



产品规格书

PRODUCT SPECIFICATION

标题: SAN-nAW 系列连接器

Title: SAN-nAW Connector

目录

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1. 更改履历 Change record
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 浙江合兴电子元件有限公司 CWB Electronics (Zhejiang) Co., Ltd.	<u>制定 Edit:</u> 王曲 2022. 1. 15	<u>产品名称 Product name:</u> SAN-nAW 系列连接器
	<u>审核 Check:</u> 吴吉 2022. 3. 25	<u>编号 Document No.:</u> PS4137
	<u>批准 Approval:</u> 刘冬旭 2022. 3. 26	<u>版本 Revision:</u> V2



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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 First release	汪乃浩 2021/10/26
V1	/	根据新的命名规范更新规格和产品名称 Update specifications and part no according to new naming specifications	张博 2022/03/24
V2	/	更新端子压接不同型号导线的额定电流 Updated the rated current of the terminals crimping different types of wires	胡杰斌 2023/4/8

产品名称 Product name	SAN-nAW 系列连接器	编号 Document No.	PS4137	版本号 Version No.	V2
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产品规格书

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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 2.0 直插 阳型电子连接器，产品名称：SAN-nAW。

This product specification covers the requirement for 2.0mm pitch Board-in Crimp Conn. plug connector, which are designed and manufactured by CWB Electronics(ZheJiang) Co.,LTD. P/N: SAN-nAW.

3.产品描述 Product description

SAN-nAW 系列产品为家电连接器产品，产品部件组成如下：

The SAN-nAW series connector designed for home appliances connection. part checklist as following form:

Part name	Part No.	Previous part No.	Description
插针 Pin contact	CZ-SANB-C*	SANW	AWG28~AWG24
条形连接器针座（面板安装） Receptacle housing (Panel mount)	SAN-nAW	SANW-nA	PA66 UL94 V-0 PA66 UL94 V-0 GWT750°C

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
EIA-364	EIA-364 系列标准 EIA-364 series standards

产品符合 RoHS 标准。

The product should comply with RoHS.

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产品规格书

PRODUCT SPECIFICATION

5. 参数范围 Parameter ratings:

额定电流 [AC(有效值)/DC] Rated current [AC(rms)/DC]	AWG24 1A Max	AWG26 0.7A Max	AWG28 0.5A Max
适用 PCB 板 Applicable PCB	Board thickness:1.2mm-1.6mm Hole diameter: ϕ 0.9-1.0mm		
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: AWG28~AWG24(0.08mm ² -0.2 mm ²) Insulation diameter: ϕ 1.2mm- ϕ 1.4mm		

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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 5095.1 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针座和拔出针座的力, 测试速度不大于25 mm/min。 The force of inserting and pulling the contact into and out of the receptacle housing along the axis shall be measured (Testing speed: <25 mm/min.) GB/T 5095.8 Method 15d / EIA-364-29B	插入力: ≤8N 固定力: ≥10N Insertion force: ≤8N Retention force: ≥10N
6.1.3	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: 20N Min. AWG 26: 25N Min. AWG 24: 40N Min.

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	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)
6.2.2	耐电压 Withstand voltage	相邻接触件之间或地线之间施加 800V AC (有效值),漏电流 1mA 的电压作用,时间 1min。 Apply a voltage of 800V 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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6.3 环境性能 Environmental

