



产品规格书

PRODUCT SPECIFICATION

产品描述: TJC28 系列连接器

Product Description: TJC28 Connector

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CWB 浙江合兴电子元件有限公司 CWB Electronics (Zhejiang) Co., Ltd.	制定 Edit: 覃丽 2018.5.21	产品名称 Product Name: TJC28 系列连接器
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 Fax: 86-577-62313681	审核 Check: 王国英	编号 Document No.: PS3899
	批准 Approval : 刘冬旭	版本 REVISION: 3



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1. 更改履历 Change History

序号 No.:	版本号 Version No.	更改前描述 Description Before Modification	更改后描述 Description After Modification	日期 Date
1	1	PS0588/PS2639/PS3497	整理为新规格书 PS3899	2016.3.25
2	2	/	试验参数标准化	2018/5/21
3	3	/	公司重组，更改 LOGO	2019.1.9
4				
5				

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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 **CTB 7.5P 阴型 & 阳型电子连接器**，产品名称：**TJC28**。

This product specification covers the requirement for **Cable to Board 7.5mm pitch Receptacle & Plug connector**, which is designed and manufactured by CWB Electronics(ZheJiang) Co.,LTD. P/N: **TJC28**.

3. 产品描述 Product Description

TJC28 系列产品为家电连接器产品，产品部件组成如下：

The TJC28 series connector designed for home appliances connection. Part checklist as following form:

Name	Part name	Notes
条形连接器孔座 Receptacle Housing	TJC28-2Y	PA66 UL94V-0/PC UL94V-0
阳连接器 Header	TJC28-2A	Wafer: PA66 UL94V-0/PA66 UL94V-2/PC UL94V-0 Post: Brass, Tin plating
插簧 Pin Contact	TJC28	Phosphor bronze, Tin plating

4. 相关标准 Related Standards

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

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

GB/T 2421 电工电子产品环境试验 第一部分 总则
Testing Method for Environmental of Electrical Connectors Class 1: General Principles

GB/T 2423 电工电子产品环境试验方法
Testing Method for Environmental of Electrical Connectors

GB/T 2424 电工电子产品环境试验导则
Testing Method for Environmental of Electrical Connectors

GB/T 5095 电子设备用机电元件基本试验规程及测量方法
Testing procedure/Method for components of electric equipment

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

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

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5.参数范围 Parameter Ratings:

额定电流 Rated Current	AWG 22# 3A	AWG 20# 5A	AWG 18# 7A
适用 PCB 板 Applicable P.C.B	Board Thickness: 1.6mm Hole Diameter: 1.65mm-1.75mm		
额定电压 Rated Voltage	250V [AC(有效值 rms)/DC]		
使用温度范围 Operating temperature range	-25℃~+85℃		
适用线型 Applicable wires	Wire Size: AWG22~AWG18 (0.3256mm ² -0.8226 mm ²) Insulation Diameter: 1.6mm-2.05mm		

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 eye 视力: 1.0 以上 Eyesight: > 1.0 照明: (200~300) lx Lamp: (200~300) lx 目测距离: (0.3~0.5) m Space: (0.3~0.5) m GB/T 5095.1 Method 1a	1.塑料件表面应无明显疤痕、凹陷、开裂及影响使用的变形。 Plastic part: smooth and flat surface without discolor, broken, crack, and distortion, etc. 2 金属件表面无锈蚀、氧化、无明显的机械损伤及电镀层脱落等缺陷。 Metal part: bright and even surface without rust, oxide, fog and obvious physical damage, etc.	
6.1.2	端子的插入力 与固定力 Insertion force and Retention Force for Contact	固定连接器和/或测力计, 在连接器轴线方向插入和拔出; 速度不大于 25 mm/min. Axial Insert and withdraw force on the contact in the housing at a rate less than 25 mm/min. GB/T 5095.8 Method 15d / EIA-364-29B	插入力 (Insertion) Max	固定力(Retention) Min.
			10N	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, 在连接器轴线方向插入和拔出; 速度不大于 25 mm/min Axial Insert and withdraw force on the pin contact in the socket contact at a rate less than 25 mm/min. GB/T 5095.7 Method 13b / EIA-364-13B	插入力 (Insertion) Max.	固定力(Retention) Min.
			9.8N	0.2N
6.1.4	针的固定力 Retention Force for Pin	固定连接器/或测力计, 在连接器轴线方向施加规定的推力进行测试, 速度不大于 25mm/min。 Apply thrust force on the Pin in the wafer at a rate of 25 mm/min. GB/T 5095.8 Method 15a / EIA-364-29B	15N Min	

