



产品规格书

PRODUCT SPECIFICATION

产品描述: CA428/CY405 连接器

Product Description: CA428/CY405 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: 杨 培 2019.01.24	产品名称 Product Name: CA428/CY405
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 2019.01.24	编号 Document No.: PS2425
	批准 Approval: 刘冬旭 2019.01.24	版本 REVISION: 2



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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	旧版规格书	新版规格书	2016.03.14
2	2	/	更改图纸商标 LOGO	2019.01.24
3				
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 **WTW 阴型 & 阳型电子连接器**，产品名称：**CA428 & CY405**。

This product specification covers the requirement for **Wafer to Wafer Receptacle & Plug connector**, which is designed and manufactured by CWB Electronics(ZheJiang) Co.,LTD. P/N: **CA428 & CY405**.

3. 产品描述 Product Description

CA428 & CY405 产品为家电连接器产品，产品部件组成如下：

The **CA428 & CY405** series connector designed for home appliances connection. Part checklist as following form:

Name	Part name	Notes
条形连接器针座 Wafer	CA428	PA66 UL94 V-2
条形连接器针座 Wafer	CA428-1	PA66 UL94 V-2
条形连接器针座 Wafer	CA428A	PC/PET UL94V-0
插片 Plug Terminal	TT6.3×0.8V1	Brass, Sn over Ni Plated
条形连接器孔座 Housing	CY405	PA66 UL94V-0
条形连接器孔座 Housing	CY405-1	PA66 UL94V-0
插簧/插簧 Socket Terminal	TR6.3×0.8V1	Brass, Sn over Ni Plated
插簧/插簧 Socket Terminal	TR6.3×0.8V1-1	Brass, Sn over Ni Plated
插簧/插簧 Socket Terminal	TR6.3×0.8V1-2	Brass, Sn over Ni Plated

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

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PRODUCT SPECIFICATION

GB/T 5095

电子设备用机电元件基本试验规程及测量方法

Testing procedure/Method for components of electric equipment

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

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

5. 参数范围 Parameter Ratings:

额定电压 Rated Voltage	250V [AC(有效值 rms)/DC]
使用温度范围 Operating temperature range	-30℃~+105℃
适用线型 Applicable wires	Wire Size: AWG18~AWG12 (0.82mm ² ~4.37 mm ²) Insulation Diameter: 1.85mm~3.2mm

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	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	成品插拔力 Insertion force and Withdrawal Force for Terminal	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 plug terminal in the socket terminal at a rate less than 25 mm/min. GB/T 5095.8 Method 15A / EIA-364-29B	插入力 (Insertion) Max	拔出力(Withdrawal) Min
6.1.3	端子固定力 Retention Force for Terminal	固定连接器和/或测力计, 在连接器轴线方向插入和拔出塑件; 速度不大于 25 mm/min。 Axial Insert and withdraw force on the terminal in the housing or wafer at a rate less than 25 mm/min. GB/T 5095.8 Method 15A / EIA-364-29B	50N Min.	

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6.1.4	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 terminal, Axial pull out force on the terminal in the housing at a rate less than 25 mm/min. GB/T5095.8-1997 Method 16D / EIA-364-08B	AWG 18: 89N Min. AWG 16: 133.5N Min. AWG 14: 222.5N Min. AWG 12: 311.5N Min.
6.1.5	机械振动 Random Vibration	插合连接器，串联在一直流电源上,电流100mA;并模拟正常工作状态；振频为（10~55~10）Hz，每个循环时间为1分钟，振幅1.52mm。沿XYZ三轴正反方向各循环2h。 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
6.1.6	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.

