

标题: ZH 系列连接器

Title: ZH 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

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	审核 Check: <u>王国英 2022. 7. 20</u>	编号 Document No.: <u>PS4121</u>
	批准 Approval: <u>刘冬旭 2022. 7. 20</u>	版本 Revision: <u>V3</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	/	First release	周奕宏 2021/09/17
V1	/	Update specifications and part no according to new naming specifications	尹恒 2022/03/10
V2	/	新增 ZH-nABX 系列产品 Added ZH-nABX products	尹恒 2022/05/27
V3	/	更改 ZH-nAWBJ 列产品规格型号、更新导线线号名称 Updated the specifications and models of the ZH-nAWBJ column, and updated the name of the cable line number	尹恒 2022/07/20

产品名称 Product name:	ZH 系列连接器	编号 Document No.	PS4121	版本号 Version No.	V3
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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 1.5 阴型 & 阳型电子连接器，产品名称：ZH 系列连接器。

This product specification covers the requirement for Wire to Board 1.5mm pitch Receptacle & Plug connector, which are designed and manufactured by CWB Electronics(ZheJiang) Co.,LTD. P/N: ZH Connector..

3. 产品描述 Product description

ZH 系列产品为家电连接器产品，产品部件组成如下：

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

Part name	Part No.	Previous part No.	Description
插簧 Contact	CH-ZH-**	CH-ZH	AWG#28~AWG#26
孔座 Housing	ZH-nY(**-*)	ZH-nY	PA66 UL94 V-0, PA66+GF V-2
阳连接器（立式，直插） Header (V, DIP)	ZH-nA(**-*)	ZH-nA	Wafer: PA66+GF UL94V-0, PA66 UL94V-0, PA66+GF V-2 Post: Brass, tin plated
阳连接器（卧式，直插） Header (H, DIP)	ZH-nAW(**-*)	ZH-nAW	Wafer: PA66+GF UL94V-0, PA66 UL94V-0, PA66+GF V-2 Post: Brass, tin plated
阳连接器（卧式，直插） Header (H, DIP)	ZH-nAW1.5(**-*)	ZH-nAW-1.5	Wafer: PA66+GF UL94V-0, PA66 UL94V-0, PA66+GF V-2 Post: Brass, tin plated
阳连接器（卧式，直插，带挡板） Header (H, DIP, W/PCB stabilizer)	ZH-nAWJ(**-*)	ZH-nAWJ	Wafer: PA66+GF UL94V-0, PA66 UL94V-0, PA66+GF V-2 Post: Brass, tin plated
阳连接器（卧式，直插，带挡板） Header (H, DIP, W/PCB stabilizer)	ZH-nAWJ1.5(**-*)	ZH-nAWJ-1.5	Wafer: PA66+GF UL94V-0, PA66 UL94V-0, PA66+GF V-2 Post: Brass, tin plated
阳连接器（卧式，直插，带挡板） Header (H, DIP, W/PCB stabilizer)	ZH-nAWJ2.1(**-*)	ZH-nAWJ-2.1	Wafer: PA66+GF UL94V-0, PA66 UL94V-0, PA66+GF V-2 Post: Brass, tin plated
阳连接器（卧式，表面装贴） Header (H, SMT)	ZH-nAWBJ(**-*)	ZH-nAWB	Wafer: PA9T+GF UL94V-0 Post: Brass, tin plated
阳连接器（立式，表面装贴） Header (V, SMT)	ZH-nABX(**-*)	ZH-nAB	Wafer: PA9T+GF UL94V-0 Post: Brass, tin plated

产品名称 Product name:	ZH 系列连接器	编号 Document No.	PS4121	版本号 Version No.	V3
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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
IPC EIA IPC JEDEC J STD 002E	连接器 / 插座终端可焊性测试方法 Solderabilith Tests for Component Leads, Terminations, Lugs, Terminals and Wires

产品符合 RoHS 标准。

The product should comply with RoHS.

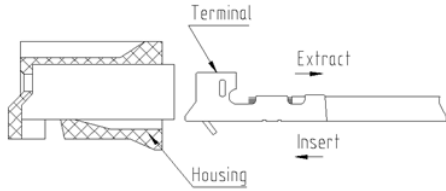

5.参数范围 Parameter ratings:

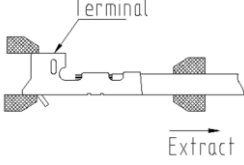
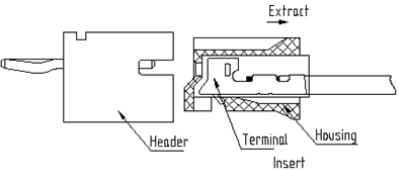
额定电流 [AC(有效值)/DC] Rated current [AC(rms)/DC]	1A Max.(AWG#26)
适用 PCB 板 Applicable PCB	Board thickness: 0.8mm~1.6mm Hole diameter: ϕ 0.6mm~ ϕ 0.7mm
额定电压[AC(有效值)/DC] Rated voltage [AC(rms)/DC]	250V
使用温度范围（包含温升） Operating temperature range (include temperature rise)	-25°C~+85°C
适用线型（具体适用线型请参考压接规格书） Applicable wires(Please refer to the crimping specification for details)	Wire size: AWG#28~AWG#26 (0.08mm \approx 0.13 mm \approx) Insulation diameter: ϕ 0.90mm- ϕ 1.08mm

产品名称 Product name:	ZH 系列连接器	编号 Document No.	PS4121	版本号 Version No.	V3
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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	端子的插入力与固定力 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.)	
			8N	10N	
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 (最大值) Insertion force (Max.)	拔出力 (最小值) 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。 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	10N Min		
					
					
产品名称 Product name:	ZH 系列连接器	编号 Document No.	PS4121	版本号 Version No.	V3

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: 10N Min AWG#26: 20N Min.			
6.1.6	成品插入力与拔出力 Insertion force and withdrawal force	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50次拔出力，测试速度不大于25 mm/min。 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 50th shall be measured. (Testing speed: <25 mm/min.) GB/T 5095.7 Method 13b / EIA-364-13B 	No. of Poles	插入力(最大值) Insertion (Max.) 初次 1st.	拔出力 (最小值) Withdrawal (Min.) 初次 1st. 第五十次 50th.	
			2P	10N	3N	2N
			3P	20 N	5N	4N
			4P	30 N	5N	4N
			5P	35 N	7N	5N
			6P	40 N	7N	5N
			7P	45 N	9N	7N
			8P	50 N	9N	7N
			9P	55 N	11N	9N
			10P	60 N	13N	11N
			11P	65 N	13N	11N
			12P	70 N	15N	13N
			13P	75 N	15N	13N
			14P	80 N	17N	15N
			15P	85 N	17N	15N
6.1.7	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			
6.1.8	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			



产品规格书

PRODUCT SPECIFICATION

6.1.9	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.
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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	接触电阻: 20mΩ Max. Contact resistance: 20mΩ Max.
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 500V AC (有效值), 漏电流 1mA 的电压作用, 时间 1min. Apply a voltage of 500V 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
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℃ 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)℃ 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: 500V Min. Withstand voltage: 500V Min.

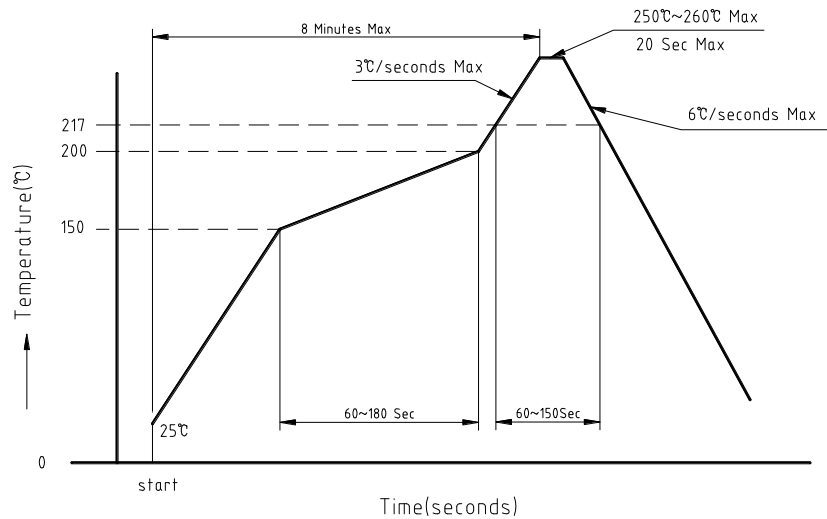
产品名称 Product name:	ZH 系列连接器	编号 Document No.	PS4121	版本号 Version No.	V3
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6.3.2	耐低温 Cold resistance	连接器配合后, 于 $(-40\pm 2)^{\circ}\text{C}$ 的空气中放置 96 小时, 再回到室温中放置 (1~2) 小时测定 Mated connectors exposed to the condition of $(-40\pm 2)^{\circ}\text{C}$ for 96 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: 20mΩ Max. Contact resistance: 20mΩ Max. 绝缘电阻: 500 MΩ Min. Insulation resistance:500 MΩ Min. 耐电压: 500V Min. Withstand voltage: 500V Min.										
6.3.3	恒定湿热 Humidity	温度 $(40\pm 2)^{\circ}\text{C}$ 相对湿度 $(90\sim 95)\%$ 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 $(40\pm 2)^{\circ}\text{C}$, humidity $(90\sim 95)\%$ 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: 500V Min. Withstand voltage: 500V 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 $(-55\pm 2)^{\circ}\text{C}$ 的恒温条件下放置 0.5 小时; b) 在 $(85\pm 20)^{\circ}\text{C}$ 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 border="1" style="margin-left: 20px;"> <thead> <tr> <th>Temperature $^{\circ}\text{C}$</th> <th>Duration</th> </tr> </thead> <tbody> <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> </tbody> </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 $^{\circ}\text{C}$	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: 500V Min. Withstand voltage: 500V Min.
Temperature $^{\circ}\text{C}$	Duration												
1 -55±2	0.5h												
2 Room Temp.	5 minutes Max.												
3 +85±2	0.5h												
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 $(5\pm 1)\%$ (质量百分比)的氯化钠溶液, 在 $(35\pm 2)^{\circ}\text{C}$ 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 $(35\pm 2)^{\circ}\text{C}$, NaCl mist concentration $(5\pm 1)\%$. 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 $(40\pm 2)^{\circ}\text{C}$ 、湿度 $(80\pm 0.5)\%$ 、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 $(40\pm 2)^{\circ}\text{C}$, humidity 75%, H ₂ S gas concentration of 3ppm for 96 hours	接触电阻: 20mΩ Max. Contact resistance: 20mΩ Max.										