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6.1.5	压着部位抗张强度 Crimping Pull Out Force	在试验装置夹头中固定试验样品，在连接的轴线方向施加张力;速度不大于 25mm/min. Fix the crimped contact, Axial pull out force on the contact in the housing at a rate less than 25 mm/min. GB/T5095.8-1997 Method 16d / EIA-364-08B			AWG 22: 40N Min. AWG 20: 50N Min. AWG 18: 89N Min.				
6.1.6	成品插入力与拔出力 Insertion and Withdrawal Force for Connector	固定连接器和/或测力计，在连接器轴线方向插入和拔出；速度不大于25mm/min. Apply Axial Insert and withdraw force on the contact in the housing at a rate less than 25 mm/min. GB/T 5095.7 Method 13b / EIA-364-13B	PIN	首次插入力 (Insertion 1st) Max	首次拔出力 Withdrawal (1st) Min	五十次后拔出力 Withdrawal (50th) Min			
			2P	20N	7N	3.5N			
6.1.7	机械振动 Random Vibration	插入连接器，串联在一直流电源上,电流100mA;并模拟正常工作状态；振频为（10~55~10）Hz，每个循环时间为1分钟，振幅1.52mm。沿XYZ三轴正反方向各循环2h。 Mated connectors subjected to following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axes, 100 mA current shall be applied. Frequency: (10~55~10) HZ/min. Amplitude: 1.52mm GB/T 5095.4 Method 6d / EIA-364-28D			外观：无损伤（参照6.1.1） Appearance: No damage.(refer to 6.1.1) 接触电阻： 0.02Ω Max. Contact resistance: 0.02Ω Max. 中断：1μsec Max. <1μsec discontinuity				
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 Mated connectors and subject to the following shock conditions, 3times 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: Half Sine Peak Value: 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) 中断：1μsec Max. <1μsec discontinuity				
6.1.9	机械寿命 Durability	以每分钟 10 次的速度插拔 50 次。 50 cycles mating and unmating test at the speed 10 cycles per minute GB/T 5095.5 Method 9a / EIA-364-09C			外观：无损伤（参照6.1.1） Appearance: No damage.(refer to 6.1.1) 接触电阻： 0.02Ω Max. Contact resistance: 0.02Ω Max.				
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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 Mated connectors with dry circuit to test Contact Resistance GB/T 5095.2 Method 2a / EIA-364-23B	0.01 Ω Max. (Initial) 0.02 Ω Max. (Final)
6.2.2	绝缘电阻 Insulation Resistance	在相邻接触件之间或地线之间,用 500V DC 电压进行测试. Apply a voltage of 500V DC between adjacent contacts and between contacts to ground. GB/T 5095.2 Method 3a / EIA-364-21C	1000 MΩ Min. (Initial) 800 MΩ Min. (Final)
6.2.3	耐电压 Withstand Voltage	相邻接触件之间或地线之间施加 2000V AC (有效值),漏电流 1mA 的电压作用,时间 1min. Apply a voltage of AC 2000V for 1 minute between adjacent contacts and between contacts to ground. GB/T 5095.2 Method 4a / EIA-364-20B	外观: 无击穿和飞弧现象 Appearance: No Breakdown or flashover
6.2.4	温升 Temperature Rise	插合连接器, 通以最大允许电流, 测温度的差值 Mated 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. (Δ30K 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 85±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 85±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: 0.02Ω Max. Contact resistance: 0.02Ω Max.
6.3.2	耐低温 Cold Resistance	连接器配合后, 于 -25±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 -25±2℃ for 96 hours. Recovery time 1~2 hours GB/T 5095.6 Method 11j / EIA-364-17B	外观: 无损伤 (参照6.1.1) Appearance: No damage.(refer to 6.1.1) 接触电阻: 0.02Ω Max. Contact resistance: 0.02Ω Max.
6.3.3	恒定湿热 Humidity	温度 40±2℃ , 相对湿度(90~95)% 搁置时间 240h , 取出恢复 1~2h 后检查. Mated connectors exposed to the condition of 40±2℃ (90~95) % Humidity 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: 0.02Ω Max. Contact resistance: 0.02Ω Max. 绝缘电阻: 800 MΩ Min. Insulation Resistance : 800 MΩ Min. 耐电压: 1000V Min. Withstand Voltage: 1000V Min.