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 5096.2 Method 2b / EIA-364-23B	0.02Ω 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 terminals and between terminals to ground. GB/T 5096.2 Method 3A / EIA-364-21C	1000 MΩ Min.
6.2.3	耐电压 Withstand Voltage	相邻接触件之间或地线之间施加 2200V AC (有效值),漏电流 1mA 的电压作用,时间 1min. Apply a voltage of AC 2200V for 1 minute between adjacent terminals and between terminals to ground. GB/T 5096.2 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 5096.3 Method 5E / EIA-364-70	Δ30℃ 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 96 小时，再回到室温中放置 1-2 小时测定 Mated connectors exposed to the condition of 105±2℃ for 96 hours.Recovery time 1~2 hours GB/T 5095.6 Method 11i / EIA-364-17B	外观：无损伤（参照6.1.1） Appearance: No damage.(refer to 6.1.1) 接触电阻：0.02Ω Max. Contact resistance: 0.02Ω Max.										
6.3.2	耐低温 Cold Resistance	连接器配合后，于-40±2℃ 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 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 96h，取出恢复 1~2h 后检查. Mated connectors exposed to the condition of 40±2℃（90~95）% Humidity for 96 hours. Recovery time 1~2 hours GB/T 5095.6 Method 11C /EIA-364-31B	外观：无损伤（参照6.1.1） Appearance: No damage.(refer to 6.1.1) 接触电阻：0.02Ω Max. Contact resistance: 0.02Ω Max. 绝缘电阻：1000 MΩ Min. Insulation Resistance : 1000 MΩ Min. 耐电压：2200V Min. Withstand Voltage: 2200V 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 0.5h； 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 5 个循环,恢复 1~2h 后检查。 Mated connectors shall be tested under the following conditions <table><tr><th>Temperature °C</th><th>Duration (Minutes)</th></tr><tr><td>1 -55</td><td>30</td></tr><tr><td>2 +25</td><td>5Max.</td></tr><tr><td>3 +85</td><td>30</td></tr><tr><td>4 +25</td><td>5Max.</td></tr></table> Step 1 to 4 is one cycle, 5 cycles shall be tested. Recovery time 1~2 hours. GB/T 5095.6 method 11D / EIA-364-32C	Temperature °C	Duration (Minutes)	1 -55	30	2 +25	5Max.	3 +85	30	4 +25	5Max.	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.
Temperature °C	Duration (Minutes)												
1 -55	30												
2 +25	5Max.												
3 +85	30												
4 +25	5Max.												
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 16h,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. 16 hours spray, at temp (35±2)℃, Salt NaCl mist (5±1)% After test wash parts and return to room ambient for 1~2h 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.										

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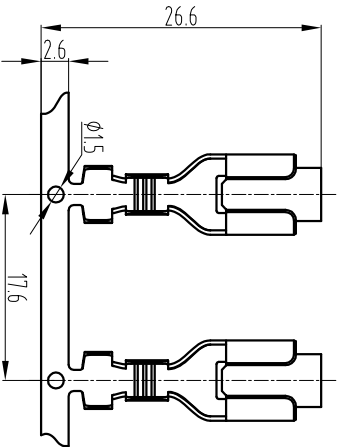
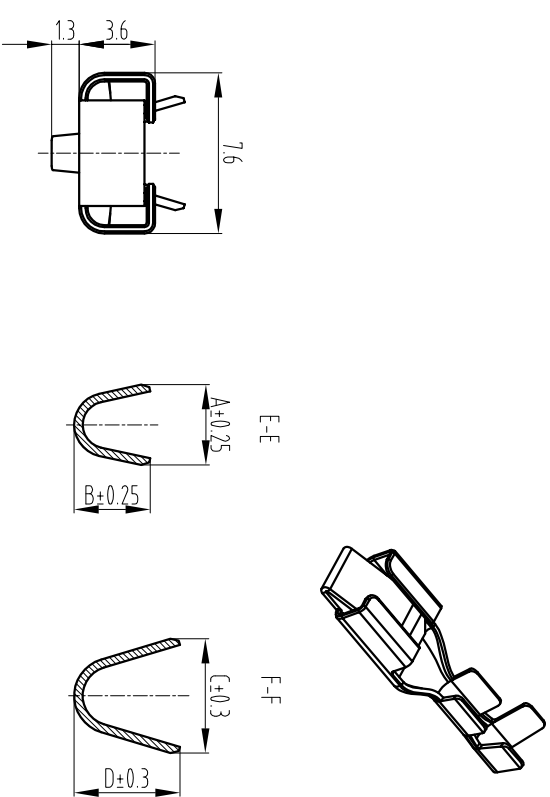
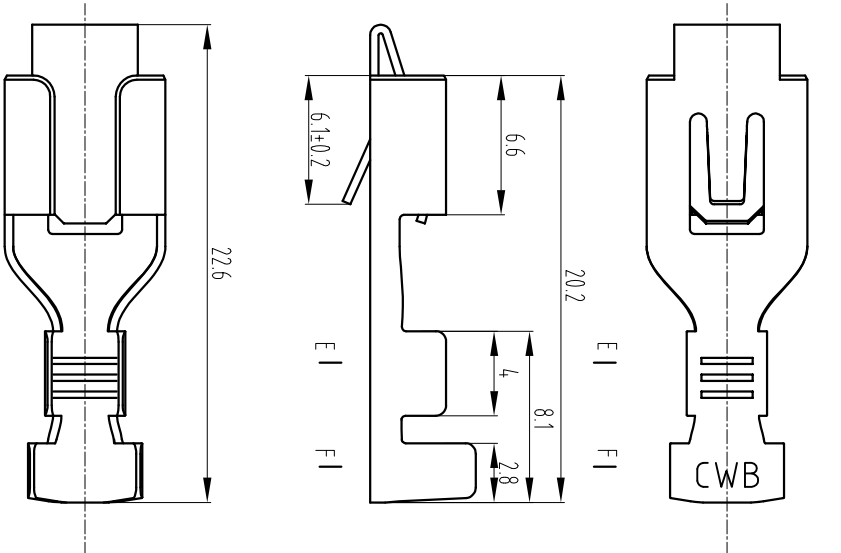
PRODUCT SPECIFICATION

