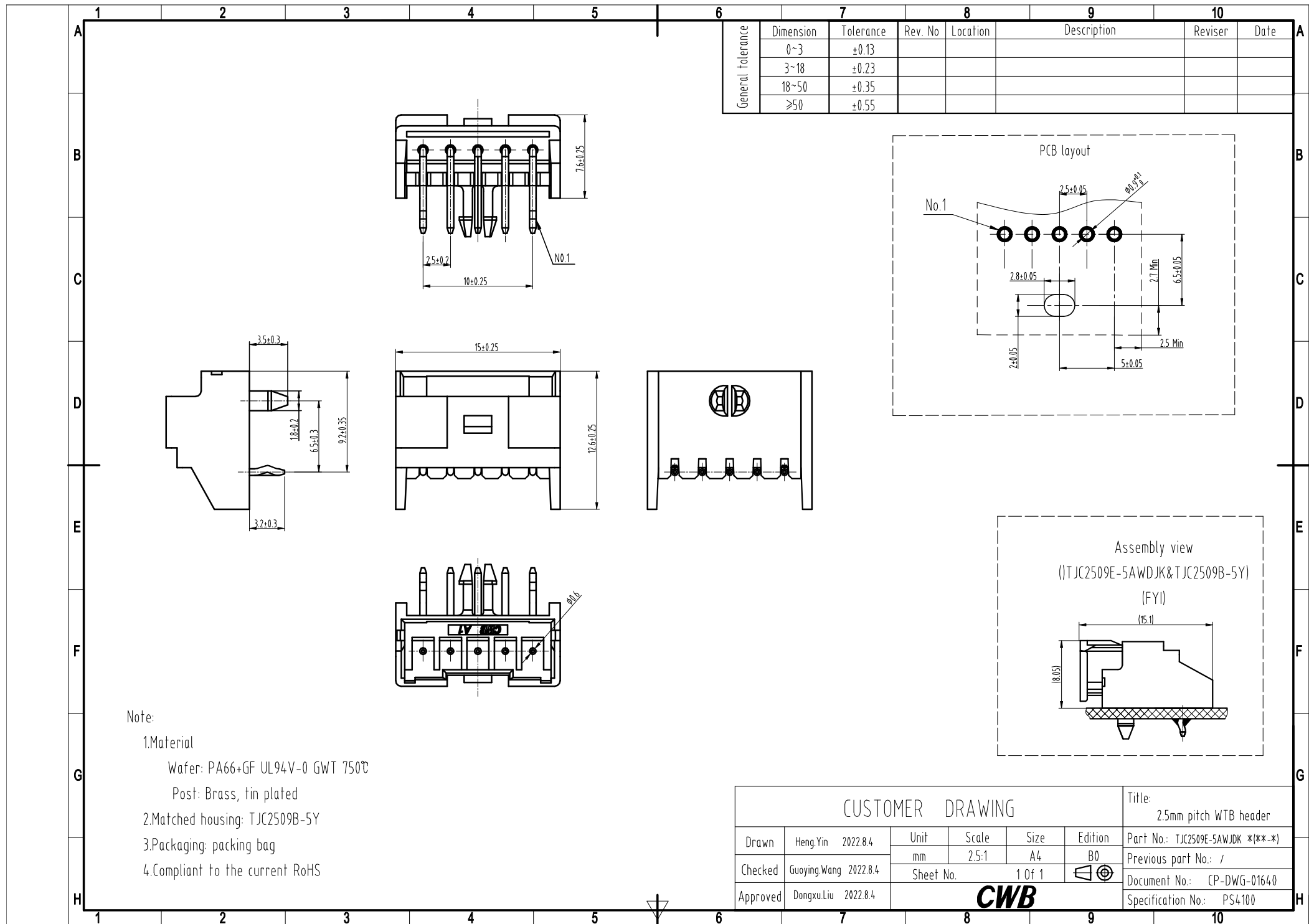


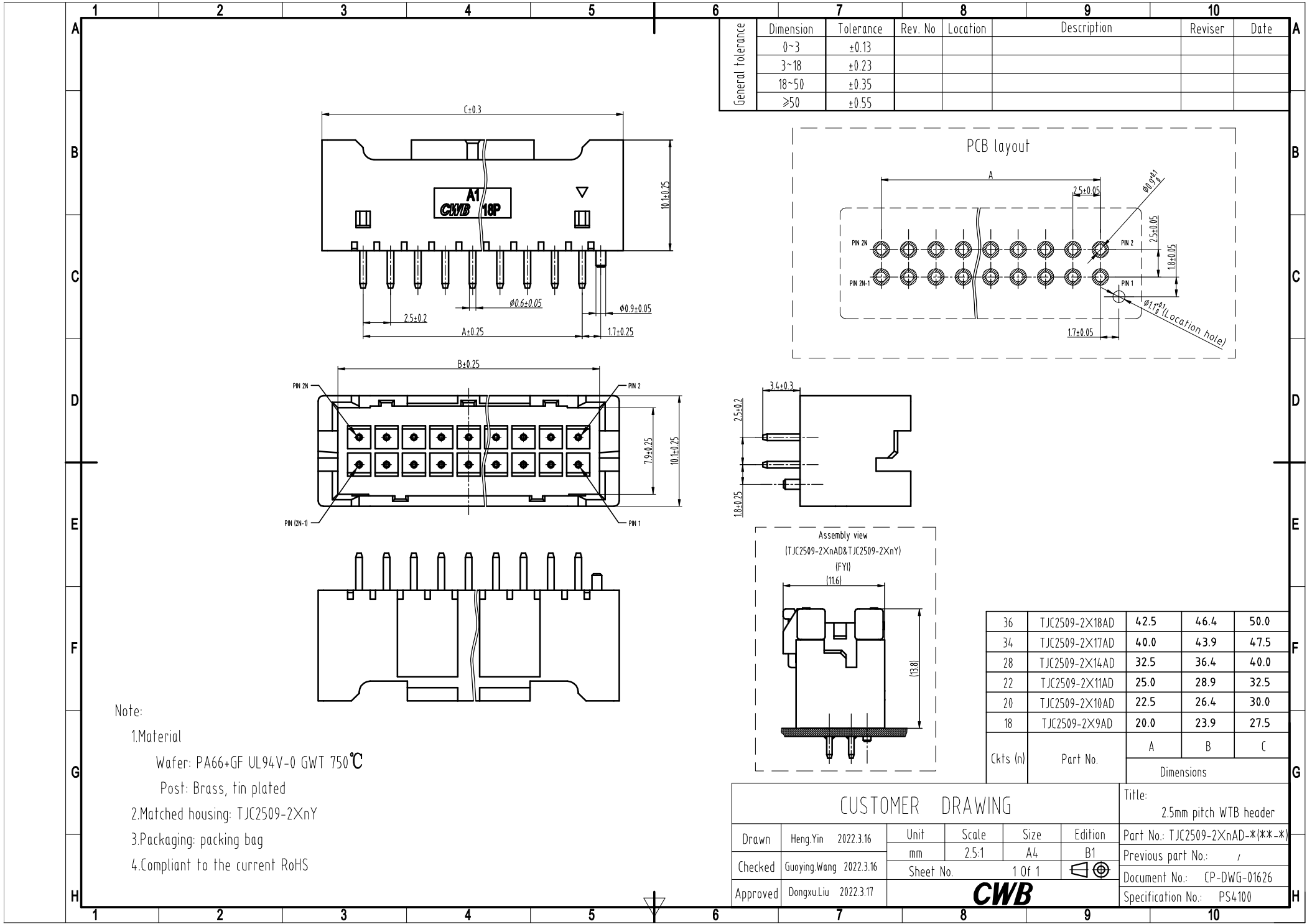


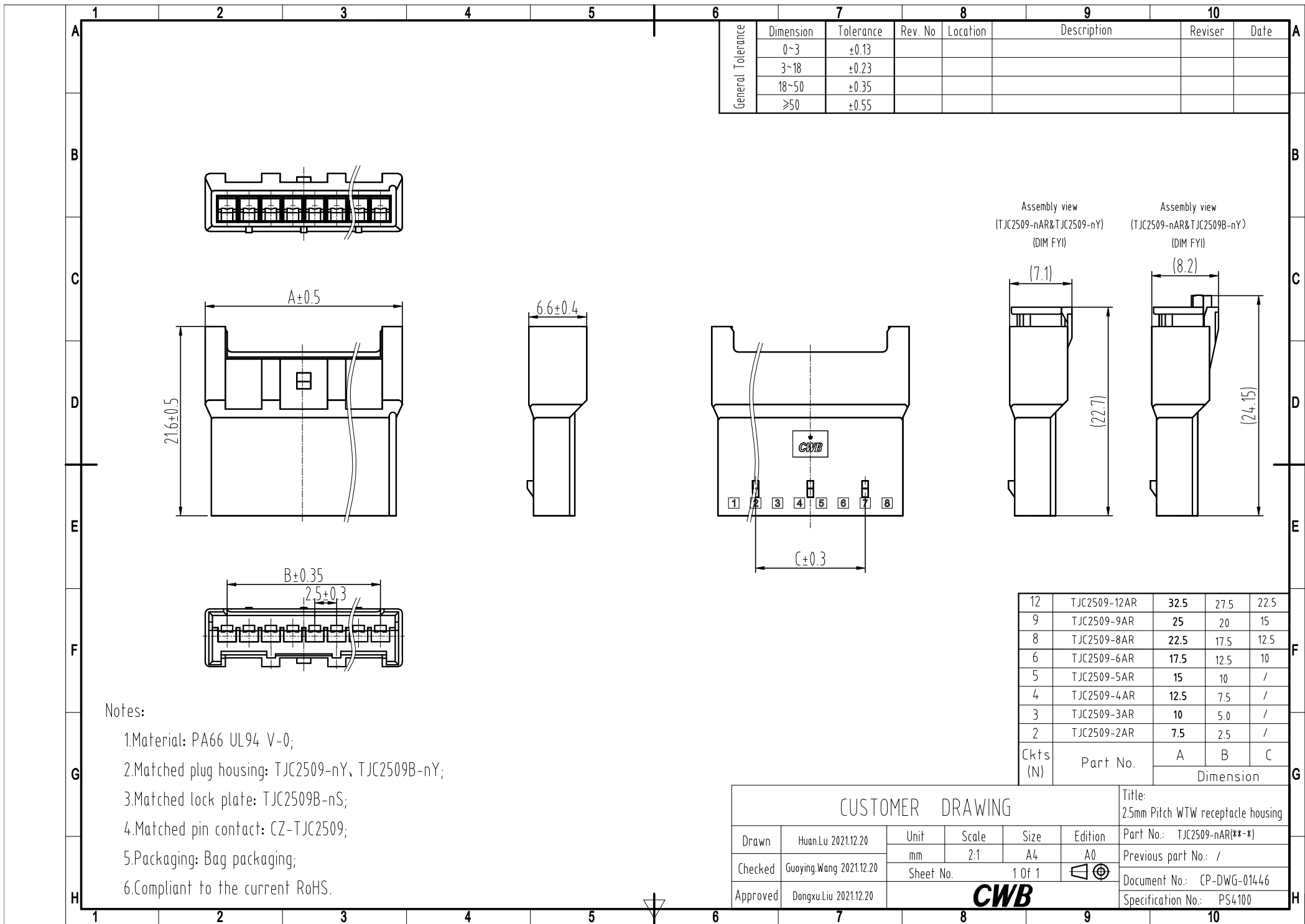


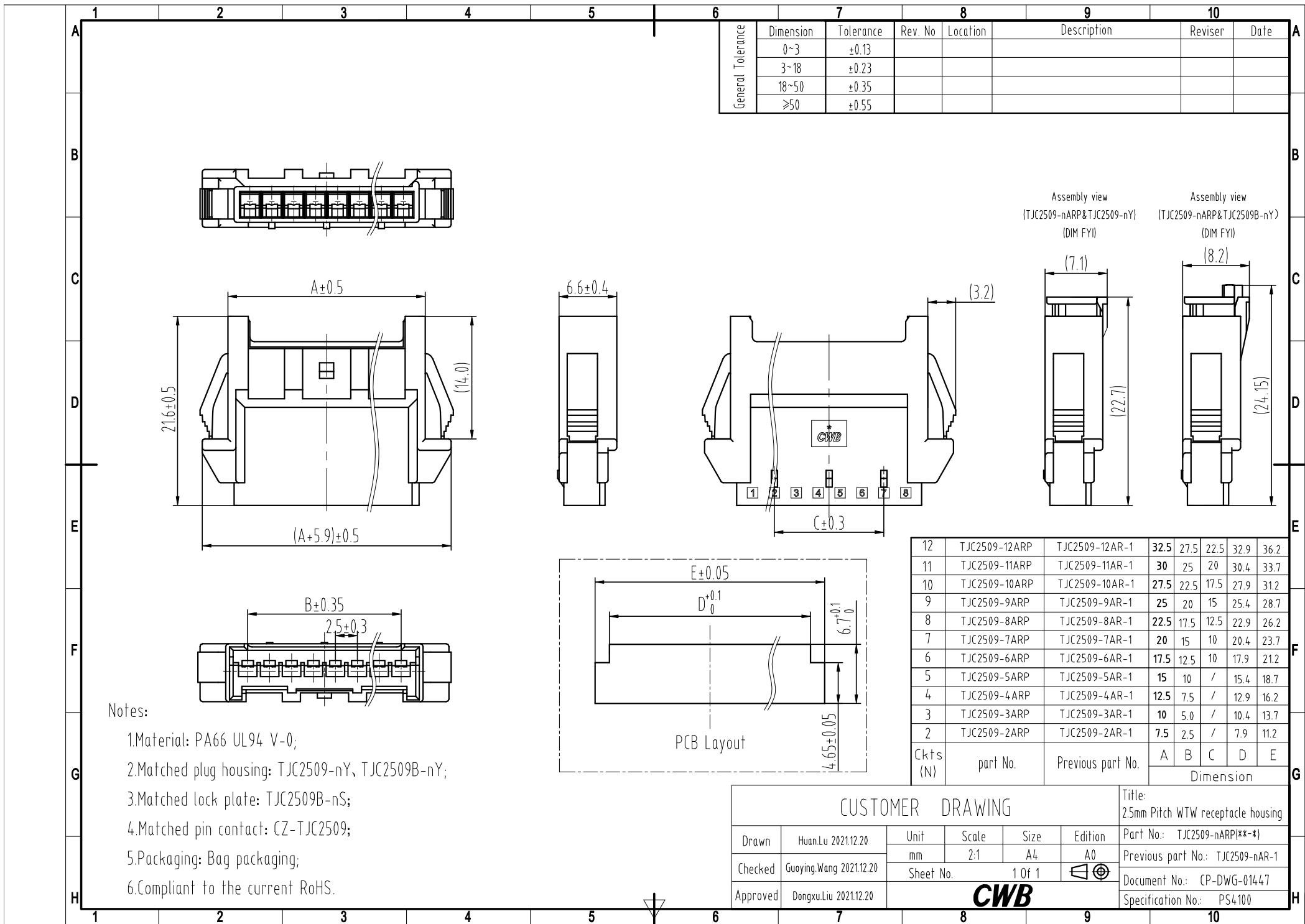




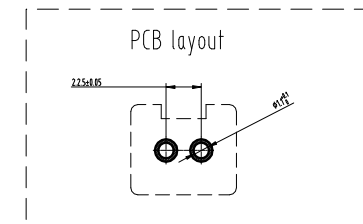
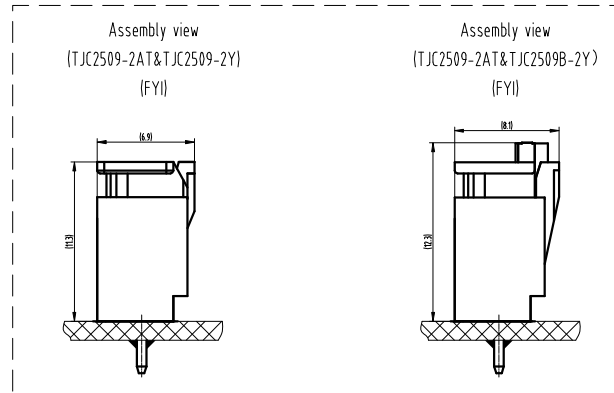