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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(-25±2)℃的恒温条件下放置 0.5h; b) 在(85±2)℃的恒温条件下放置 0.5h; 从 a)到 b)为一个循环周期，共进行 25 个循环,恢复 1~2h 后检查。 Mated connectors shall be tested under the following conditions Temperature °C Duration (Minutes) 1 -25 30 2 +25 5Max. 3 +85 30 4 +25 5Max. 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	外观：无损伤（参照6.1.1） Appearance: No damage.(refer to 6.1.1) 接触电阻：0.02Ω Max. Contact resistance: 0.02Ω Max. 绝缘电阻：800 MΩ Min. Insulation Resistance : 800 MΩ Min. 耐电压：1000V Min. Withstand Voltage: 1000V Min.
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 48h,试验后用流动的蒸馏水轻轻洗去表面沉积物。在常温 常湿条件下恢复 1~2h 48 hours spray, at temp (35±2)℃, Salt NaCl mist (5±1)% After test wash parts and return to 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 with material exposed. And with plating material, slight erosion on the cutting surface is acceptable) 接触电阻：0.02Ω Max. Contact resistance: 0.02Ω Max.
6.3.6	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)s Dip solder tails into the molten solder(held at (245±5) °C for (4~5) sec. GB/T 5095.6 Method 12a / EIA-364-52	上锡率≥90%: Solder coverage: ≥90%
6.3.7	耐焊接热 Resistance to Soldering Heat	把试验样品需要焊接的部位浸入焊锡炉中,锡炉温度 (260±5)℃; 时间(5±1)s 后,在正常条件下恢复 1~2h。 Dip solder tails into the molten solder(held at (260±5) °C for (5 ±1) sec., Recovery time 1~2 hours GB/T 5095.6 Method 12d / EIA-364-56A	外观：无损伤（参照6.1.1） Appearance: No damage.(refer to 6.1.1)
6.3.8	灼热丝 Glow wire (只针对 GWT750℃产 品 only for GWT750℃ products)	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, Time: (30±1)s Speed of closing to and leaving: 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 is 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。 30s after glow wire leaves mated connector, it does not burn or is no incandescence and it does not fall something or falling something does not burn.