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

测试组 GROUP NUMBER	A	B	C	D	E	F	G	H	I	J	K	L
外观 Appearance	1	1	1	1,5	1,5	1,4	1	1,5	1,5	1,7	1,5	1,5
端子插拔力	2											
端子固定力		2										
压着部位抗张强度 Crimping Pull Out Force			2									
机械振动 Random Vibration				3								
机械寿命 Durability					3							
接触电阻 Low Level Contact Resistance				2,4	2,4			2,4	2,4	2,4	2,4	2,4
绝缘电阻 Insulation Resistance						2				5		
耐电压 Withstand Voltage						3				6		
温升 Temperature Rise							2					
耐高温 Heat Resistance								3				
耐低温 Cold Resistance									3			
恒定湿热 Humidity										3		
温度循环 Temperature Cycling											3	
盐雾 Salt Spray												3

产品名称 Product Name:	CA428/CY405	编号 Document No.	PS2425	版本号 VersionNo.	2
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General Tolerance					
Dimension	Tolerance	Rev. No	Location	Description	Reviser
0~3	±0.13	1	H8	To update the content	Yang Pei
3~18	±0.16				2019.01.23
18~50	±0.31				
≥50	±0.55				



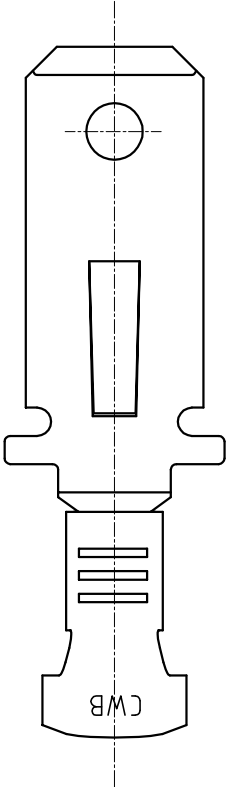
Part No.	A	B	C	D	Conductor Size
TR6.3x0.8V1-2	3.8	4.0	5.4	5	AWG16~AWG12
TR6.3x0.8V1-1	3.8	4.0	6	6.4	AWG16~AWG12
TR6.3x0.8V1	3.8	3.6	5.4	5	AWG18~AWG14

CUSTOMER DRAWING

CUSTOMER DRAWING				Title:	
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Approved	Dongxuli 2016.03.17	Sheet No.	1 of 1		
Customer Drawing				Part No:	TR6.3x0.8V
Customer Drawing				Document No:	CP-DWG-00266
Customer Drawing				Specification No:	PS24.25

- Notes:
1. Material: Brass; Thickness=0.4mm;
 2. Surface Finish: Sn over Ni Plated;
 3. Matched Housing: CY405,CY405-1;
 4. Matched Plug Terminal: TT6.3x0.8V1;
 5. Compliant To The Current RoHS.