序号 No.	项 目 Item	测试条件 Test condition	规 格 Requirement										
6.3.1	耐高温 Heat resistance	连接器配合后, 于 (85±2) °C 的空气中放置 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)°C 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) 绝缘电阻: 500 MΩ Min. Insulation resistance:500 MΩ Min. 耐电压: 800V Min. Withstand voltage: 800V Min.										
6.3.2	耐低温 Cold resistance	连接器配合后, 于 (-25±2) °C 的空气中放置 96 小时, 再回到室温中放置 (1~2) 小时测定 Mated connectors exposed to the condition of (-25±2)°C for 96hours, recovery time (1~2) hours GB/T 5095.6 Method 11j / EIA-364-17B	外观: 无损伤 (参照6.1.1) Appearance: no damage.(refer to 6.1.1) 绝缘电阻: 500 MΩ Min. Insulation resistance:500 MΩ Min. 耐电压: 800V Min. Withstand voltage: 800V Min.										
6.3.3	恒定湿热 Humidity	温度(40±2)°C, 相对湿度(90~95)% 搁置时间 96 小时, 取出恢复 (1~2) 小时后检查. Mated connectors exposed to the condition of temperature (40±2)°C, humidity (90~95)% for 96 hours, recovery time (1~2) hours GB/T 5095.6 Method 11c /EIA-364-31B	外观: 无损伤 (参照6.1.1) Appearance: no damage.(refer to 6.1.1) 绝缘电阻: 500 MΩ Min. Insulation resistance: 500 MΩ Min. 耐电压: 800V Min. Withstand voltage: 800V 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, 按下列步骤调试验温度: a) 在(-55±2)°C的恒温条件下放置 0.5 小时; b) 在(85±2)°C的恒温条件下放置 0.5 小时; 从 a)到 b)为一个循环, 周期温度转换时间应不大于 5 分钟, 共进行 25 个循环,恢复 (1~2) 小时后检查 Mated connectors shall be tested under the following conditions <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Temperature °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 °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) 绝缘电阻: 500 MΩ Min. Insulation resistance: 500 MΩ Min. 耐电压: 800V Min. Withstand voltage: 800V Min.
Temperature °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±1)%(质量百分比)的氯化钠溶液, 在(35±2)°C温度下连续雾化 48 小时, 试验后用流动的蒸馏水轻轻洗去表面沉积物。在常温常湿条件下恢复 (1~2) 小时 48 hours spray, at temp (35±2)°C, NaCl mist concentration (5±1)%. After test wash parts and put it into room ambient for (1~2) hours GB/T 5095.6 Method 11f /EIA-364-26B	外观: 无损伤(五金件应无露出底金属的严重锈蚀;使用预镀好的型材, 其落料面允许有不影响其性能的轻微腐蚀。) Appearance: no damage (no erosion on material exposed. and plating material, slight erosion on the cutting surface is acceptable)										
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) °C, 时间 (4~5) 秒 Dip solder tails into the molten solder held at (245±5) °C for (4~5) seconds EIA-364-52	上锡率≥90%: Solder coverage: ≥90%										

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PRODUCT SPECIFICATION

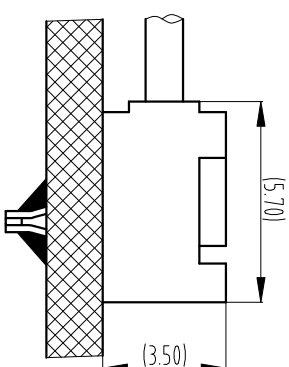
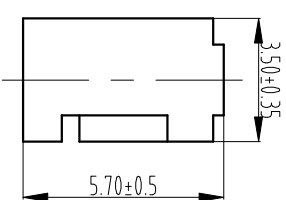
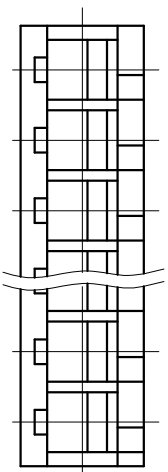
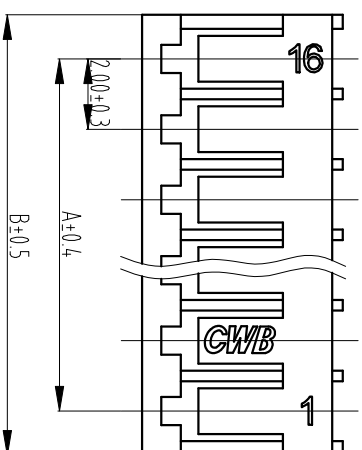
6.3.7	耐焊接热 Resistance to soldering heat	<p>耐波峰焊热：把试验样品需要焊接的部位浸入焊锡炉中，锡炉温度（260±5）℃；时间（5±1）秒后，在正常条件下恢复（1~2）小时 手工焊接：温度（350±10）℃，时间(1~2) seconds Resistance to wave soldering heat: Dip solder tails into the molten solder held at (260±5) °C for (5 ±1) seconds, recovery time (1~2) hours Manual soldering: (350±10)°C for (1~2) seconds</p>	<p>外观：无损伤（参照6.1.1） Appearance: no damage.(refer to 6.1.1)</p>
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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
外观 Appearance	1	1	1,4	1,3	1,3	1,5	1,5	1,3	1,3	1,3
端子插入力与固定力 Insertion force and retention force for contact	2									
压着部位抗张强度 Crimp tensile strength		2								
绝缘电阻 Insulation resistance			2			3	3			
耐电压 Withstand voltage			3			4	4			
耐高温 Heat resistance				2						
耐低温 Cold resistance					2					
恒定湿热 Humidity						2				
温度循环 Temperature cycling							2			
盐雾 Salt spray								2		
可焊性 Solderability									2	
耐焊接热 Resistance to soldering heat										2