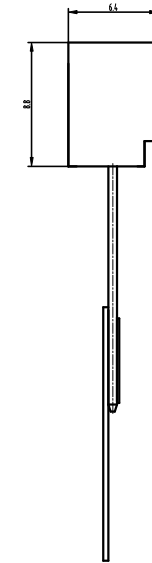
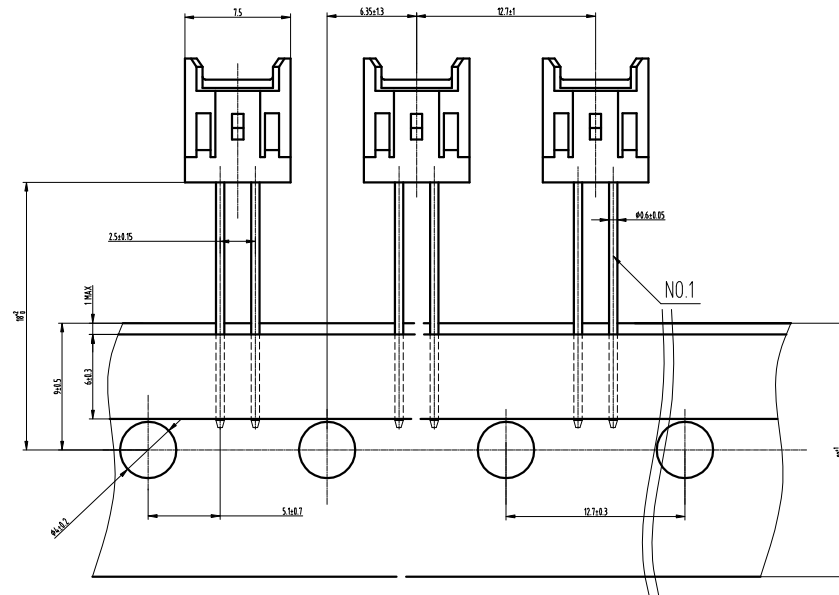








General tolerance	Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
	0~3	±0.13					
	3~18	±0.23					
	18~50	±0.35					
	≥50	±0.55					



Note:

1. Material

Wafer: PA66+GF UL94V-0 GWT 750°C

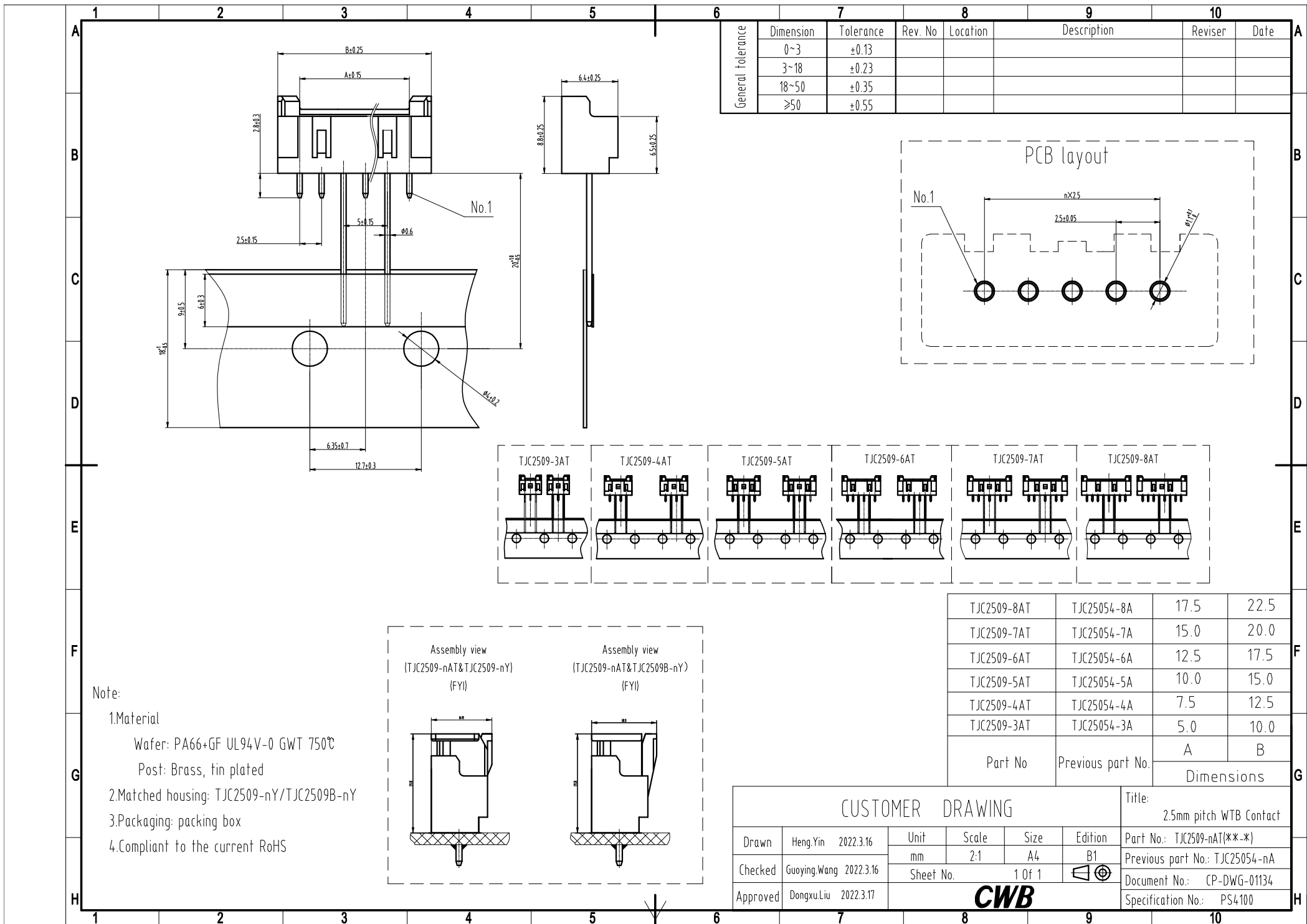
Post: Brass, tin plated

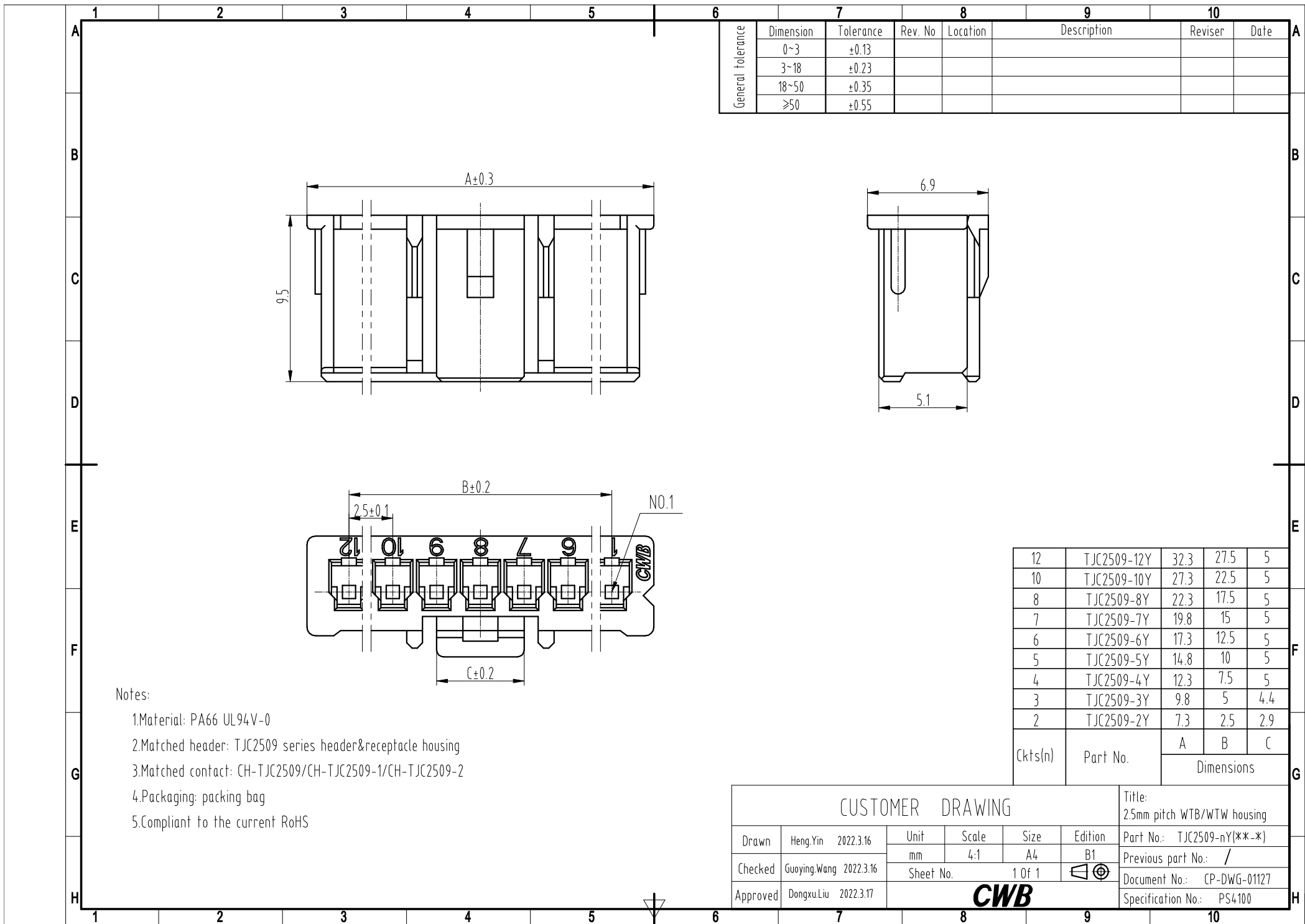
2. Matched housing: TJC2509-nY/TJC2509B-nY