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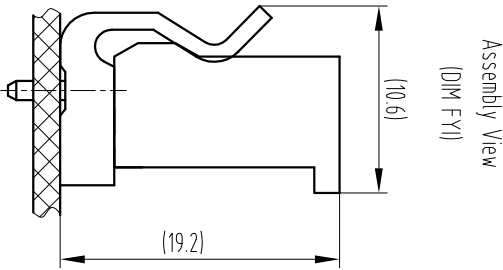
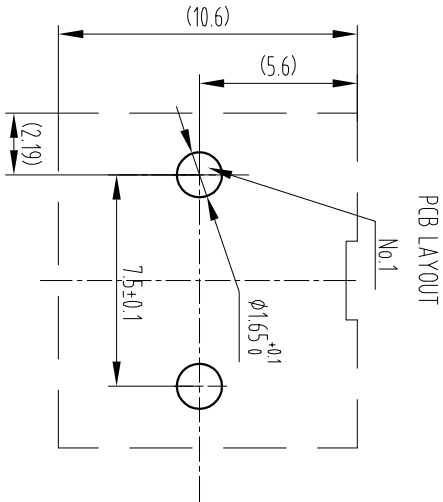
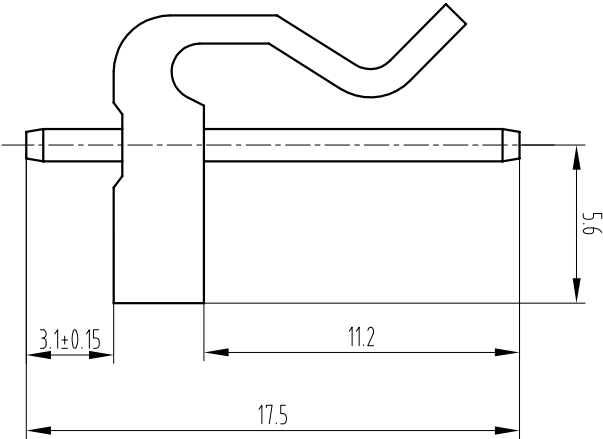
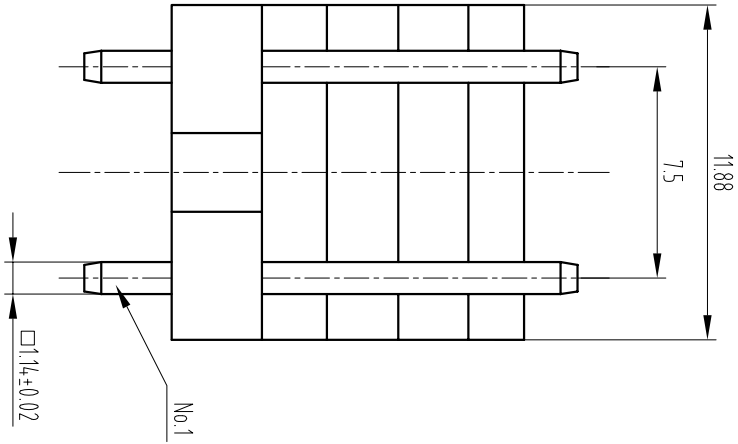
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7. 测试分组 Test Sequences (Samples: 5PCS)

测试组 GROUP NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
外观 Appearance	1	1	1	1,5	1,3	1,5	1,5	1	1,5	1,5	1,7	1,7	1,5	1	1,3
端子的插入力与固定力 Insertion force and Retention Force for contact	2														
压着部位抗张强度 Crimping Pull Out Force		2													
成品插入力与拔出力 Insertion and Withdrawal Force for Connector			2												
机械振动 Random Vibration				3											
机械冲击 Shock					2										
机械寿命 Durability						3									
接触电阻 Low Level Contact Resistance				2,4		2,4	2,		2,4	2,4	2,4	2,4	2,4		
绝缘电阻 Insulation Resistance							3				5	5			
耐电压 Withstand Voltage							4				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		
可焊性 Solderability														2	
耐焊接热 Resistance to Soldering Heat															2

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General Tolerance			
Dimension	Tolerance	Rev. No	Location
0-3	±0.13	H8	Version upgrade
3-18	±0.23		
18-50	±0.35		
50-120	±0.55		