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General tolerance				7	8	9	10
Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date	
0~3	±0.13			Version upgrade	Bo Zhang	2022.3.24	
3~18	±0.23						
18~50	±0.35						
≥50	±0.55						



Assembly view
(FYI)

SAN-16AW	SANW-16A	30	32.5
SAN-15AW	SANW-15A	28	30.5
SAN-14AW	SANW-14A	26	28.5
SAN-13AW	SANW-13A	24	26.5
SAN-12AW	SANW-12A	22	24.5
SAN-11AW	SANW-11A	20	22.5
SAN-10AW	SANW-10A	18	20.5
SAN-9AW	SANW-9A	16	18.5
SAN-8AW	SANW-8A	14	16.5
SAN-7AW	SANW-7A	12	14.5
SAN-6AW	SANW-6A	10	12.5
SAN-5AW	SANW-5A	8	10.5
SAN-4AW	SANW-4A	6	8.5
SAN-3AW	SANW-3A	4	6.5
SAN-2AW	SANW-2A	2	4.5
Part No.	Previous part No.	Dimension	
		A	B

- Notes:
- 1.Material: PA66 UL94 V-0,
PA66 UL94 V-0 GWT 750°C;
 - 2.Matched contact: CZ-SANB;
 - 3.Packaging: packing bag;
 - 4.Compliant to the current RoHS.