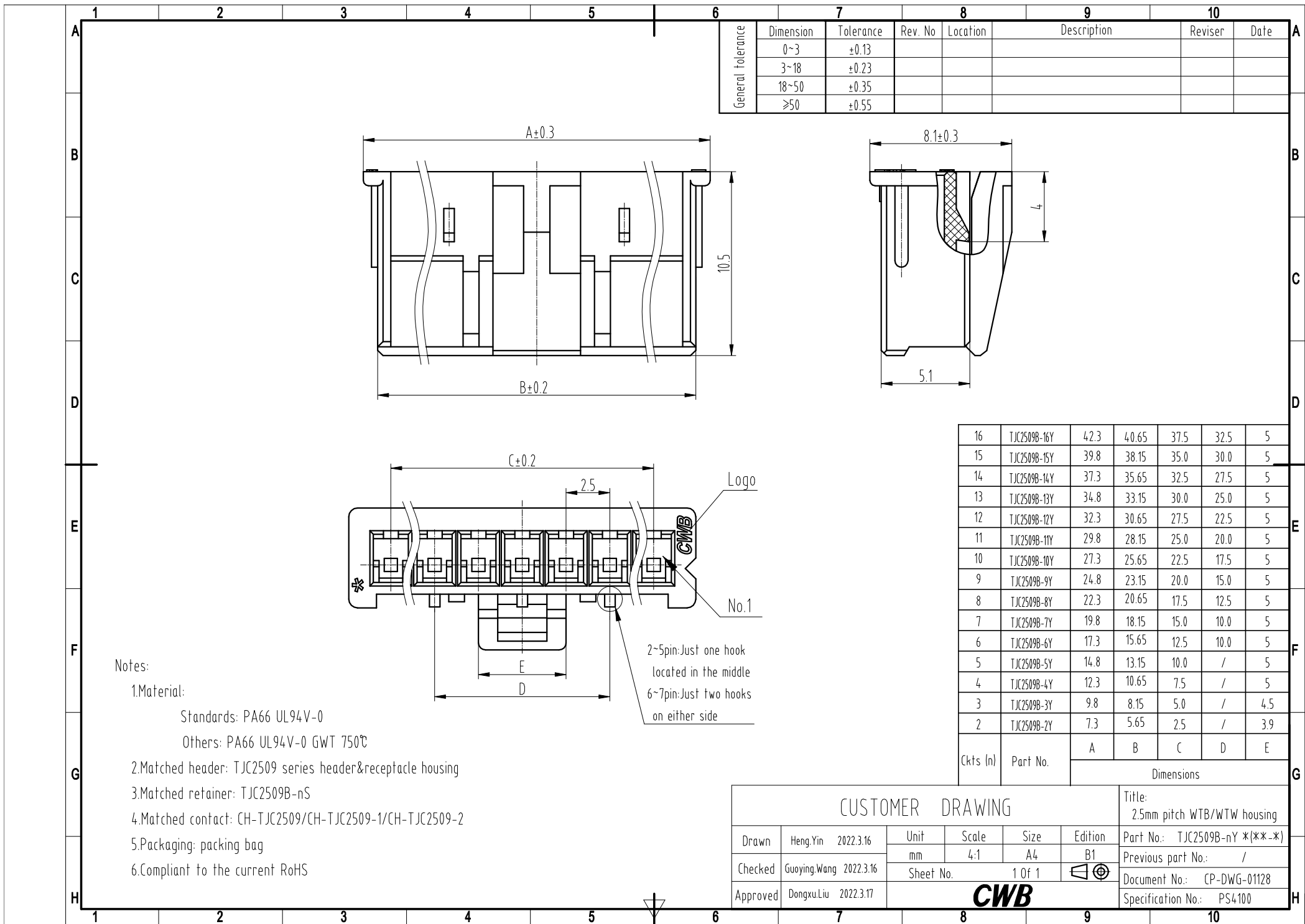
3. Packaging: packing bag

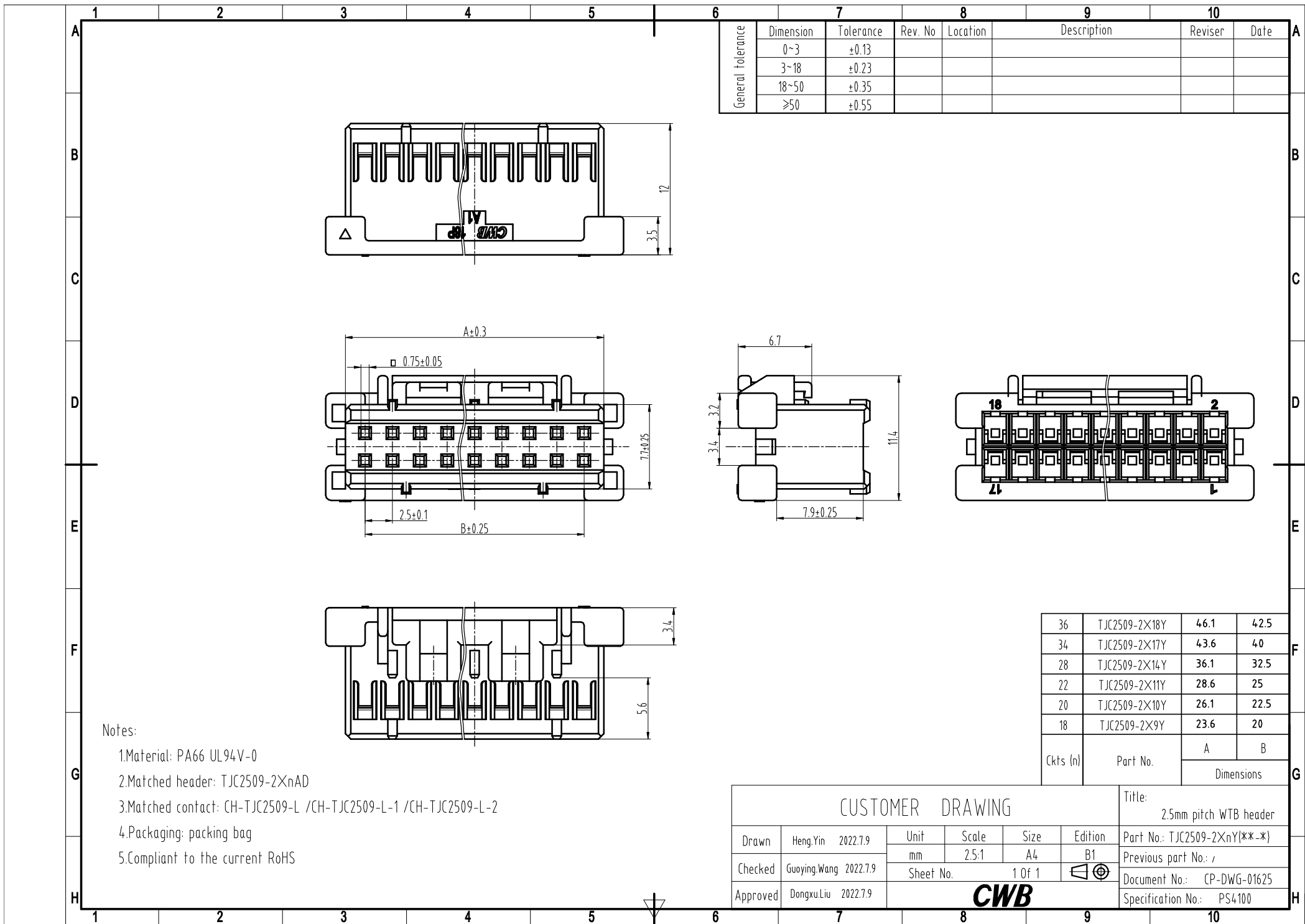
4.Compliant to the current RoHS

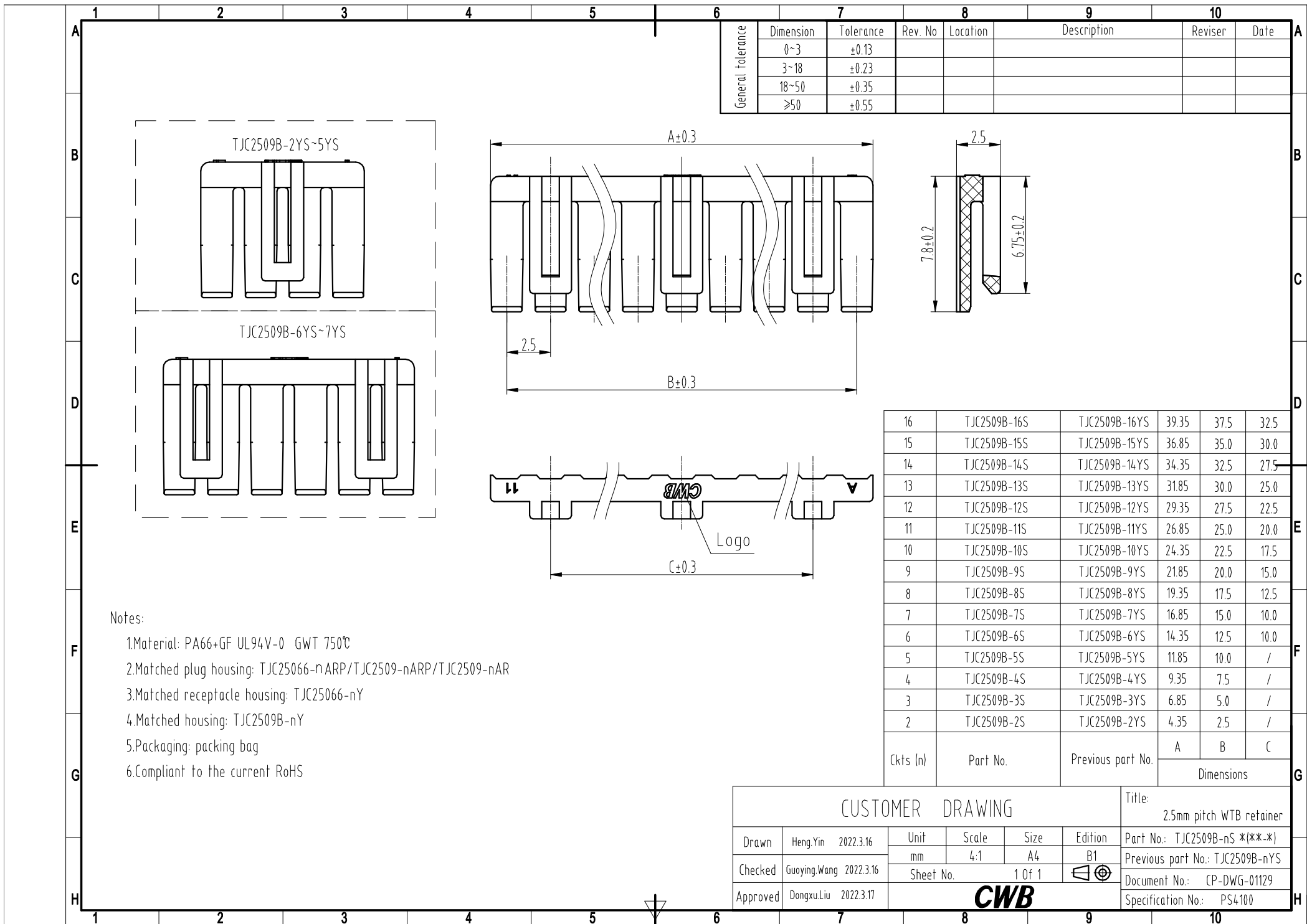
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Checked	Guoying.Wang	2022.3.16	mm	2:1	A4	B1	Previous part No.: TJC25054-2A
			Sheet No. 1 Of 1				Document No.: CP-DWG-01126
Approved	Dongxu.Liu	2022.3.17	CWB				Specification No.: PS4100