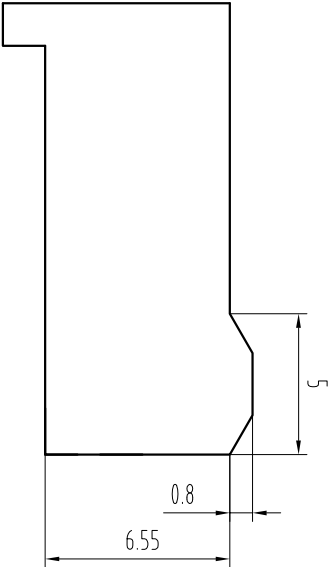
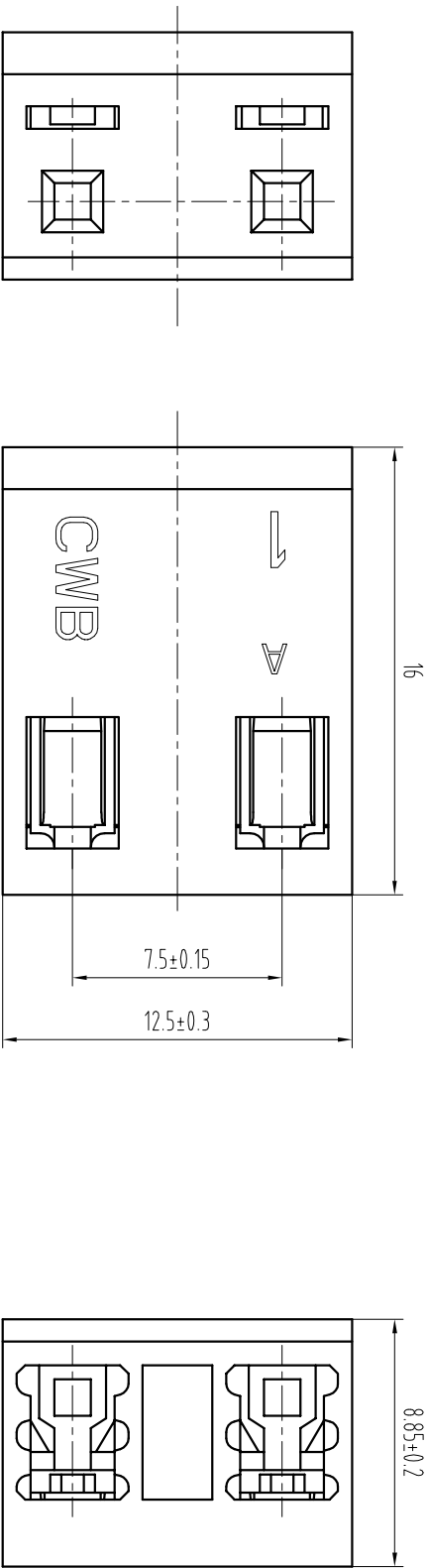


Notes:

- 1.Material: PA66 UL94V-0/PA66 UL94V-2/PC UL94V-0;
- Brass,Tin Plating;
- 2.Matched Housing: TJC28-2Y
- 3.Packaging: Packing bag;
- 4.Compliant To The Current RoHS.

CUSTOMER DRAWING						Title: 75mm Pitch WTB	
Drawn	Xiaoyong Yang 2016.6.10	Unit	Scale	Size	Edition	Header	
Checked	Guoying Wang 2016.6.11	mm	4:1	A4	B2	Part No.:TJC28-2A	
Approved	Dongxulu 2016.6.11	Sheet No.	1 of 1			Document No.:CP-DWG-00274	
CWB 浙江合兴电子元件有限公司							Specification No.:PS3899
CWB Electronics (Zhejiang) Co., Ltd.							

General Tolerance					
Dimension	Tolerance	Rev. No	Location	Description	Reviser
0-3	±0.13	H8	Version upgrade	YuntengHu	2019.01.09
3-18	±0.23				
18-50	±0.35				
50-120	±0.55				