产品名称 Product name:	ZH 系列连接器	编号 Document No.	PS4121	版本号 Version No.	V3
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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 Dip solder tails into the molten solder held at (245±5) °C for (4~5) seconds 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	<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)秒后, 在正常条件下恢复(1~2)小时 Resistance to wave soldering heat: Dip solder tails into the molten solder held at (260±5) °C for (5 ±1) seconds, recovery time (1~2) hours</p> <p>手工焊接: 温度(350±10)℃, 时间(1~2) seconds Manual soldering: (350±10)°C for (1~2) seconds</p> <p>回流焊形式(适合 ZH-nAWB/ZH-nAB 等 SMT 类产品): 按下图的条件测试耐焊接热 Reflow type: The specimen shall be tested resistance, to soldering heat in the following conditions.</p>	外观: 无损伤(参照6.1.1) Appearance: no damage.(refer to 6.1.1)

Recommended IR Reflow Temperature Profile:
1 Using Lead-Free Solder Paste



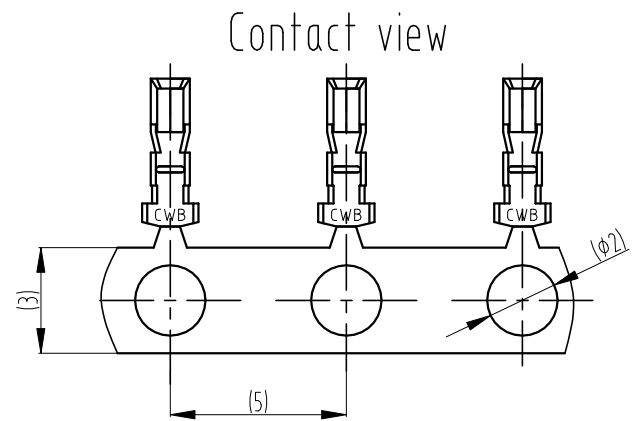
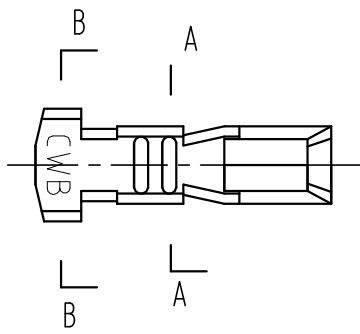
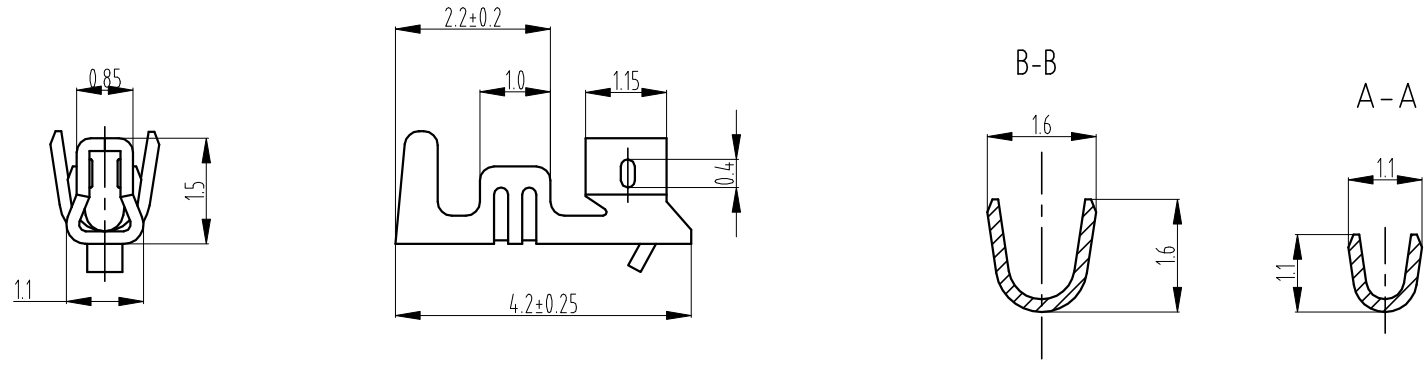
回流焊曲线图

产品名称 Product name:	ZH 系列连接器	编号 Document No.	PS4121	版本号 Version No.	V3
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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	O	P	Q
外观 Appearance	1	1	1	1	1,5	1,5	1,7	1	1,7	1,5	1,7	1,7	1,5	1,3	1,5	1,3	1,3
端子的插入力与固定力 Insertion force and retention force for contact	2																
针的固定力 Post retention force		2															
压着部位抗张强度 Crimp tensile strength			2														
成品插入力与拔出力 Insertion force and withdrawal force				2													
机械振动 Vibration					3												
机械冲击 Shock						3											
机械寿命 Durability							5										
接触电阻 Contact resistance					2,4	2,4	2,6		2,6	2,4	2,4	2,4	2,4		2,4		
绝缘电阻 Insulation resistance							3		4		5	5					
耐电压 Withstand voltage							4		5		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)(NH3)														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

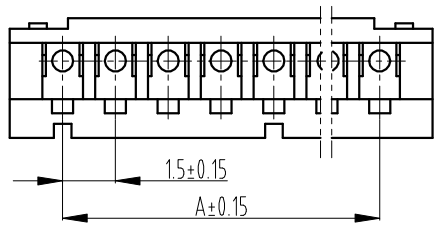
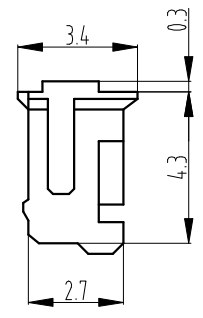
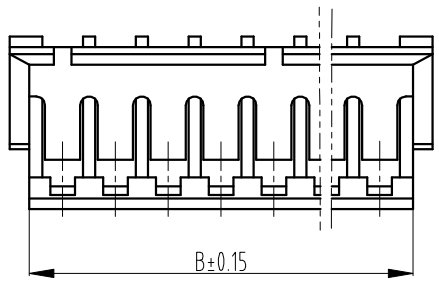
General Tolerance	Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
	0~3	±0.13					
	3~18	±0.23					
	18~50	±0.35					
	≥50	±0.55					



- Notes:
- 1.Material: Phosphor bronze, thickness: 0.18mm
 - 2.Surface finish: tin plated
 - 3.Matched housing: ZH-nY
 - 4.Applicable wires: AWG#28~AWG#26
 - 5.Compliant to the current RoHS

CUSTOMER DRAWING							Title: 1.5mm pitch WTB contact	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: CH-ZH-**	
Checked	Guoying.Wang	2022.3.16	mm	10:1	A4	B0	Previous part No.: CH-ZH	
Approved	Dongxu.Liu	2022.3.17	Sheet No. 1 Of 1		CWB		Document No.: CP-DWG-01270	
							Specification No.: PS4121	