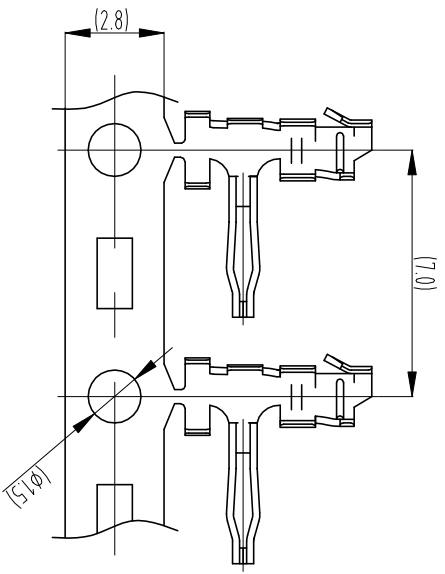
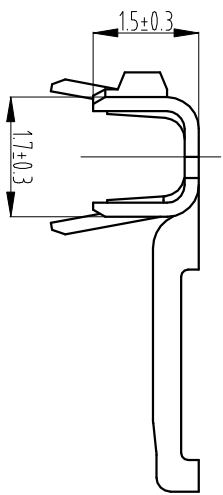
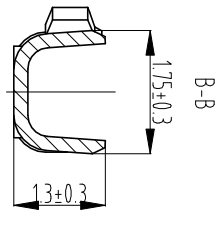
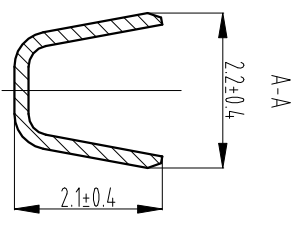
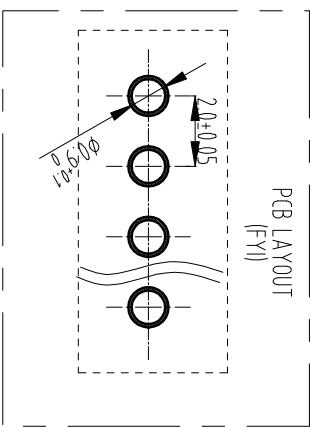
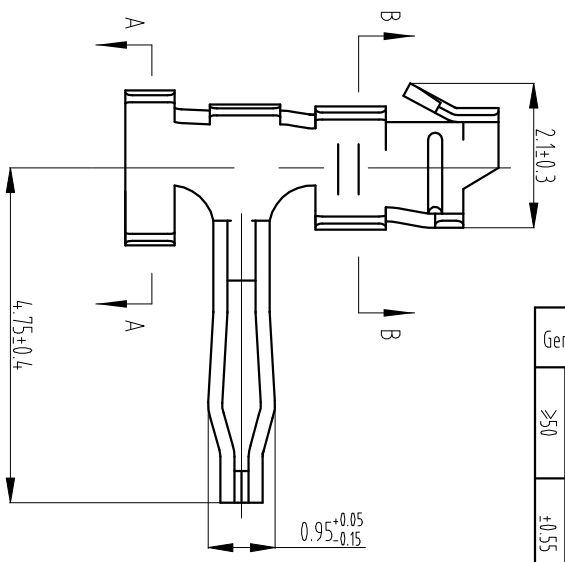
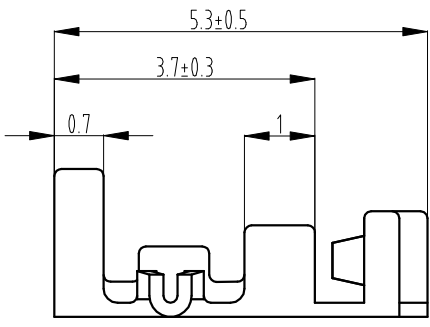
CUSTOMER DRAWING

Title:
2.0mm pitch housing

Drawn	Mahua Wang	2021.10.26	Unit	Scale	Size	Edition	Part No.:	SAN-nAW * (**-*)	
Checked	Ji Wu	2022.3.25	mm	5:1	A4	B1	Previous part No.:	SANW-nA * (**-*)	
Approved	Dongxuliu	2022.3.26	Sheet No.	1 of 1			Document No.:	CP-DWG-01345	
							Specification No.:	PS4137	

CWB 浙江合兴电子有限公司
CWB ELECTRONICS (Zhejiang) Co., Ltd.

General tolerance		Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
0~3	±0.13					Version upgrade	Ba.Zhang	2022.3.25
3~18	±0.23							
18~50	±0.35							
≥50	±0.55							



- Notes:
1. Material: phosphor bronze, thickness=0.2mm;
 2. Surface finish: tin Plated;
 3. Matched housing: SAN-nAW;
 4. Applicable wires: AWG28#~AWG24#;
 5. Compliant to the current RoHS.