General Tolerance						
Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
0~3	±0.13	1	H8	To update the content	Yang Pei	2019.01.23
3~18	±0.16					
18~50	±0.31					
≥50	±0.55					

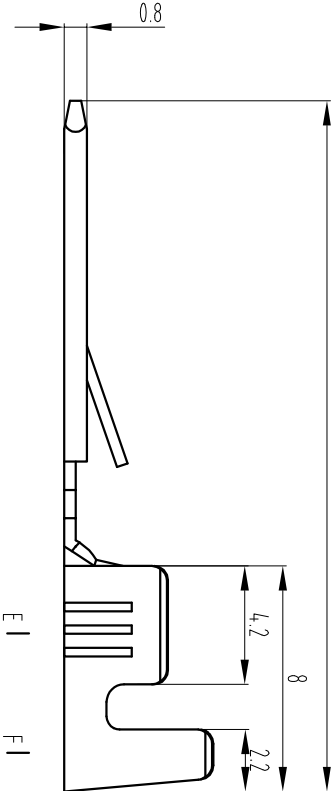


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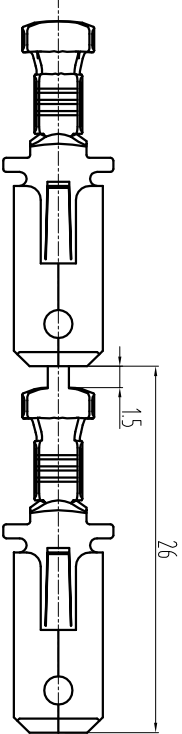
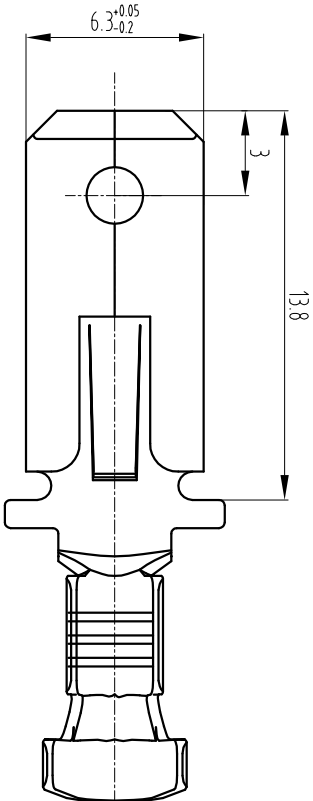
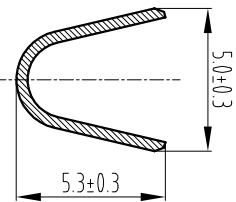
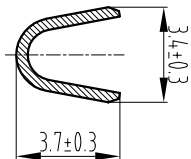
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E-E