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						

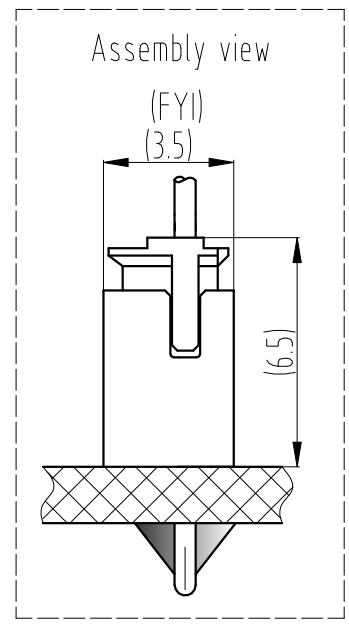
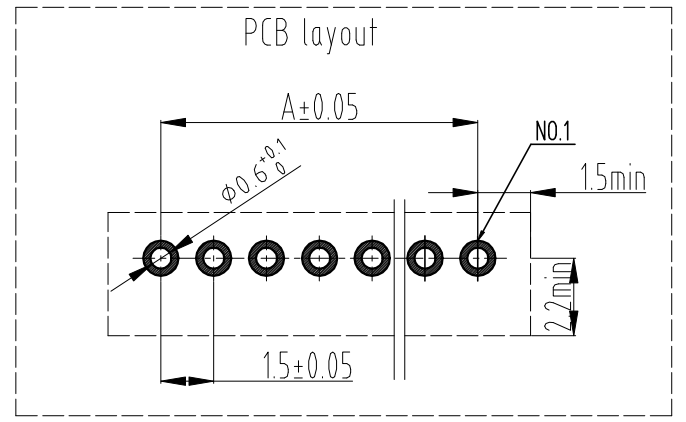
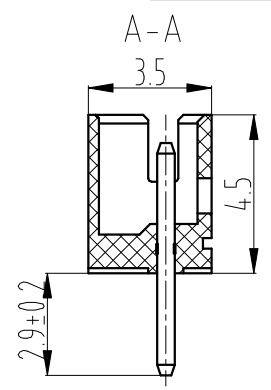
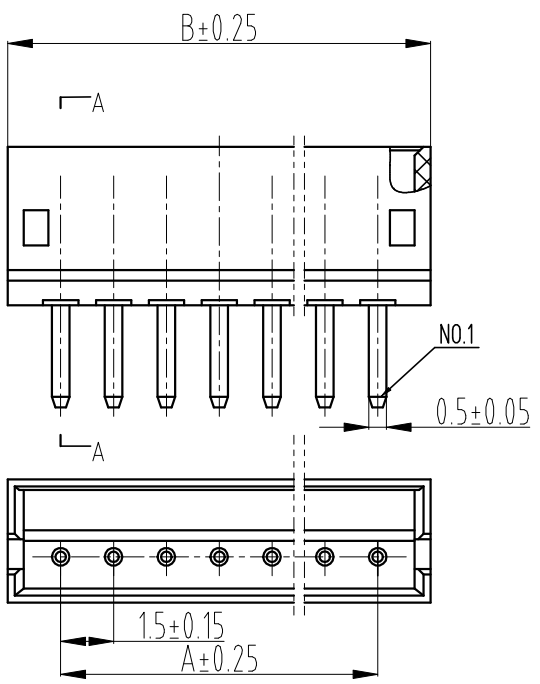


15	ZH-15Y	21	22.9
14	ZH-14Y	19.5	21.4
13	ZH-13Y	18	19.9
12	ZH-12Y	16.5	18.4
11	ZH-11Y	15	16.9
10	ZH-10Y	13.5	15.4
9	ZH-9Y	12	13.9
8	ZH-8Y	10.5	12.4
7	ZH-7Y	9.0	10.9
6	ZH-6Y	7.5	9.4
5	ZH-5Y	6.0	7.9
4	ZH-4Y	4.5	6.4
3	ZH-3Y	3.0	4.9
2	ZH-2Y	1.5	3.4
Ckts	Part No.	A	B
		Dimensions	

- Notes:
1. Material:
Wafer: PA66 UL94V-0, PA66+GF V-2
 2. Matched header: ZH series header
 3. Matched contact: CH-ZH
 4. Packaging: Packing bag
 5. Compliant to the current RoHS

CUSTOMER DRAWING						Title: 15mm pitch WTB housing	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: ZH-nY(**-*)
Checked	Guoying.Wang	2022.3.16	mm	5:1	A4	B0	Previous part No.: /
Approved	Dongxu.Liu	2022.3.17	Sheet No.	1 Of 1			Document No.: CP-DWG-01271
CWB						Specification No.: PS4121	

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					

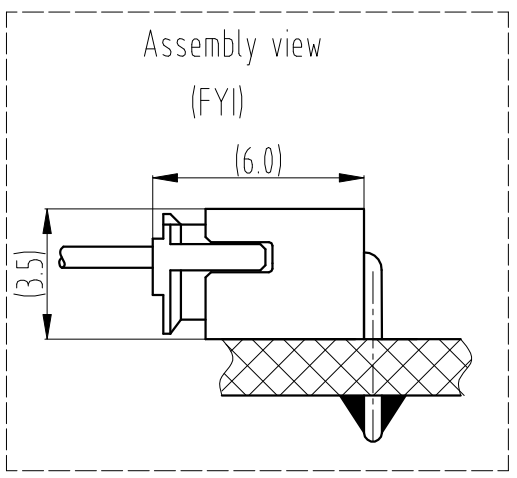
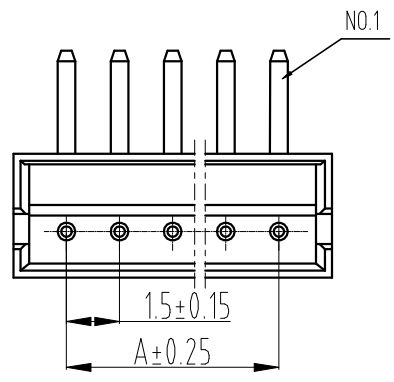
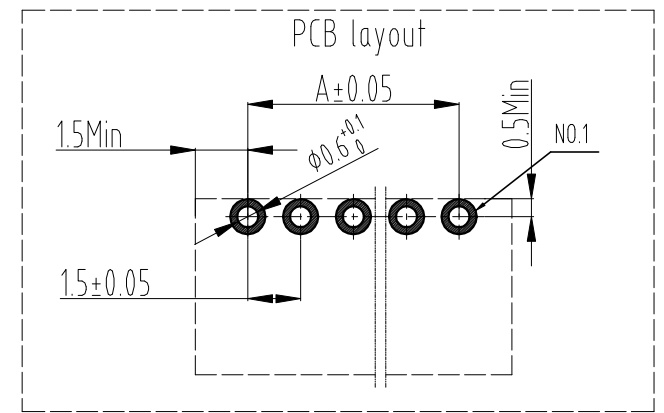
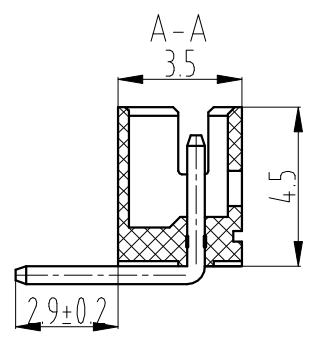
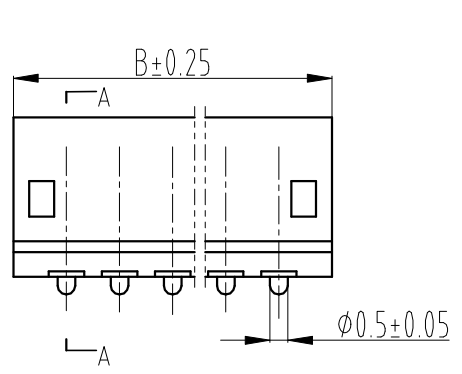


15	ZH-15A	21	24
14	ZH-14A	19.5	22.5
13	ZH-13A	18	21
12	ZH-12A	16.5	19.5
11	ZH-11A	15	18
10	ZH-10A	13.5	16.5
9	ZH-9A	12	15
8	ZH-8A	10.5	13.5
7	ZH-7A	9	12
6	ZH-6A	7.5	10.5
5	ZH-5A	6	9
4	ZH-4A	4.5	7.5
3	ZH-3A	3	6
2	ZH-2A	1.5	4.5
Ckts	Part NO.	A	B
		Dimensions	

Notes:
 1.Material:
 Wafer: PA66+GF UL94V-0, PA66 UL94V-0,
 PA66+GF V-2
 Post: Brass, tin plated
 2.Matched housing: ZH-nY
 3.Packaging: Packing bag
 4.Compliant to the current RoHS

CUSTOMER DRAWING						Title: 15mm pitch WTB header	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: ZH-nA(**-*)
Checked	Guoying.Wang	2022.3.16	mm	5:1	A4	B0	Previous part No.: /
Approved	Dongxu.Liu	2022.3.17	Sheet No.	1 of 1			Document No.: CP-DWG-01272
							Specification No.: PS4121