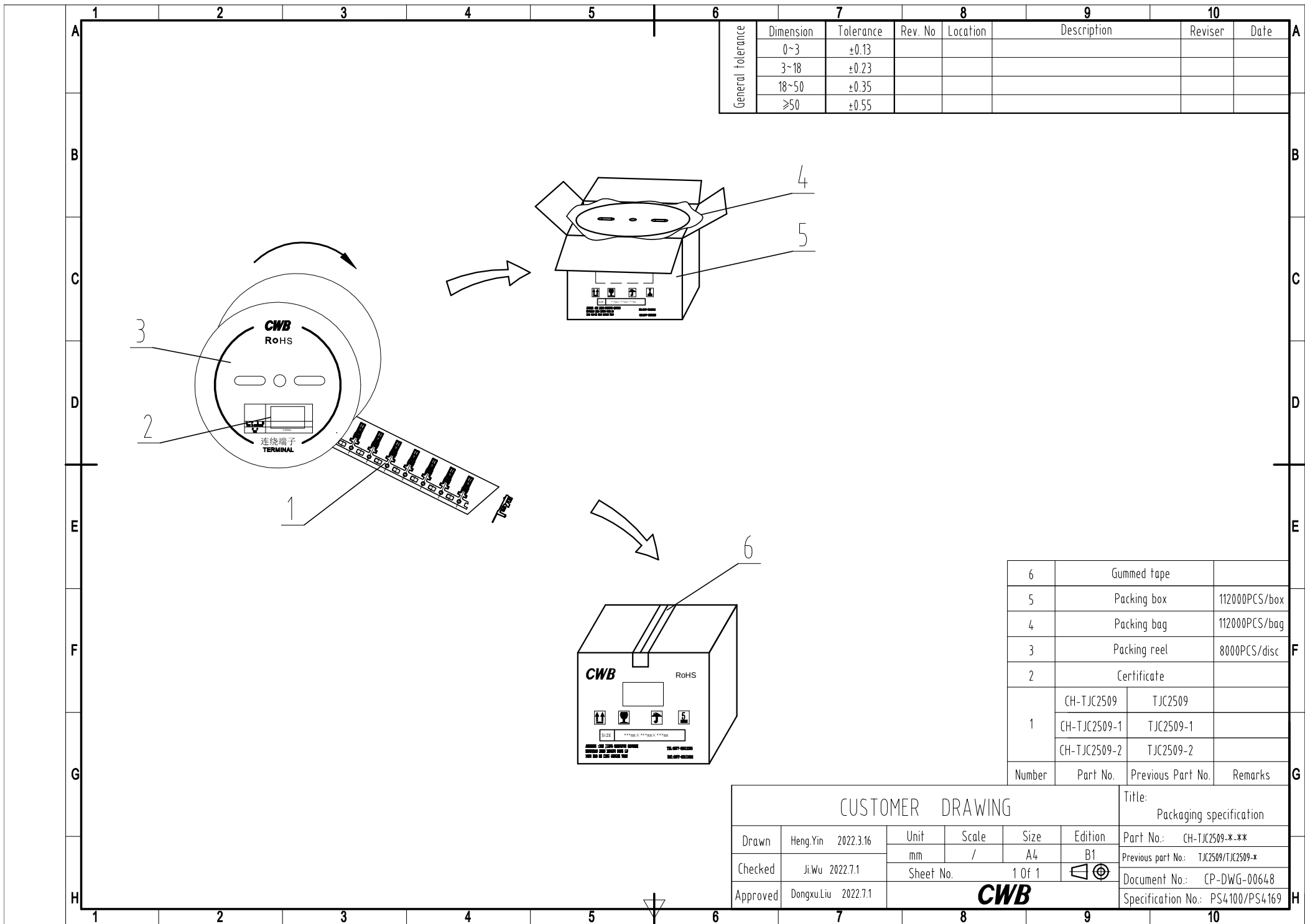


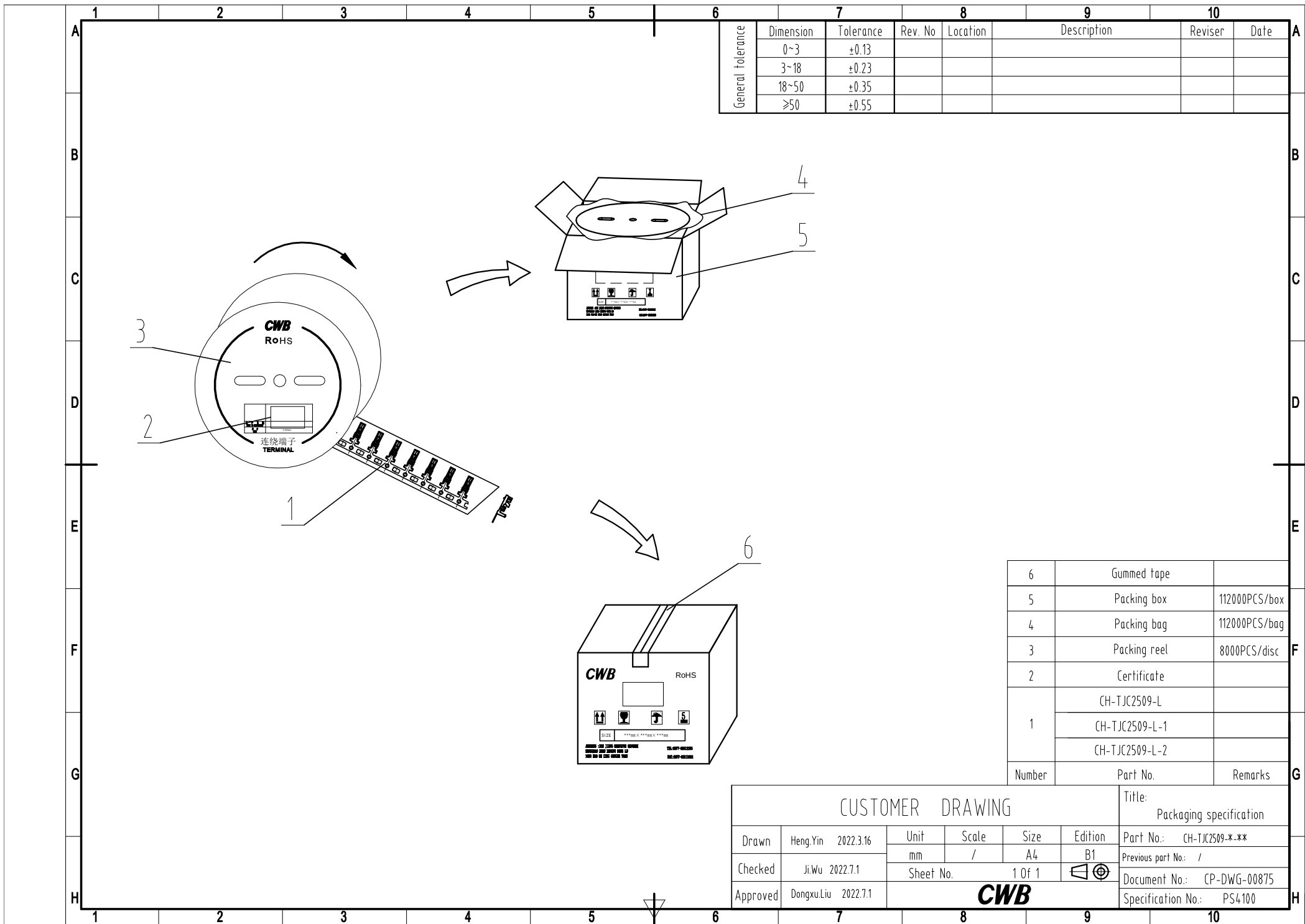


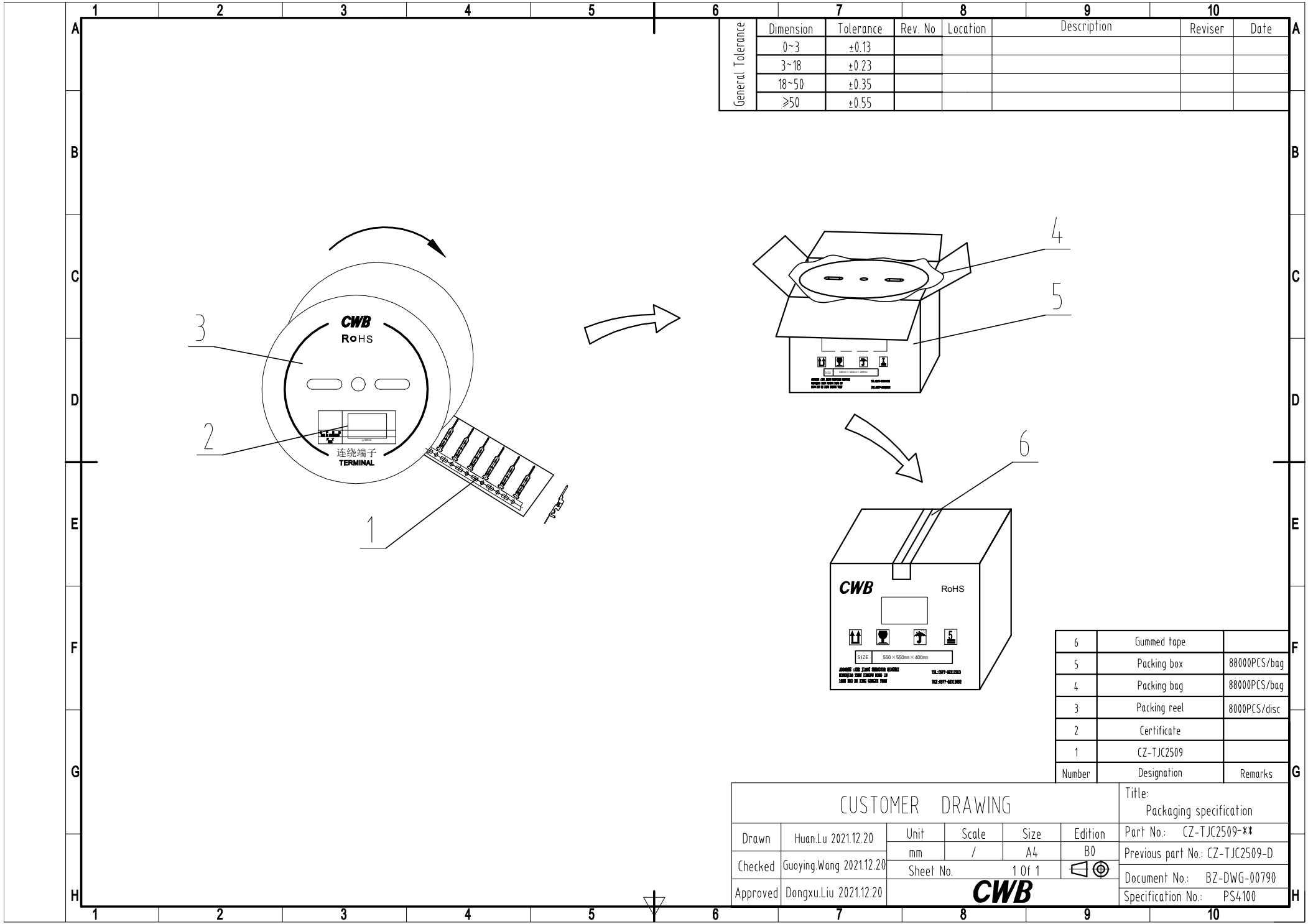








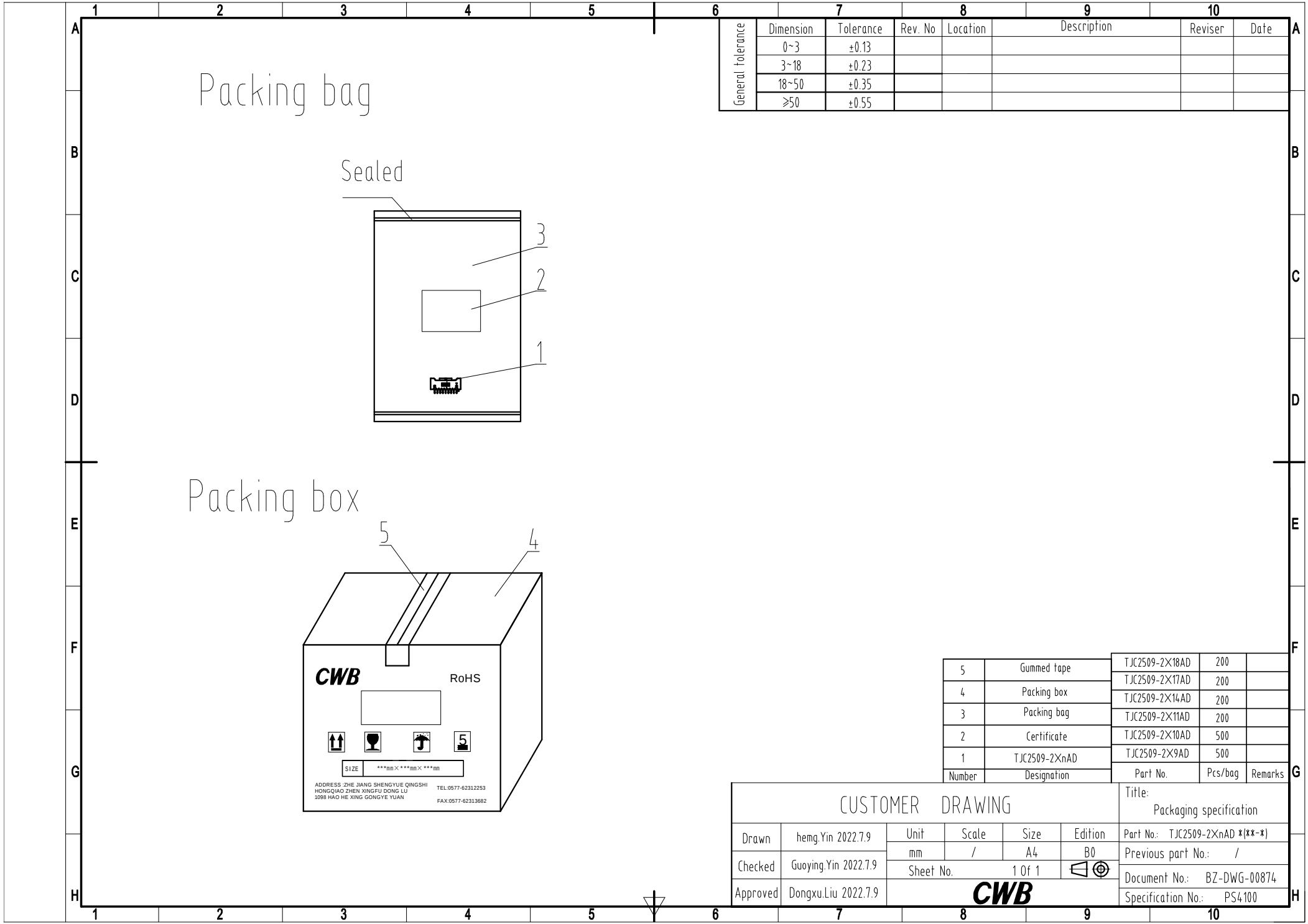




General Tolerance	Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
	0~3	±0.13					
	3~18	±0.23					
	18~50	±0.35					
	≥50	±0.55					

6	Gummed tape	
5	Packing box	88000PCS/bag
4	Packing bag	88000PCS/bag
3	Packing reel	8000PCS/disc
2	Certificate	
1	CZ-TJC2509	
Number	Designation	Remarks

CUSTOMER DRAWING						Title: Packaging specification	
Drawn	Huan.Lu 2021.12.20	Unit	Scale	Size	Edition	Part No.: CZ-TJC2509-**	