F-F



E I F I



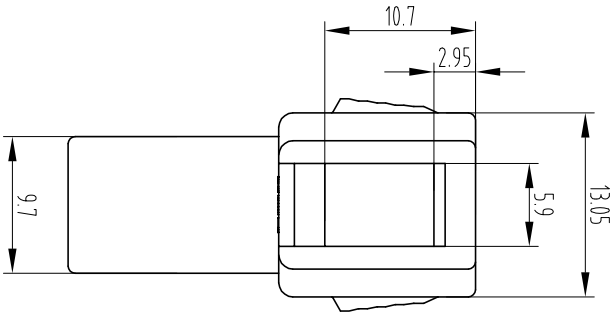
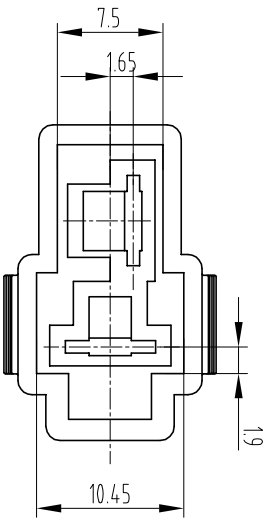
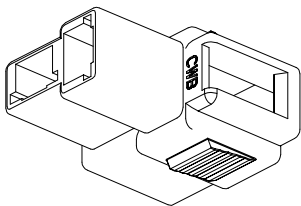
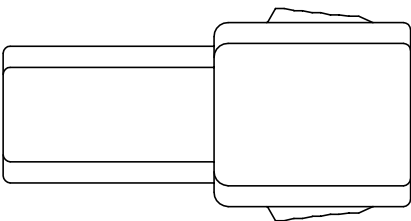
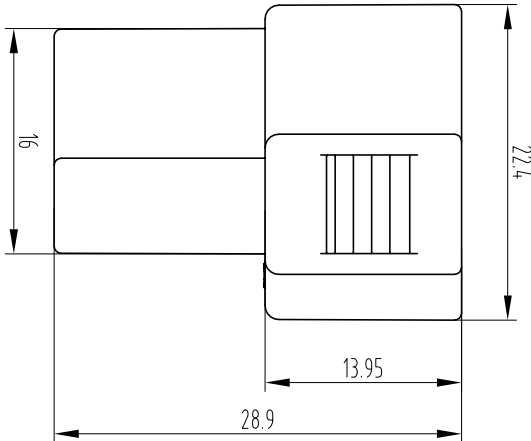
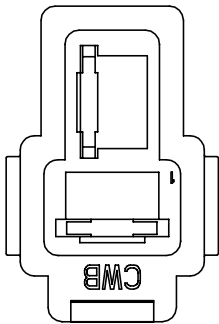
Notes:

1. Material: Brass; Thickness=0.4mm;
2. Surface Finish: Sn over Ni Plated;
3. Matched Housing: CA428;CA428-1;CA428A
4. Matched Terminal: TR6.3×0.8V1,TR6.3×0.8V1-1,TR6.3×0.8V1-2;
5. Compliant To The Current RoHS.

CUSTOMER DRAWING

CUSTOMER DRAWING				Title:	
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Approved	Dongxuli 2016.03.17	Sheet No.	1 of 1		
WB 勤正益兴电子元件有限公司 QINZHENG YIXING ELECTRONIC COMPONENTS CO., LTD.				Part No:	TT16.3×0.8V1
				Document No:	CP-DWG-00269
				Specification No:	PS2425

General Tolerance		Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
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		3~18	±0.16					
		18~50	±0.31					
		≥50	±0.55					



- Notes:
1. Material: PBT UL94V-2/PC/PET UL94V-0;
 2. Matched Housing: CY405,CY405-1
 3. Matched Terminal: TT6.3×0.8V1
 4. Packaging: Packing bag;
 5. Compliant To The Current RoHS.

CUSTOMER DRAWING

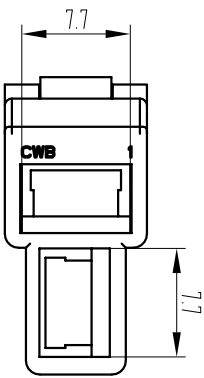
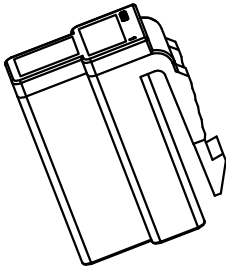
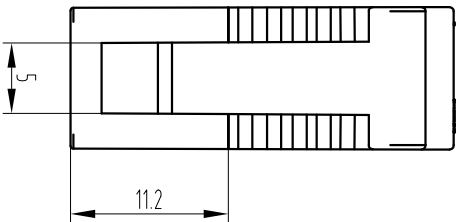
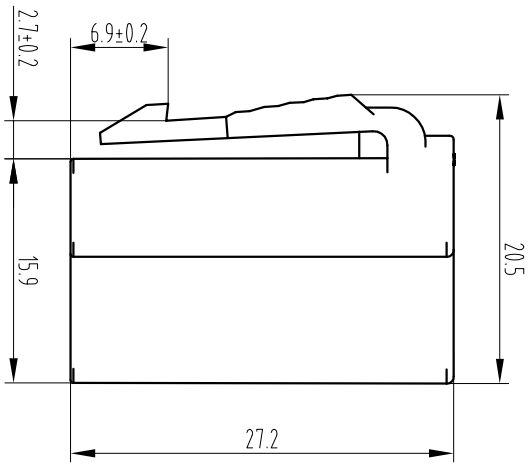
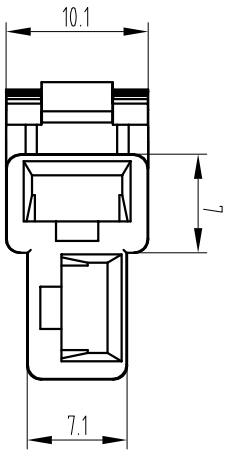
WTW Plug Wafer