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



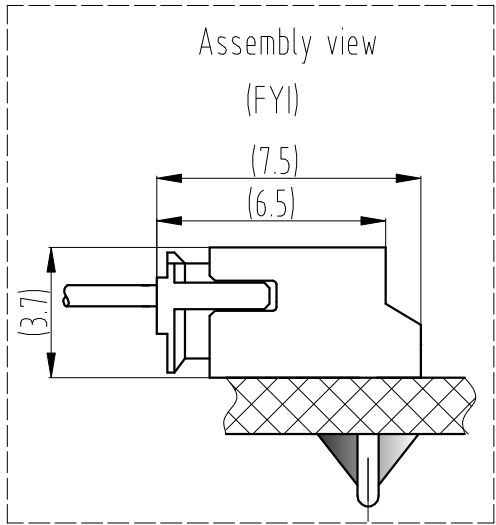
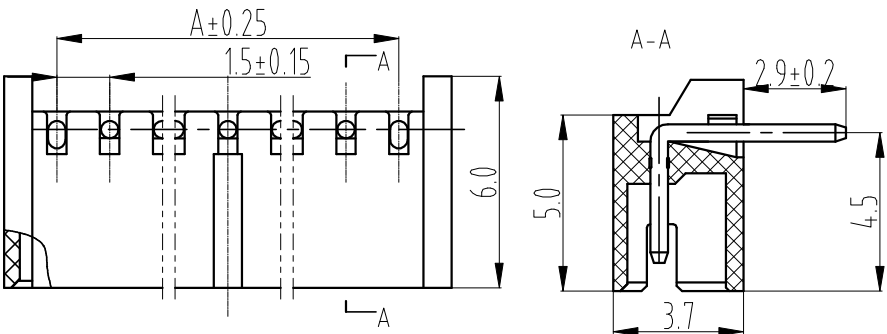
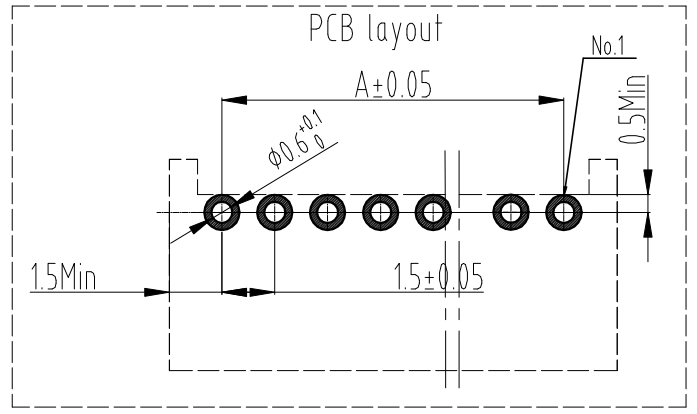
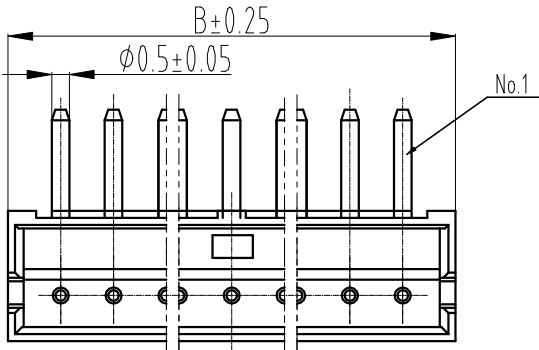
15	ZH-15AW	21	24
14	ZH-14AW	19.5	22.5
13	ZH-13AW	18	21
12	ZH-12AW	16.5	19.5
11	ZH-11AW	15	18
10	ZH-10AW	13.5	16.5
9	ZH-9AW	12	15
8	ZH-8AW	10.5	13.5
7	ZH-7AW	9	12
6	ZH-6AW	7.5	10.5
5	ZH-5AW	6	9
4	ZH-4AW	4.5	7.5
3	ZH-3AW	3	6
2	ZH-2AW	1.5	4.5
Ckts	Part NO.	A	B
		Dimensions	

Notes:

- Material:
Wafer: PA66+GF UL94V-0, PA66 UL94V-0,
PA66+GF V-2
Post: Brass, tin plated
- Matched housing: ZH-nY
- Packaging: Packing bag
- Compliant to the current RoHS

CUSTOMER DRAWING						Title: 15mm pitch WTB header	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: ZH-nAW(**-*)
Checked	Guoying.Wang	2022.3.16	mm	5:1	A4	B0	Previous part No.: /
Approved	Dongxu.Liu	2022.3.17	Sheet No.	1 of 1			Document No.: CP-DWG-01273
							Specification No.: PS4121

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					



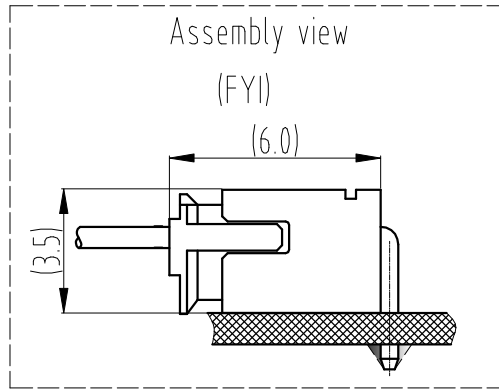
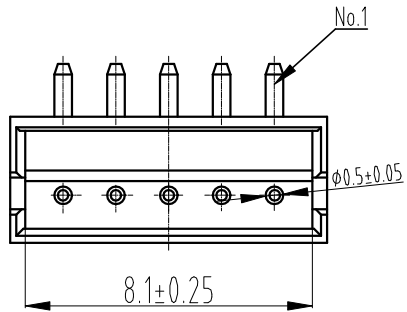
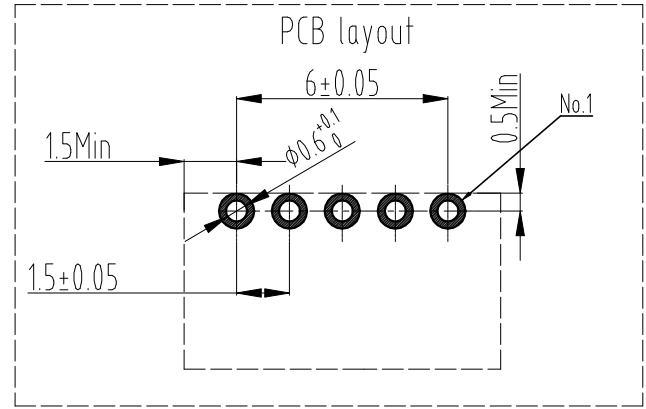
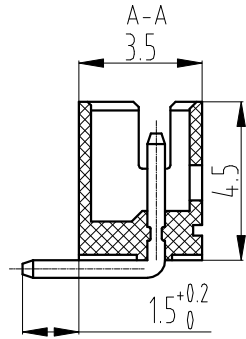
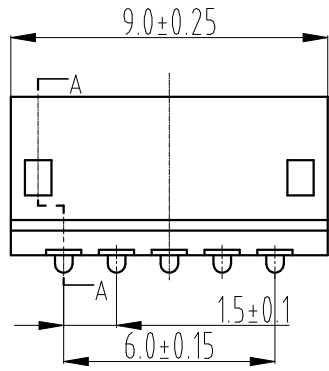
12	ZH-12AWJ	16.5	19.5
11	ZH-11AWJ	15	18
10	ZH-10AWJ	13.5	16.5
9	ZH-9AWJ	12	15
8	ZH-8AWJ	10.5	13.5
7	ZH-7AWJ	9	12
6	ZH-6AWJ	7.5	10.5
5	ZH-5AWJ	6	9
4	ZH-4AWJ	4.5	7.5
3	ZH-3AWJ	3	6
2	ZH-2AWJ	1.5	4.5
Ckts	Part NO.	A	B
		Dimensions	

Notes:

- Material:
Wafer: PA66+GF UL94V-0, PA66 UL94V-0,
PA66+GF V-2
Post: Brass, tin plated
- Matched housing: ZH-nY
- Packaging: Packing bag
- Compliant to the current RoHS

CUSTOMER DRAWING							Title: 1.5mm pitch WTB header	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: ZH-nAWJ(**-x)	
Checked	Guoying.Wang	2022.3.16	mm	5:1	A4	B0	Previous part No.: /	
Approved	Dongxu.Liu	2022.3.17	Sheet No.	1 of 1			Document No.: CP-DWG-01274	
CWB							Specification No.: PS4121	

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					



Notes:

1.Material:

Wafer: PA66+GF UL94V-0, PA66 UL94V-0,
PA66+GF V-2

Post: Brass, tin plated

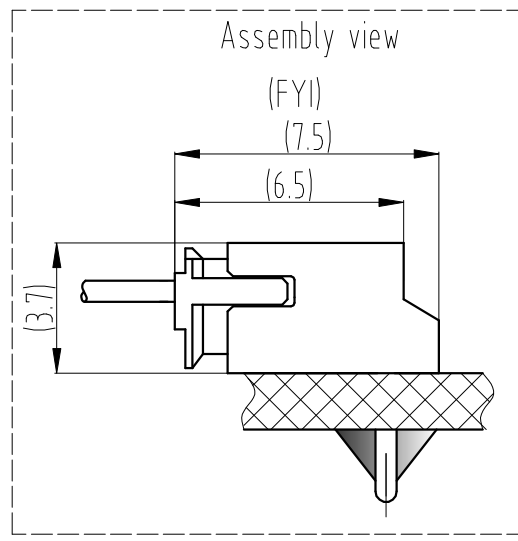
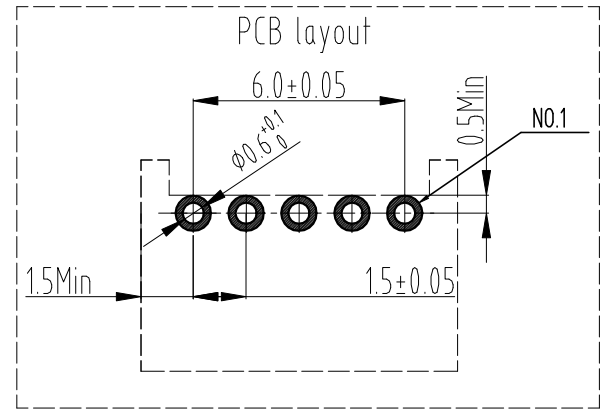
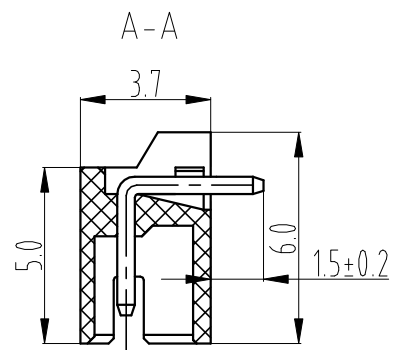
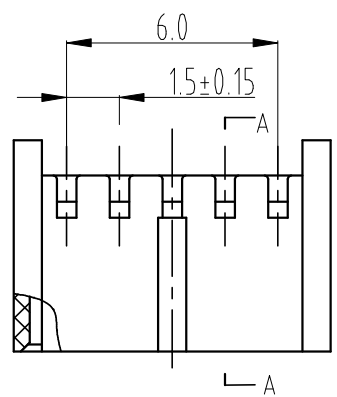
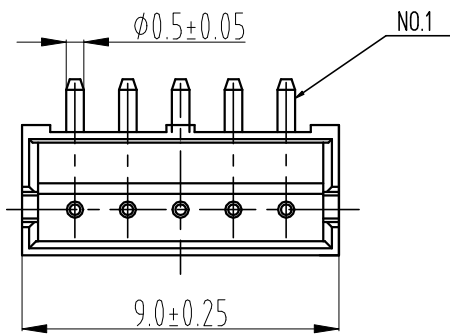
2.Matched housing: ZH-5Y

3.Packaging: Packing bag

4.Compliant to the current RoHS

CUSTOMER DRAWING						Title:	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	15mm Pitch WTB Hander
Checked	Guoying.Wang	2022.3.16	mm	5:1	A4	B0	Part No.: ZH-5AW15(**-*)
			Sheet No.	1 of 1			Previous part No.: ZH-5AW-15
Approved	Dongxu.Liu	2022.3.17	CWB				Document No.: CP-DWG-01275
							Specification No.: PS4121

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					

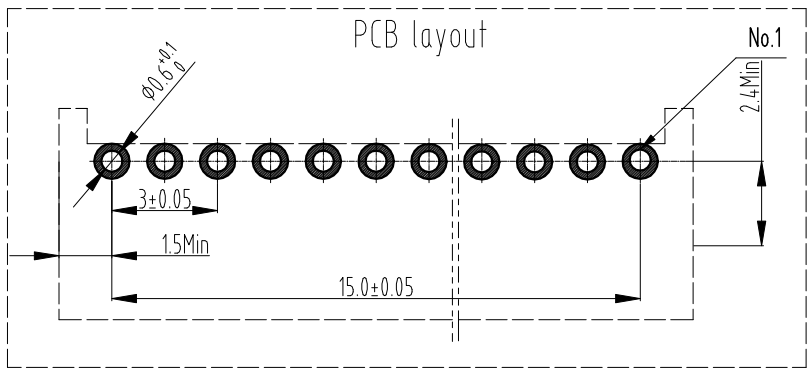
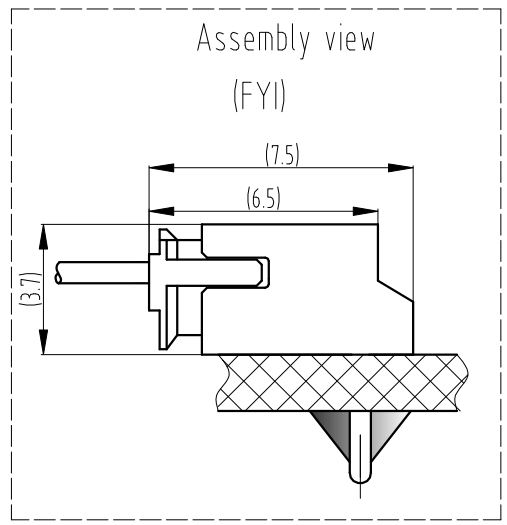
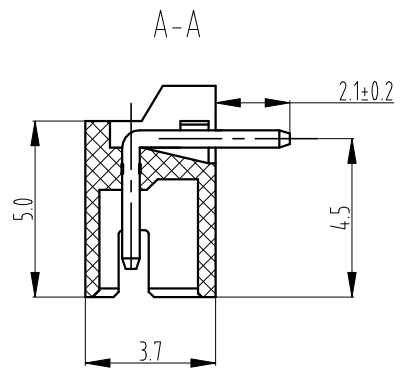
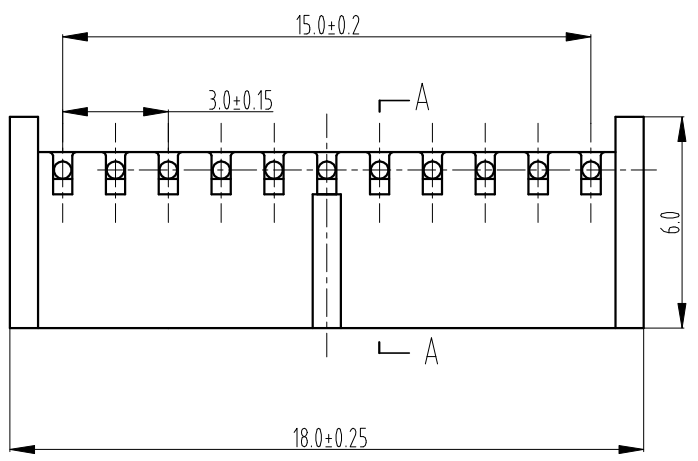
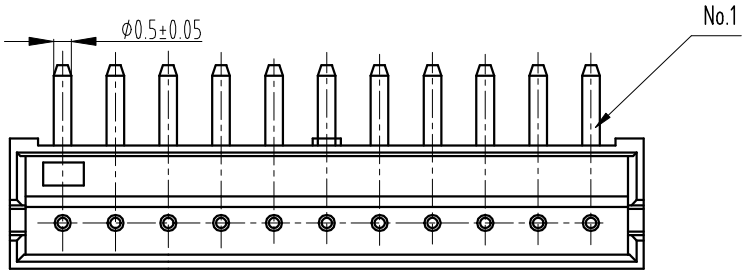


Notes:

- 1.Material:
Wafer: PA66+GF UL94V-0, PA66 UL94V-0,
PA66+GF V-2
Post: Brass, tin plated
- 2.Matched housing: ZH-5Y
- 3.Packaging: Packing bag
- 4.Compliant to the current RoHS

CUSTOMER DRAWING						Title: 1.5mm pitch WTB header	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: ZH-5AWJ1.5(**-*)
Checked	Guoying.Wang	2022.3.16	mm	5:1	A4	B0	Previous part No.: ZH-5AWJ-1.5
			Sheet No.	1 of 1			Document No.: CP-DWG-01276
Approved	Dongxu.Liu	2022.3.17	CWB				Specification No.: PS4121

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						

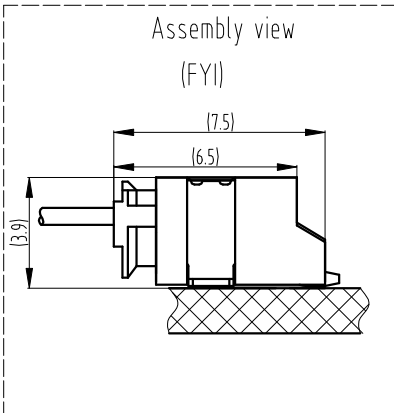
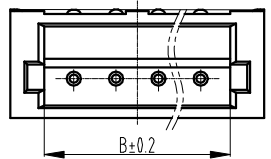
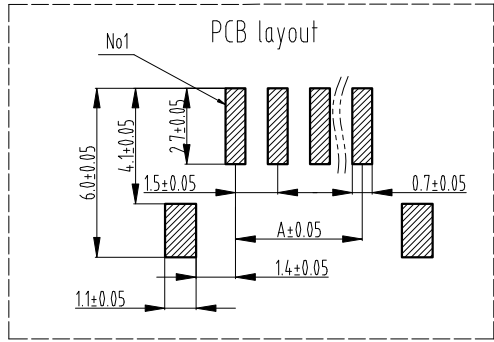
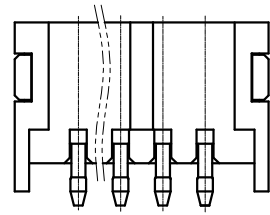
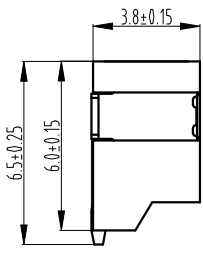
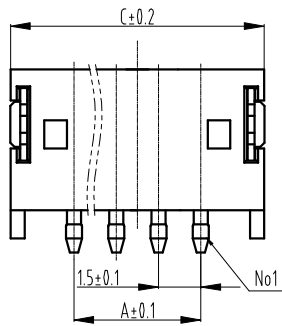