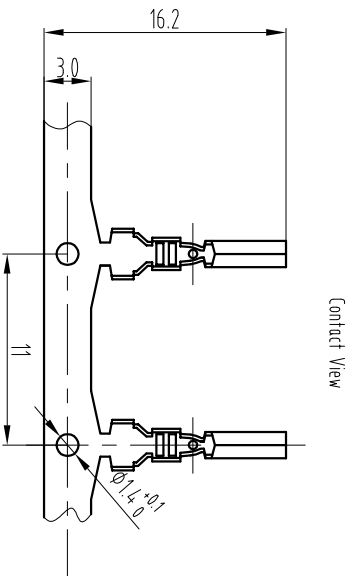
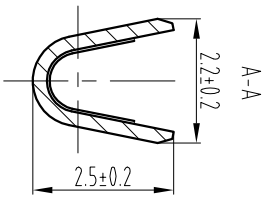
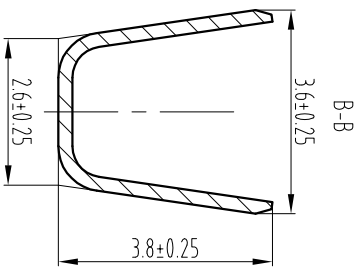
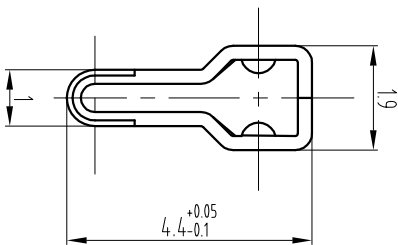
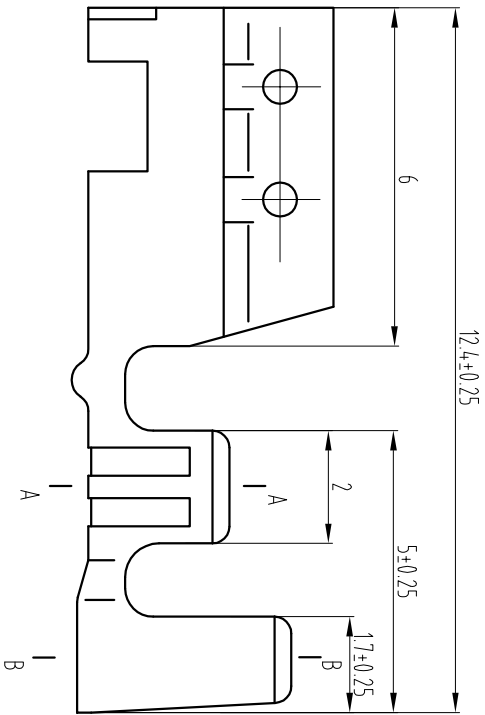


Notes:

- 1.Material: PA66 UL94V-0/PA66 UL94V-2/PC UL94V-0;
- 2.Matched Header: TJC28-2A;
- 3.Matched Contact: TJC28;
- 4.Packaging: Packing bag;
- 5.Compliant To The Current RoHS.

CUSTOMER DRAWING						Title: 75mm Pitch WTB	
Drawn	Xiaoyang Yang 2016.6.10	Unit	Scale	Size	Edition	Housing	
Checked	Guoying Wang 2016.6.11	mm	4:1	A4	B2		
Approved	Dongxu Liu 2016.6.11	Sheet No.	1 of 1			Part No.:TJC28-2Y	
		Document No.:CP-DWG-00275					
CWB 浙江合兴电子元件有限公司 CWB Electronics (Zhejiang) Co., Ltd.						Specification No.:PS3899	

General Tolerance		Dimension		Tolerance	Rev. No	Location	Description	Reviser	Date
		0~3		±0.13		H8	Version upgrade	Yanfenghu	2019.01.09
3~18				±0.23					
18~50				±0.35					
50~120				±0.55					