CA428A	White,PC/PET
CA428-1	White,PA66
CA428	Red,Yellow,PA66
Part No.	Remarks

CUSTOMER DRAWING				Title:	
Drawn	LiLin 2016.03.14	Unit	Scale	Size	Edition
Checked	Guying Wang 2016.03.17	mm	2:1	A4	B
Approved	Dongxuli 2016.03.17	Sheet No.	1 of 1		
Part No.: CA428				Document No.: CP-DWG-00267	
Specification No.: PS2425					



General Tolerance		Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
		0~3	±0.13	1	H8	To update the content	Yang Pei	2019.01.23
		3~18	±0.16					
		18~50	±0.31					
		≥50	±0.55					



Notes:

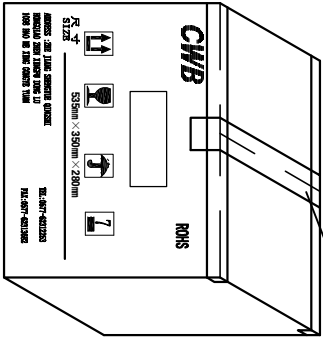
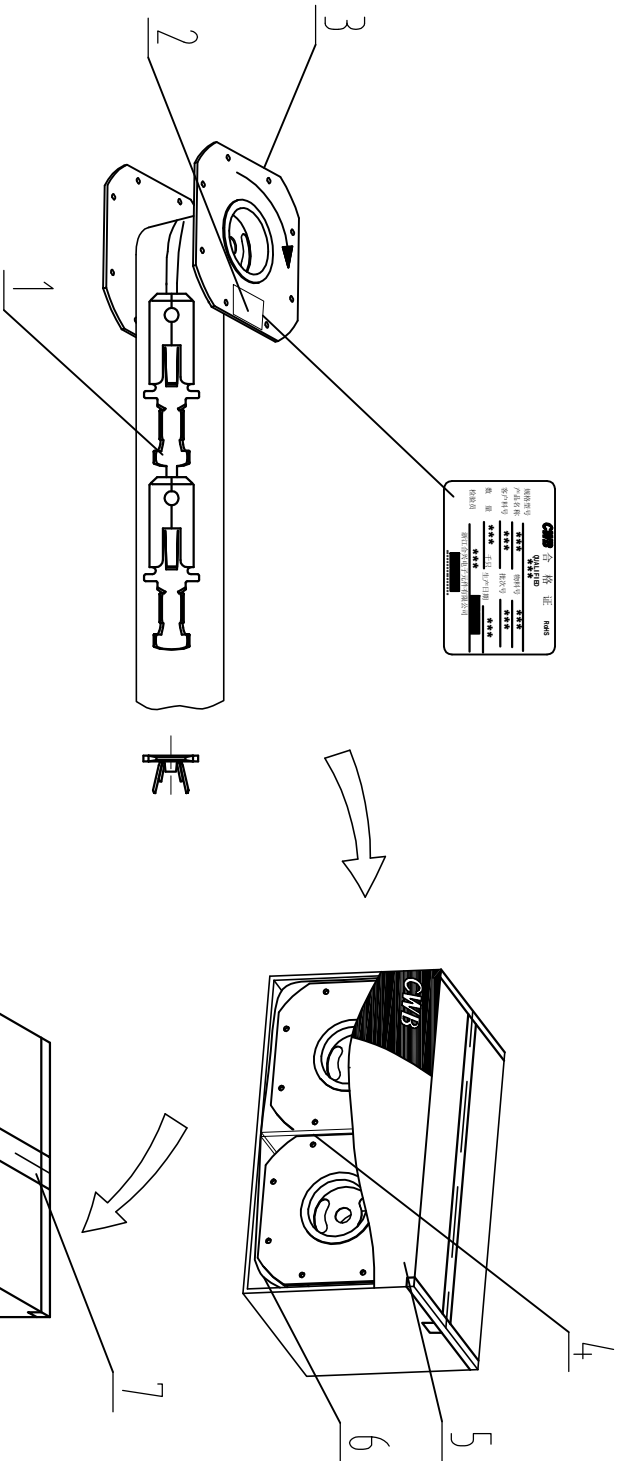
1. Material: PA66 UL94V-0;
2. Matched Wafer: CA428,CA428-1,CA428A
3. Matched Terminal: TR6.3×0.8V1,TR6.3×0.8V1-1,TR6.3×0.8V1-2;
4. Packaging: Packing bag;
5. Compliant To The Current RoHS.