Notes:

- 1.Material:
Wafer: PA66+GF UL94V-0, PA66 UL94V-0,
PA66+GF V-2
Post: Brass, tin plated
- 2.Matched housing: ZH-11Y
- 3.Packaging: Packing bag
- 4.Compliant to the current RoHS

CUSTOMER DRAWING						Title: 15mm pitch WTB header	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: ZH-11AWJ2.1(*-*-*)
Checked	Guoying.Wang	2022.3.16	mm	5:1	A4	B0	Previous part No.: ZH-11AWJ-2.1
Approved	Dongxu.Liu	2022.3.17	Sheet No.	1 of 1			Document No.: CP-DWG-01277
CWB						Specification No.: PS4121	

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					

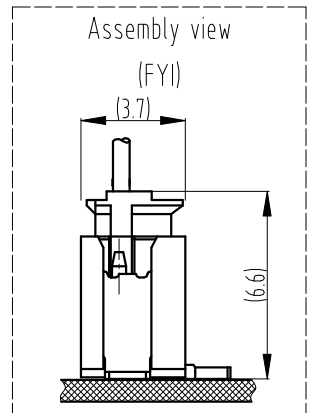
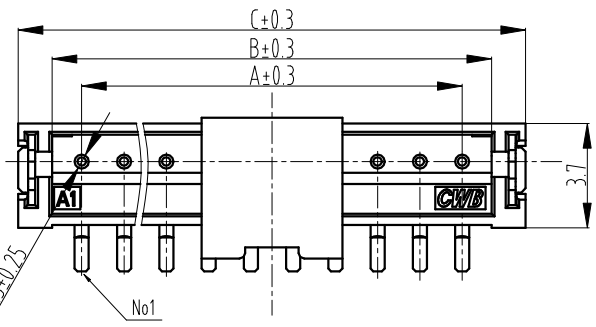
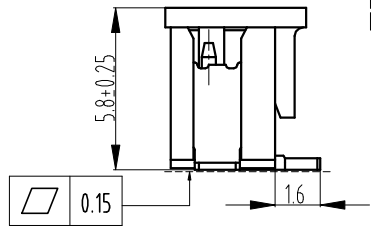
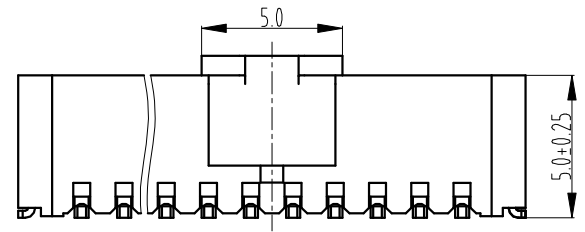
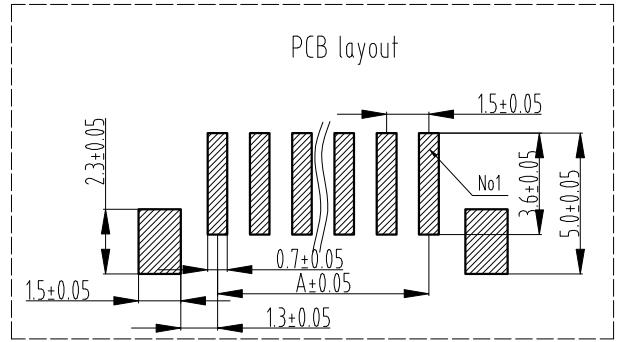
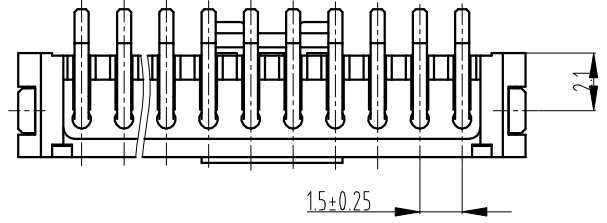


16	ZH-16AWBJ	ZH-16AWB	22.5	24.6	27.0
15	ZH-15AWBJ	ZH-15AWB	21.0	23.1	25.5
14	ZH-14AWBJ	ZH-14AWB	19.5	21.6	24.0
13	ZH-13AWBJ	ZH-13AWB	18.0	20.1	22.5
12	ZH-12AWBJ	ZH-12AWB	16.5	18.6	21.0
11	ZH-11AWBJ	ZH-11AWB	15.0	17.1	19.5
10	ZH-10AWBJ	ZH-10AWB	13.5	15.6	18.0
9	ZH-9AWBJ	ZH-9AWB	12.0	14.1	16.5
8	ZH-8AWBJ	ZH-8AWB	10.5	12.6	15.0
7	ZH-7AWBJ	ZH-7AWB	9.0	11.1	13.5
6	ZH-6AWBJ	ZH-6AWB	7.5	9.6	12.0
5	ZH-5AWBJ	ZH-5AWB	6.0	8.1	10.5
4	ZH-4AWBJ	ZH-4AWB	4.5	6.6	9.0
3	ZH-3AWBJ	ZH-3AWB	3.0	5.1	7.5
2	ZH-2AWBJ	ZH-2AWB	1.5	3.6	6.0
Ckts	Part No.	Previous part No.	Dimensions		
			A	B	C

- Notes:
- Material:
Wafer: PA9T+GF UL94V-0
Post: brass,tin plated
 - Matched housing: ZH-nY
 - Packaging: Packing bag
 - Compliant to the current RoHS

CUSTOMER DRAWING						Title: 15mm pitch WTB Contact	
Drawn	Heng.Yin	2022.5.23	Unit	Scale	Size	Edition	Part No.: ZH-nAWBJ(**-*)
Checked	Guoying.Wang	2022.7.21	mm	4:1	A4	B0	Previous part No.: ZH-nAWB
Approved	Dongxu.Liu	2022.7.21	Sheet No.	1 of 1			Document No.: CP-DWG-01278
CWB						Specification No.: PS4121	

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					



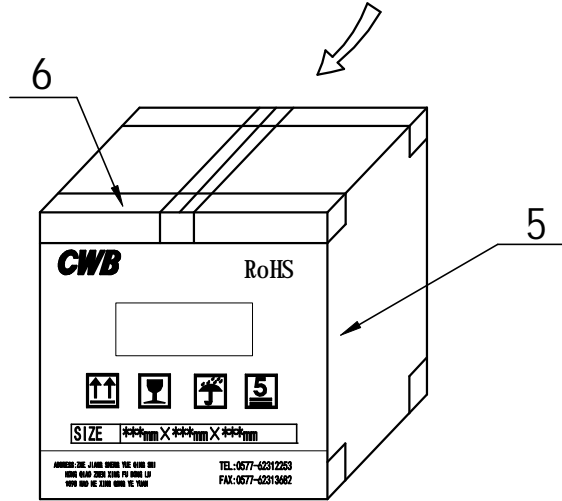
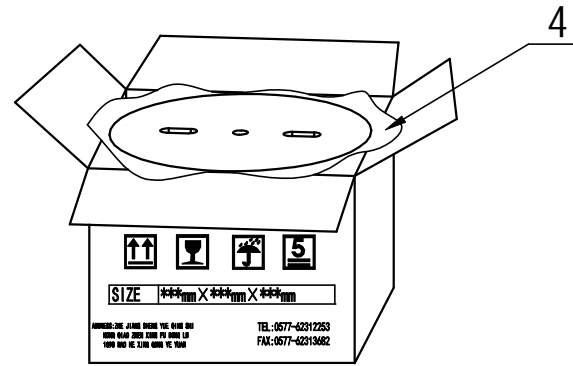
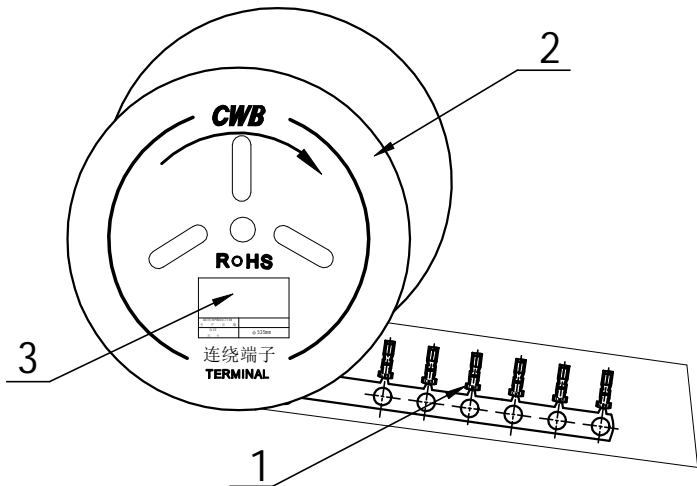
16	ZH-16ABX	ZH-16AB	22.5	24.6	27.0
15	ZH-15ABX	ZH-15AB	21.0	23.1	25.5
14	ZH-14ABX	ZH-14AB	19.5	21.6	24.0
13	ZH-13ABX	ZH-13AB	18.0	20.1	22.5
12	ZH-12ABX	ZH-12AB	16.5	18.6	21.0
11	ZH-11ABX	ZH-11AB	15.0	17.1	19.5
10	ZH-10ABX	ZH-10AB	13.5	15.6	18.0
9	ZH-9ABX	ZH-9AB	12.0	14.1	16.5
8	ZH-8ABX	ZH-8AB	10.5	12.6	15.0
7	ZH-7ABX	ZH-7AB	9.0	11.1	13.5
6	ZH-6ABX	ZH-6AB	7.5	9.6	12.0
5	ZH-5ABX	ZH-5AB	6.0	8.1	10.5
4	ZH-4ABX	ZH-4AB	4.5	6.6	9.0
3	ZH-3ABX	ZH-3AB	3.0	5.1	7.5
2	ZH-2ABX	ZH-2AB	1.5	3.6	6.0
Ckts	Part No.	Previous part No.	Dimensions		
			A	B	C