Checked	Guoying.Wang 2021.12.20	mm	/	A4	B0	Previous part No.: CZ-TJC2509-D	
		Sheet No.		1 Of 1		Document No.: BZ-DWG-00790	
Approved	Dongxu.Liu 2021.12.20	CWB				Specification No.: PS4100	

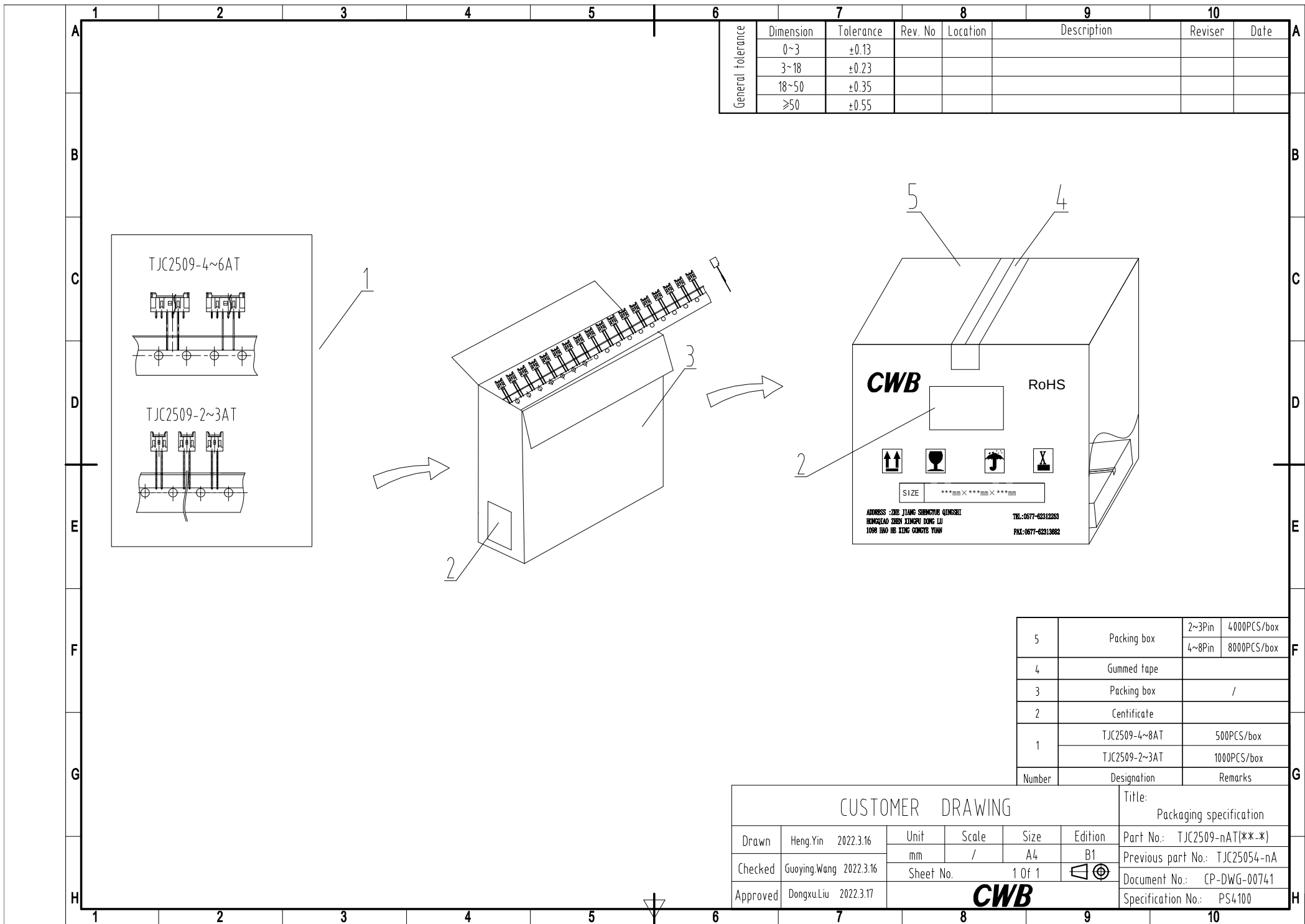


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A	Packing bag					General Tolerance	Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date	A
B							0~3	±0.13						
C							3~18	±0.23						
D							18~50	±0.35						
E	Packing box						≥50	±0.55						
F														
G														
H														