CUSTOMER DRAWING

CUSTOMER DRAWING				Title:	
Drawn	LiJin	2016.03.14	Unit	Scale	Size
Checked	Guoying Wang	2016.03.17	mm	2:1	A4
Approved	Dongxuli	2016.03.17	Sheet No.	1 of 1	B
Part No.:				WTW Plug Wafer	
Document No.:				CP-DWG-00268	
Specification No.:				PS2425	

CY405-1	White
CY405	Red, Yellow
Part No.	Remarks

General Tolerance		Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
		0~3	±0.13	1	H8	To update the content	Yang Pei	2019.01.23
		3~18	±0.16					
		18~50	±0.31					
		≥50	±0.55					



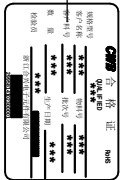
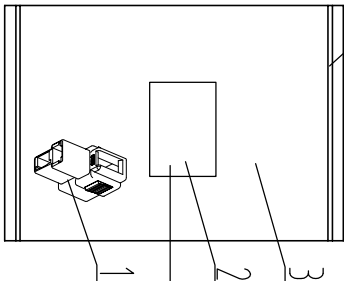
7	Guimed tope	
6	Packing bag	
5	Packing box	
4	Protective board	1600pcs/box
3	Reel	
2	Certificate	
1	TT6-3x0.8V1	4000pcs/reel
Number	Designation	Remarks

CUSTOMER DRAWING						Title:	
Drawn	Li Qin	2016.03.14	Unit	mm	Scale	1:1	Packaging Specification of WTW Plug Terminal
Checked	Guoying Wang	2016.03.17	Sheet No.	1 of 1	Edition	B	Part No.: TT6-3x0.8V1
Approved	Dongxuliu	2016.03.17	CWB 浙江金兴电子有限公司		Document No.: BZ-DWG-00134		Specification No.: PS2425

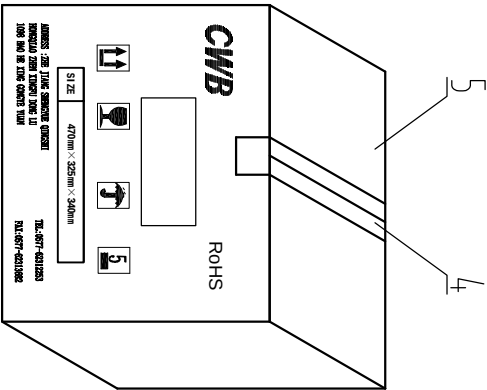
General Tolerance		Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
		0~3	±0.13	1	H8	To update the content	Yang Pei	2019.01.23
		3~18	±0.16					
		18~50	±0.31					
		≥50	±0.55					

Packing bag

Sealed



Packing box



5	Packing box			
4	gunmed tape	CY405-1	500	
3	Packing bag	CY405	500	
2	Certificate	CA428A	500	
1	CA428/CY405 series socket connector	CA428-1	500	
Number	Designation	Part No.	Pcs/bag	Remarks

CUSTOMER DRAWING					Title:	
Drawn	LiQin	2016.03.14	Unit	Scale	Size	Edition
Checked	Guoying Wang	2016.03.17	mm	/	A4	B
Approved	Dongxuli	2016.03.17	Sheet No.	1 of 1		
CWB 浙江鑫兴电子有限公司 内部文件					Part No.:	CA428/CY405
					Document No.:	BZ-DWG-00133
					Specification No.:	PS2425