- Notes:
- Material:
Wafer: PA9T+GF UL94V-0
Post: brass, tin plated
 - Matched housing: ZH-nY
 - Packaging: packing bag
 - Compliant to the current RoHS

CUSTOMER DRAWING							Title: 15mm pitch WTB Contact	
Drawn	Heng.Yin	2022.5.23	Unit	Scale	Size	Edition	Part No.: ZH-nABX(**-*)	
Checked	Guoying.Wang	2022.5.23	mm	4:1	A4	B0	Previous part No.: ZH-nAB	
Approved	Dongxu.Liu	2022.5.24	Sheet No.	1 of 1		Document No.: CP-DWG-01571		Specification No.: PS4121

CWB

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					

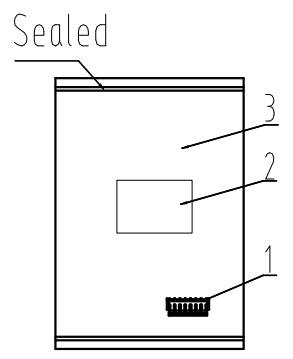


6	Gummed tape	
5	Packing box	320Kpcs/box
4	Packing bag	
3	Certificate	
2	Reel	20Kpcs/reel
1	ZH/CH-ZH	
Number	Designation	Remarks

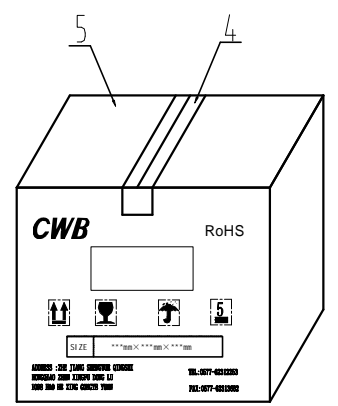
CUSTOMER DRAWING							Title: Packaging specification	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: CH-ZH-**	
Checked	Guoying.Wang	2022.3.16	mm	/	A4	B1	Previous part No.: CH-ZH	
Approved	Dongxu.Liu	2022.3.17	Sheet No.		1 of 1	Document No.: BZ-DWG-00708		
CWB							Specification No.: PS4121	

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					

Packing bag



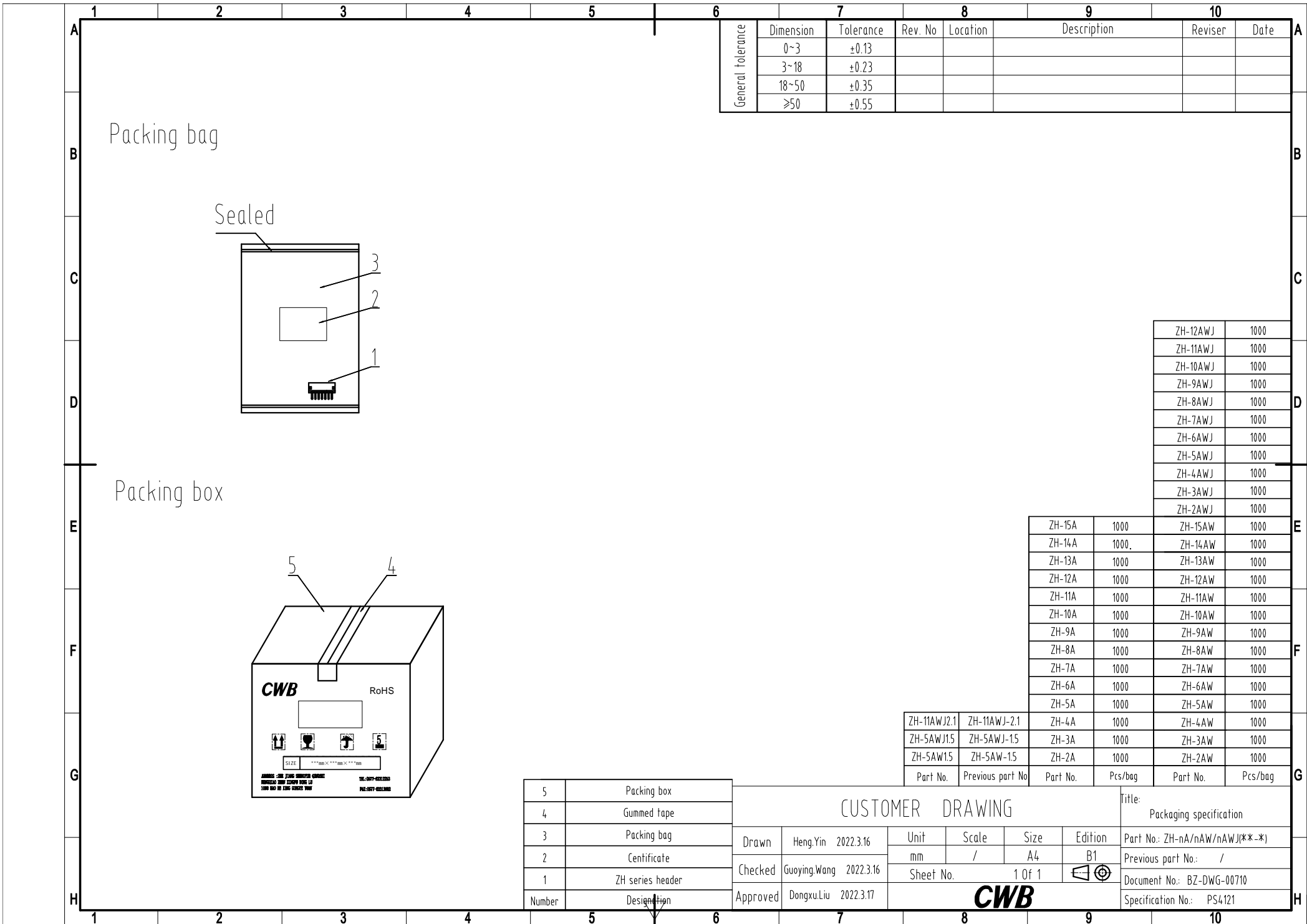
Packing box



ZH-15Y	1000
ZH-14Y	1000
ZH-13Y	1000
ZH-12Y	1000
ZH-11Y	1000
ZH-10Y	1000
ZH-9Y	1000
ZH-8Y	1000

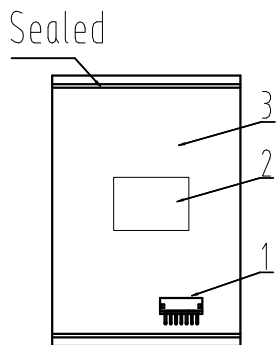
5	Packing box	ZH-7Y	1000
4	Gummed tape	ZH-6Y	1000
3	Packing bag	ZH-5Y	1000
2	Certificate	ZH-4Y	1000
1	ZH series Housing	ZH-3Y	1000
		ZH-2Y	1000
Number	Designation	Part No.	Pcs/ bag

CUSTOMER DRAWING						Title: Packaging specification	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: ZH-nY(*X-*X)
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.: BZ-DWG-00709
							Specification No.: PS4-121

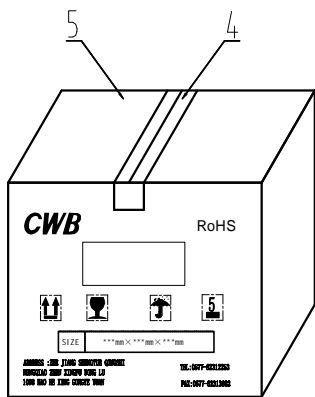


General Tolerance	Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
	0~3	±0.13					
	3~18	±0.23					
	18~50	±0.35					
≥50	±0.55						

Packing bag



Packing box



ZH-12AWJ	1000
ZH-11AWJ	1000
ZH-10AWJ	1000
ZH-9AWJ	1000
ZH-8AWJ	1000
ZH-7AWJ	1000
ZH-6AWJ	1000
ZH-5AWJ	1000
ZH-4AWJ	1000
ZH-3AWJ	1000
ZH-2AWJ	1000