Sealed

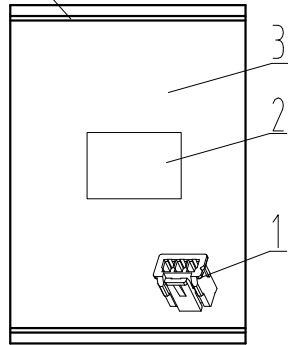
		TJC2509-12ARP	TJC2509-12AR-1	/	/	500	
		TJC2509-11ARP	TJC2509-11AR-1	/	/	500	
5	Gummed tape	TJC2509-10ARP	TJC2509-10AR-1	/	/	500	
		TJC2509-9ARP	TJC2509-9AR-1	TJC2509-12AR	/	500	
4	Packing box	TJC2509-8ARP	TJC2509-8AR-1	TJC2509-9AR	/	500	
		TJC2509-7ARP	TJC2509-7AR-1	TJC2509-8AR	/	500	
3	Packing bag	TJC2509-6ARP	TJC2509-6AR-1	TJC2509-6AR	/	500	
		TJC2509-5ARP	TJC2509-5AR-1	TJC2509-5AR	/	1000	
2	Certificate	TJC2509-4ARP	TJC2509-4AR-1	TJC2509-4AR	/	1000	
		TJC2509-3ARP	TJC2509-3AR-1	TJC2509-3AR	/	1000	
1	TJC2509 series plastic parts	TJC2509-2ARP	TJC2509-2AR-1	TJC2509-2AR	/	1000	
Number	Designation	Part No.	Previous part No.	Part No.	Previous part No.	Pcs/bag	Remarks

CUSTOMER DRAWING						Title: Packaging specification	
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Checked	Guoying.Wang 2021.12.20	mm	/	A4	B0	Previous part No.: /	
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Approved	Dongxu.Liu 2021.12.20	CWB				Specification No.: PS4100	

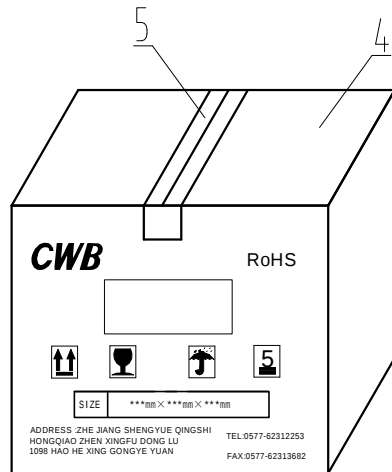


Packing bag

Sealed



Packing box



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					

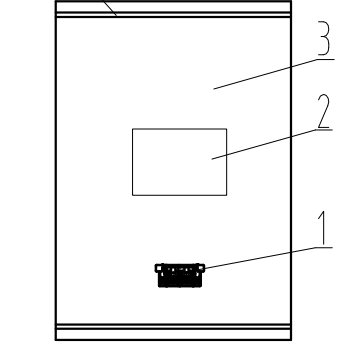
5	Gummed tape	TJC2509-12Y	1000		TJC2509B-16Y	500	
4	Packing box	TJC2509-10Y	1000		TJC2509B-15Y	500	
3	Packing bag	TJC2509-8Y	1000		TJC2509B-14Y	500	
2	Certificate	TJC2509-7Y	1000		TJC2509B-13Y	500	
1	TJC2509 series plastic parts	TJC2509-6Y	1000		TJC2509B-12Y	1000	
Number	Designation	TJC2509-5Y	1000		TJC2509B-11Y	1000	
		TJC2509-4Y	1000		TJC2509B-10Y	1000	
		TJC2509-3Y	1000		TJC2509B-9Y	1000	
		TJC2509-2Y	1000		TJC2509B-8Y	1000	
		Part No.	Pcs/bag	Remarks	Part No.	Pcs/bag	Remarks

CUSTOMER DRAWING							Title: Packaging specification	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.:	TJC2509 series housing
Checked	Guoying.Wang	2022.3.16	mm	/	A4	B1	Previous part No.:	/
Approved	Dongxu.Liu	2022.3.17	Sheet No.	1 Of 1			Document No.:	CP-DWG-00809
							Specification No.:	PS4100

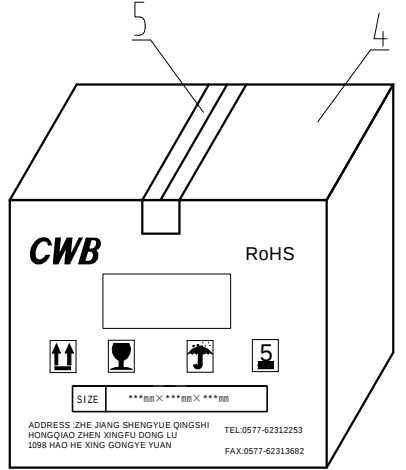
	1	2	3	4	5	6	7	8	9	10																																						
A						<table><tr><td rowspan="5">General Tolerance</td><td>Dimension</td><td>Tolerance</td><td>Rev. No</td><td>Location</td><td>Description</td><td>Reviser</td><td>Date</td></tr><tr><td>0~3</td><td>±0.13</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>3~18</td><td>±0.23</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>18~50</td><td>±0.35</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>≥50</td><td>±0.55</td><td></td><td></td><td></td><td></td><td></td></tr></table>						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						A
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B												B																																				
C												C																																				
D												D																																				
E												E																																				
F												F																																				
G												G																																				
H												H																																				

Packing bag

Sealed



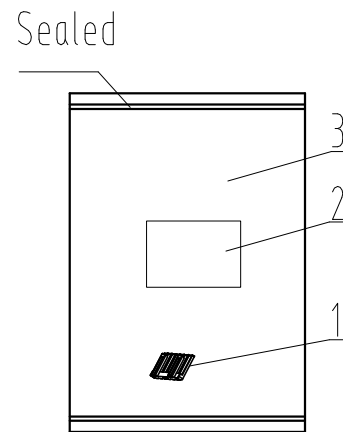
Packing box



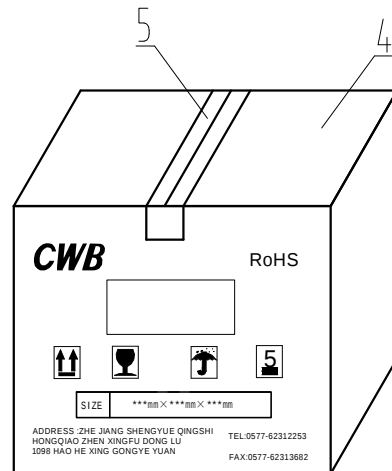
5	Gummed tape	TJC2509-2X18Y	200	
4	Packing box	TJC2509-2X17Y	200	
3	Packing bag	TJC2509-2X14Y	200	
2	Certificate	TJC2509-2X11Y	500	
1	TJC2509-2XnY	TJC2509-2X10Y	500	
Number	Designation	Part No.	Pcs/bag	Remarks

CUSTOMER DRAWING						Title: Packaging specification	
Drawn	hemg.Yin 2022.7.9	Unit	Scale	Size	Edition	Part No.: TJC2509-2XnY(**-*)	
Checked	Guoying.Yin 2022.7.9	mm	/	A4	B0	Previous part No.: /	
Approved	Dongxu.Liu 2022.7.9	Sheet No. 1 Of 1				Document No.: BZ-DWG-00873	
CWB						Specification No.: PS4100	

Packing bag



Packing box



		7		8		9		10		
6	General Tolerance	Dimension	Tolerance	Rev. No	Location	Description		Reviser	Date	A
		0~3	±0.13							
		3~18	±0.23							
		18~50	±0.35							
		≥50	±0.55							

TJC2509B-16S	TJC2509B-16YS	1000		E
TJC2509B-15S	TJC2509B-15YS	1000		
TJC2509B-14S	TJC2509B-14YS	1000		
TJC2509B-13S	TJC2509B-13YS	1000		
TJC2509B-12S	TJC2509B-12YS	1000		
TJC2509B-11S	TJC2509B-11YS	1000		
TJC2509B-10S	TJC2509B-10YS	1000		
TJC2509B-9S	TJC2509B-9YS	1000		
TJC2509B-8S	TJC2509B-8YS	1000		F
TJC2509B-7S	TJC2509B-7YS	1000		
TJC2509B-6S	TJC2509B-6YS	1000		
TJC2509B-5S	TJC2509B-5YS	1000		
TJC2509B-4S	TJC2509B-4YS	1000		G
TJC2509B-3S	TJC2509B-3YS	1000		
TJC2509B-2S	TJC2509B-2YS	1000		
Part No.	Previous part No.	Pcs/bag	Remarks	

5	Gummed tape
4	Packing box
3	Packing bag
2	Certificate
1	TJC2509 series plastic parts
Number	Designation

CUSTOMER DRAWING						Title: Packaging specification
Drawn	Huan.Lu 2021.8.26	Unit	Scale	Size	Edition	Part No.: TJC2509-nS *(***)
Checked	Qu.Wang 2021.8.26	mm	/	A4	B0	Previous part No.:TJC2509-nYS
Approved	Dongxu.Liu 2021.8.26	Sheet No.	1 Of 1			Document No.: BZ-DWG-00647
CWB						Specification No.: PS4100