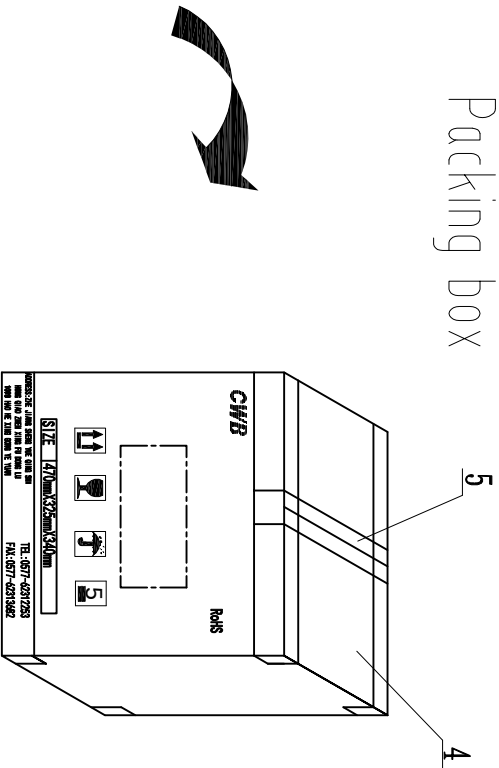
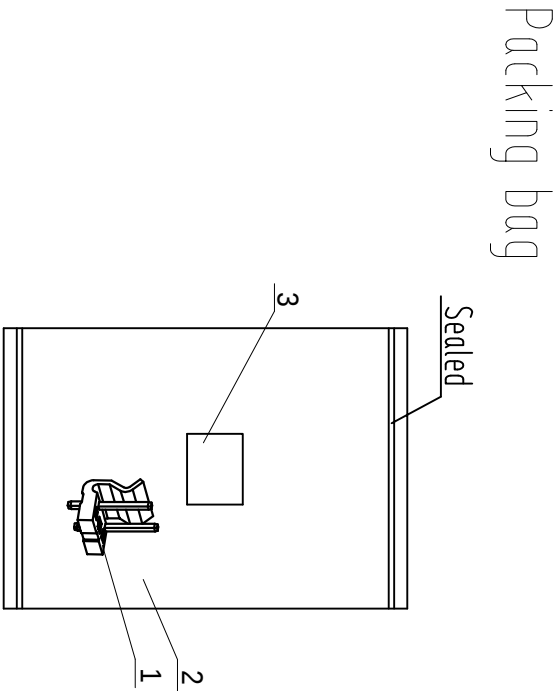
Notes:

- 1.Material: Phosphor Bronze;Thickness=0.25mm;
- 2.Surface Finish: Tin Plating;
- 3.Matched Housing: TJC28-2Y;
- 4.Conductor Size: AWG22~AWG18;
- 5.Compliant To The Current RoHS.

CUSTOMER DRAWING

CUSTOMER DRAWING				Title:	
Drawn	Xiaoyang Yang 2016.6.10	Unit	Scale	Size	7.5mm Pitch WTB
Checked	Guoying Wang 2016.6.11	mm	8:1	A4	Contact
Approved	Dongxulu 2016.6.11	Sheet No.	1 of 1	B2	Part No.:TJC28
CWB 浙江合兴电子元件有限公司				Document No.:CP-DWG-00276	
CWB Electronics (Zhejiang) Co., Ltd.				Specification No.:PS3899	