ZH-15A	1000	ZH-15AW	1000
ZH-14A	1000	ZH-14AW	1000
ZH-13A	1000	ZH-13AW	1000
ZH-12A	1000	ZH-12AW	1000
ZH-11A	1000	ZH-11AW	1000
ZH-10A	1000	ZH-10AW	1000
ZH-9A	1000	ZH-9AW	1000
ZH-8A	1000	ZH-8AW	1000
ZH-7A	1000	ZH-7AW	1000
ZH-6A	1000	ZH-6AW	1000
ZH-5A	1000	ZH-5AW	1000

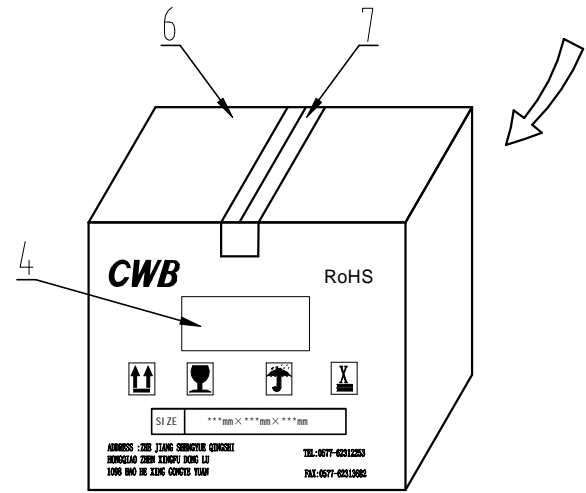
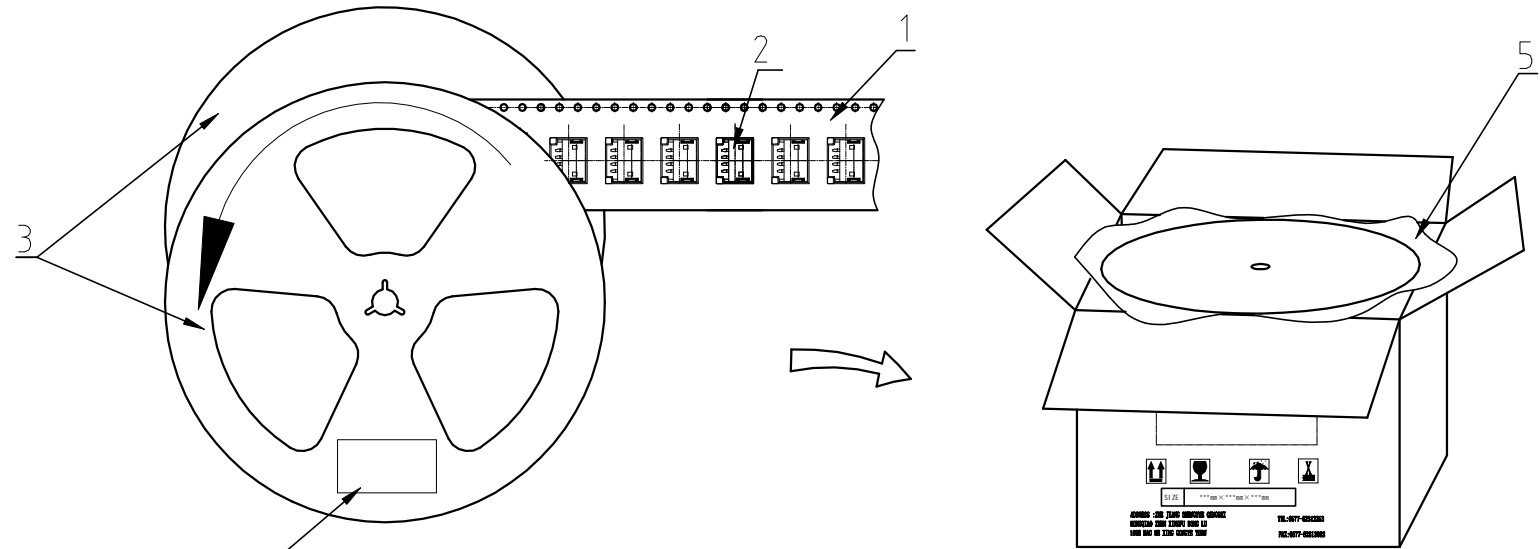
ZH-11AWJ2.1	ZH-11AWJ-2.1	ZH-4A	1000	ZH-4AW	1000
ZH-5AWJ1.5	ZH-5AWJ-1.5	ZH-3A	1000	ZH-3AW	1000
ZH-5AW1.5	ZH-5AW-1.5	ZH-2A	1000	ZH-2AW	1000
Part No.	Previous part No	Part No.	Pcs/bag	Part No.	Pcs/bag

5	Packing box
4	Gummed tape
3	Packing bag
2	Certificate
1	ZH series header
Number	Description

CUSTOMER DRAWING							
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	
Checked	Guoying.Wang	2022.3.16	mm	/	A4	B1	
Approved	Dongxu.Liu	2022.3.17	Sheet No.	1 of 1			

Title:	Packaging specification
Part No.:	ZH-nA/nAW/nAWJ(**-*)
Previous part No.:	/
Document No.:	BZ-DWG-00710
Specification No.:	PS4121

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					



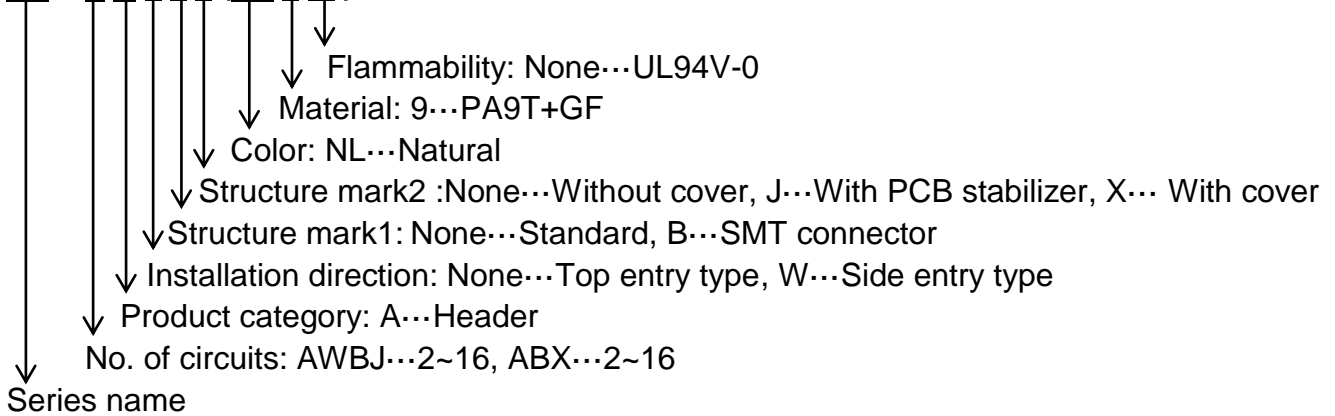
Number	Designation	Remarks
7	Gummed tape	
6	Packing box	
5	Packing bag	
4	Certificate	
3	Plastic disc	φ328
2	ZH-nAWBJ	1000pcs/reel
	ZH-nABX	/
1	Carrier tape	

CUSTOMER DRAWING							Title: Packaging specification	
Drawn	Heng.Yin	2022.3.16	Unit	Scale	Size	Edition	Part No.: ZH-nAWBJ/ABX(**-*)	
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.: BZ-DWG-00711		
CWB							Specification No.: PS4121	

4. SMT Header

ZH-nAWBJ (**-*), ZH-nABX(NL * -*)

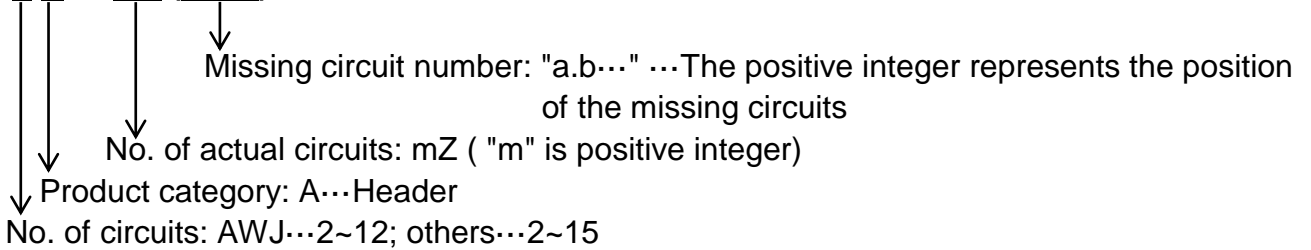
ZH - n A * * * (NL * -*)



5. Assembly which missing circuits

ZH-nAmZ(a.b...) * (**-*), ZH-nAWmZ(a.b...) * (**-*), ZH-nAWJmZ(a.b...) * (**-*),
 ZH-nAWmZ(a.b...)1.5 * (**-*), ZH-nAWJmZ(a.b...)1.5 * (**-*), ZH-nAWJmZ(a.b...)2.1
 * (**-*)

...n A ... mZ (a.b...)...



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)...	○	×	○	○											
.....														