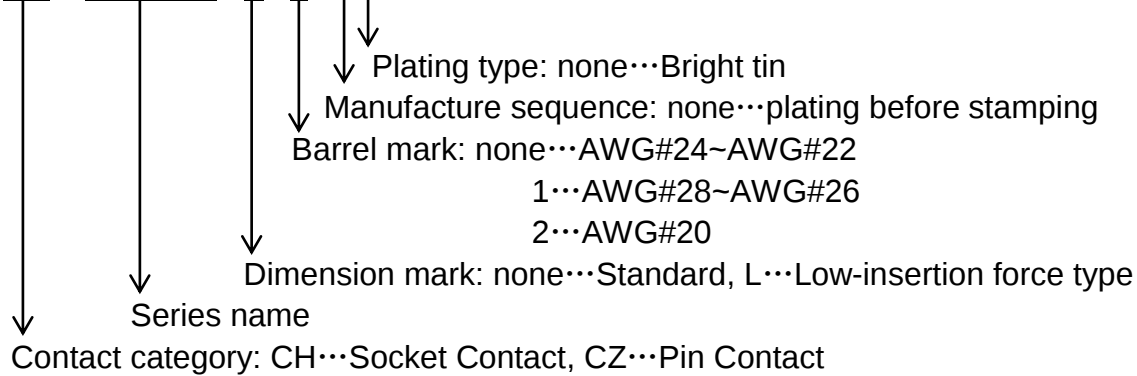
TJC2509 系列命名规则

TJC2509 series naming conventions

1. Contact

CH-TJC2509-*** *, CZ-TJC2509-*** *, CH-TJC2509-L-*** *

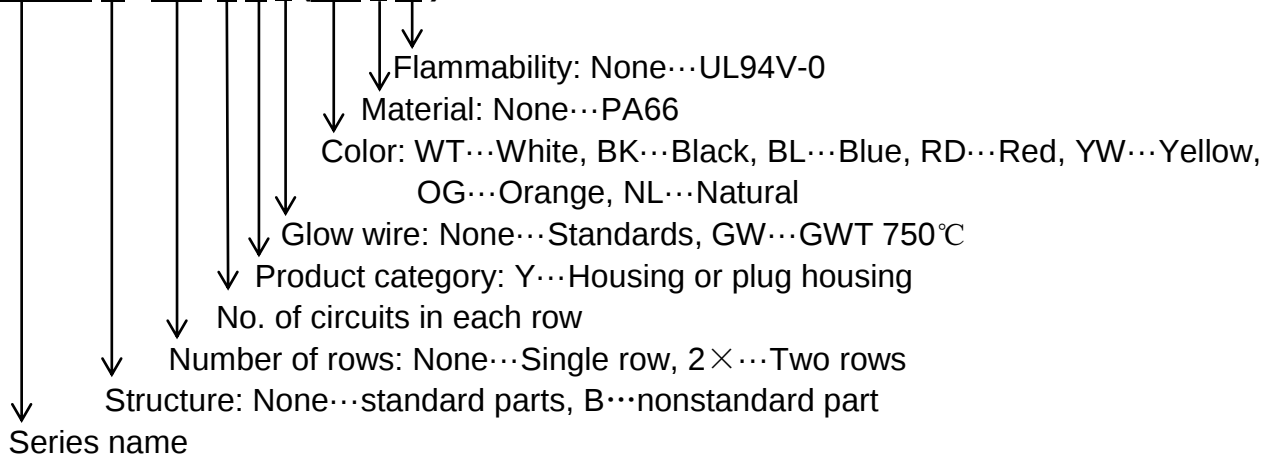
CH - TJC2509 - L - 1 - ***



2. Housing

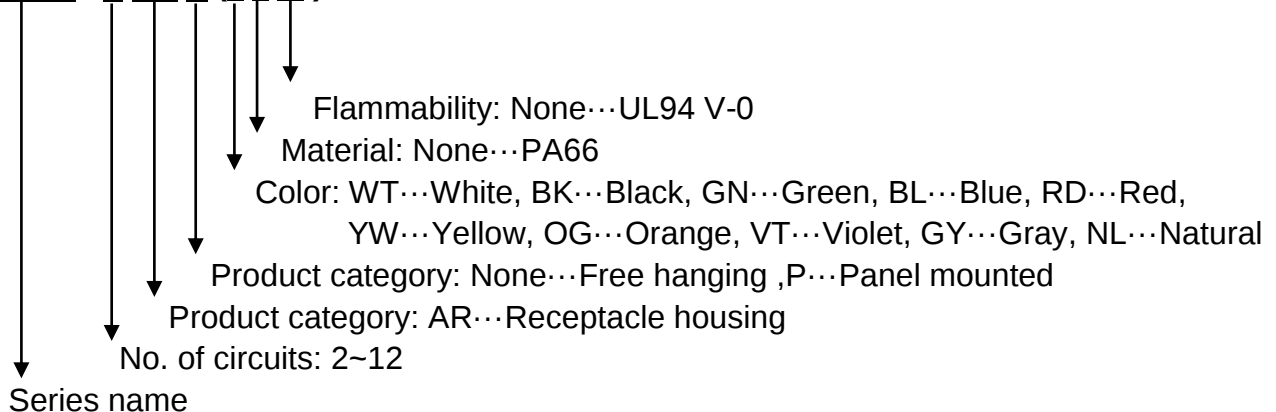
TJC2509(B) -nY *(***) , TJC2509-2×nY(***)

TJC2509 B - 2× n Y * (WT * -*)



3. TJC2509-nARP (***)

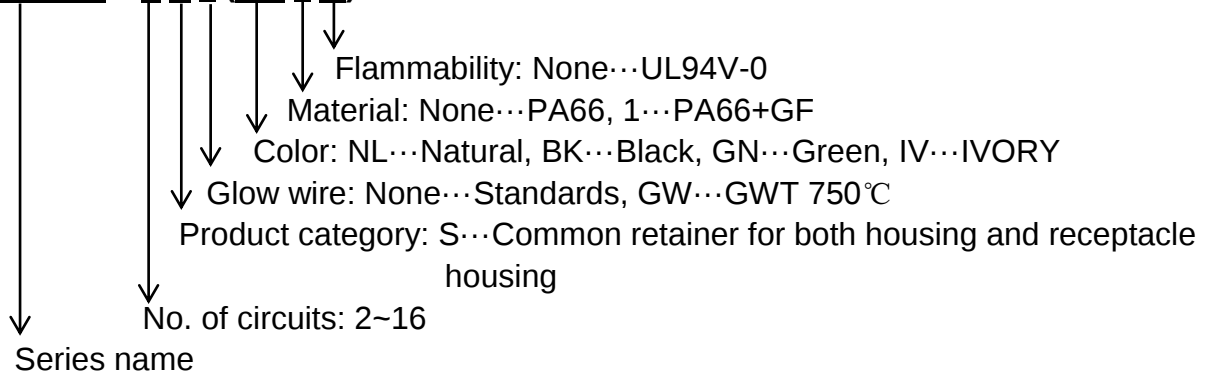
TJC2509 - n AR P (* * -*)



4. Retainer

TJC2509B -nS (**-*)

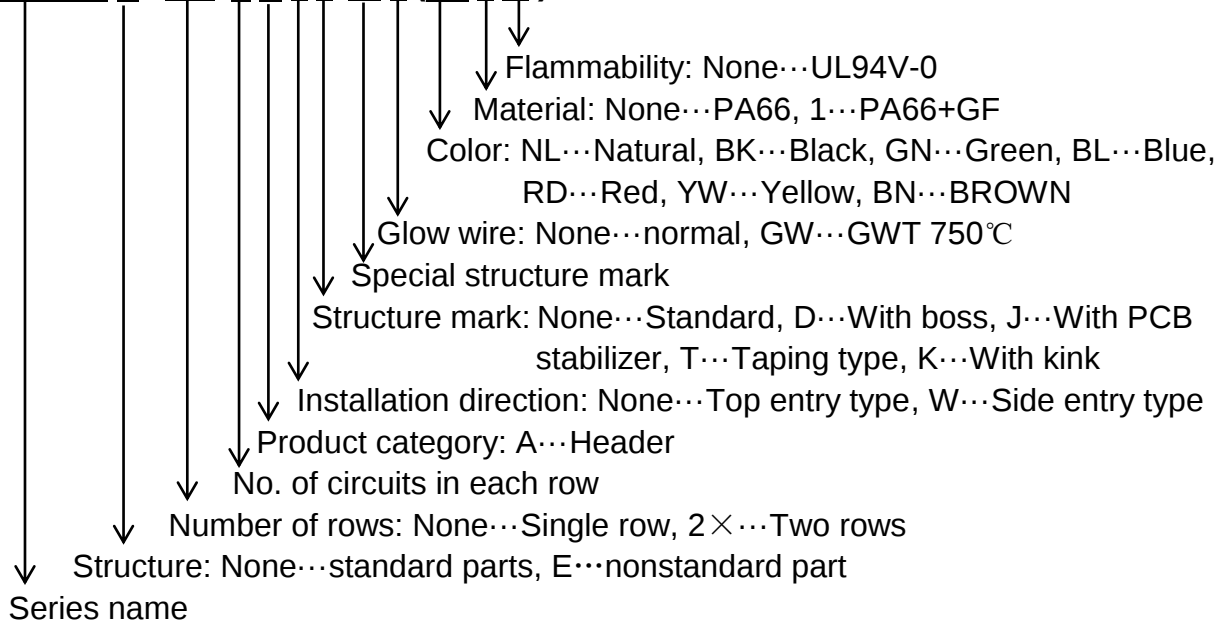
TJC2509B - n S * (WT * -*)



5. DIP Header

TJC2509-nAK (**-*), TJC2509-nAWJ (**-*), TJC2509-nAWJDK (**-*), TJC2509-nADK (**-*), TJC2509-nAT (**-*), TJC2509E-5AWJDK

TJC2509 E -2× n A * * -1 * (NL * -*)



6. Assembly which missing circuits

TJC2509-nAKmZ(a.b...) * (**-*), TJC2509-nADKmZ(a.b...) * (**-*),
TJC2509-nAWJKmZ(a.b...) * (**-*), TJC2509-nAWJDKmZ(a.b...) * (**-*),
TJC2509-nATmZ(a.b...) * (**-*)

$$\dots \underline{n} \underline{A} \dots \underline{mZ} (\underline{a.b\dots}) \dots$$

Missing circuit number: "a.b..." ...The positive integer represents the position of the missing circuits

No. of actual circuits: mZ ("m" is positive integer)

↓ Product category: A...Header

No. of circuits: ADK...2~16, AK...2~15, others...2~4

Part No.	Circuit No.														
	○:with post; ×:without post														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
...13A ... 7Z(2.3.5.7.9.11)...	○	×	×	○	×	○	×	○	×	○	×	○	○		
...4A ... 3Z(2)...	○	×	○	○											
*****	*****														