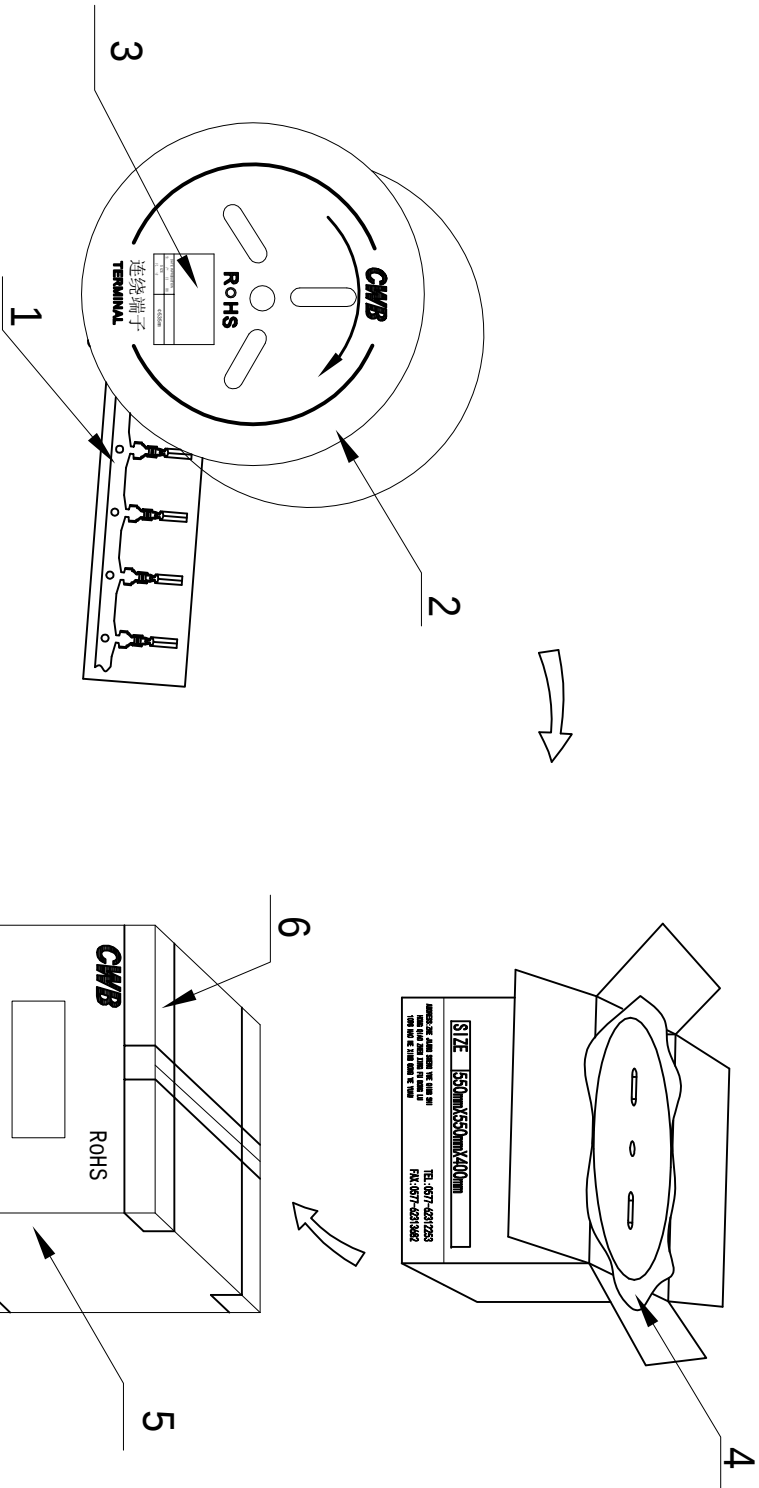
General Tolerance				
Dimension	Tolerance	Rev. No	Location	Description
0~3	±0.13	H8		Version upgrade
3~18	±0.23			
18~50	±0.35			
50~120	±0.55			
				Reviser
				Yanfenghu
				2019.01.09



5	Gummed Tape	
4	Packing box	
3	Certificate	
2	Packing bag	
1	TJC28-2A	1000pcs/bag
Number	Designation	Remarks

CUSTOMER DRAWING						Title: Packaging Specification of 7.5mm Pitch WTB Header	
Drawn	Xiaoyong Yang 2016.6.10	Unit	Scale	Size	Edition		
Checked	Guoying Wang 2016.6.11	mm	/	A4	B2	Part No.: TJC28-2A	
Approved	Dongxulu 2016.6.11	Sheet No.	1 of 1			Document No.: BZ-DWG-00148	
CWB 浙江合兴电子元件有限公司 CWB Electronics (Zhejiang) Co., Ltd.						Specification No.: PS3899	

General Tolerance						
Dimension	Tolerance	Rev No	Location	Description	Reviser	Date
0~3	±0.13	H8		Version upgrade	Yanfenghu	2019.01.09
3~18	±0.23					
18~50	±0.35					
50~120	±0.55					



6	Gummed rope	
5	Packing box	42kpcs/box
4	Packing bag	
3	Certificate	
2	Packing Reel	35kpcs/reel
1	TJC28 Contact	
Number	Designation	Remarks

CUSTOMER DRAWING						Title:	
						Packaging Specification of 7.5mm Pitch WTB Contact	
Drawn	Xiaoyong Yang 2016.6.10	Unit	Scale	Size	Edition		
Checked	Guoying Wang 2016.6.11	mm	/	A4	B2		
Approved	Dongyu Liu 2016.6.11	Sheet No.	1 of 1			Part No.: TJC28	
						Document No.: BZ-DWG-00150	
						Specification No.: PS3899	
CWB 浙江合兴电子元件有限公司 CHINA ELECTRONIC (ZHEJIANG) CO., LTD.							

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