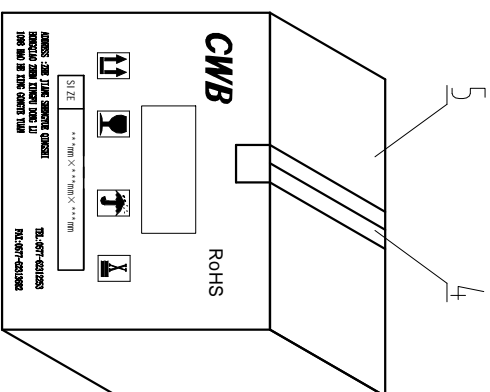
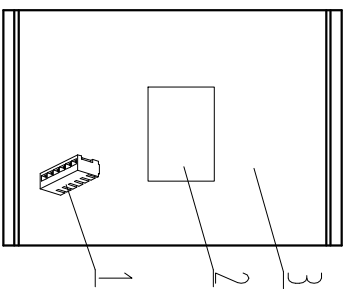
CUSTOMER DRAWING

Title: 2.0mm pitch contact

Drawn	QiuWang	2021.10.26	Unit	mm	Scale	10:1	Size	A4	Edition	B1	Part No.:	CZ-SANB-xx
Checked	JiWu	2022.3.25	Sheet No.	1 of 1							Previous part No.:	CZ-SANW-xx
Approved	Dongxuliu	2022.3.26									Document No.:	CP-DWG-0346
											Specification No.:	PS4.137

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CWB Electronics (Zhejiang) Co., Ltd.

General tolerance		Dimension	Tolerance	Rev. No	Location	Description	Reviser	Date
	0~3	±0.13			Version upgrade	Bo.Zhang	2022.3.25	
	3~18	±0.23						
	18~50	±0.35						
	≥50	±0.55						



SAN-16AW	SANW-16A	1000
SAN-15AW	SANW-15A	1000
SAN-14AW	SANW-14A	1000
SAN-13AW	SANW-13A	1000
SAN-12AW	SANW-12A	1000
SAN-11AW	SANW-11A	1000
SAN-10AW	SANW-10A	1000
SAN-9AW	SANW-9A	1000
SAN-8AW	SANW-8A	1000
SAN-7AW	SANW-7A	1000
SAN-6AW	SANW-6A	1000
SAN-5AW	SANW-5A	1000
SAN-4AW	SANW-4A	1000
SAN-3AW	SANW-3A	1000
SAN-2AW	SANW-2A	1000
Number	Part No.	Previous part No
5	Packing box	
4	Gummed tape	
3	Packing bag	
2	Certificate	
1	SAN-1AW	

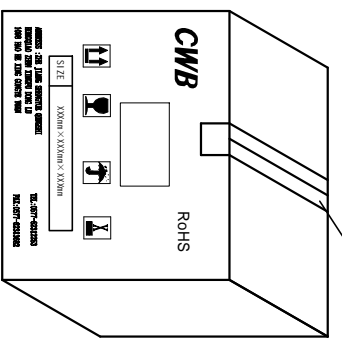
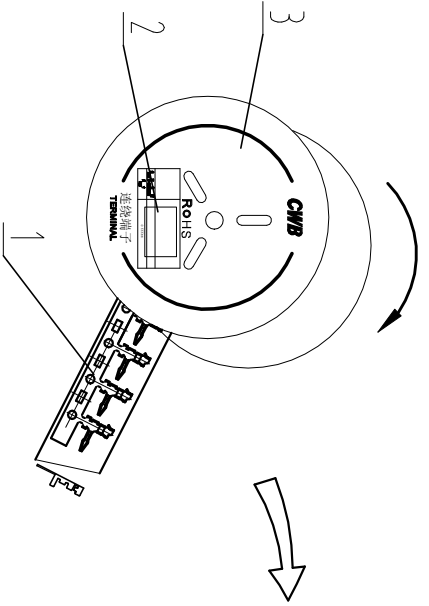
CUSTOMER DRAWING

Title: Packaging specification

Drawn	Muhua Wang	2021/10/26	Unit	Scale	Size	Edition	Part No: SAN-1AW *{K* *}
Checked	JiWu	2022.3.25	mm	/	A4	B2	Previous part No: SANW-nA *{K* *}
Approved	Dongxuliu	2022.3.26	Sheet No.	1 of 1			Document No: BZ-DWG-00235
					Specification No: PS3945		

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CWB ELECTRONICS (Zhejiang) Co., Ltd.

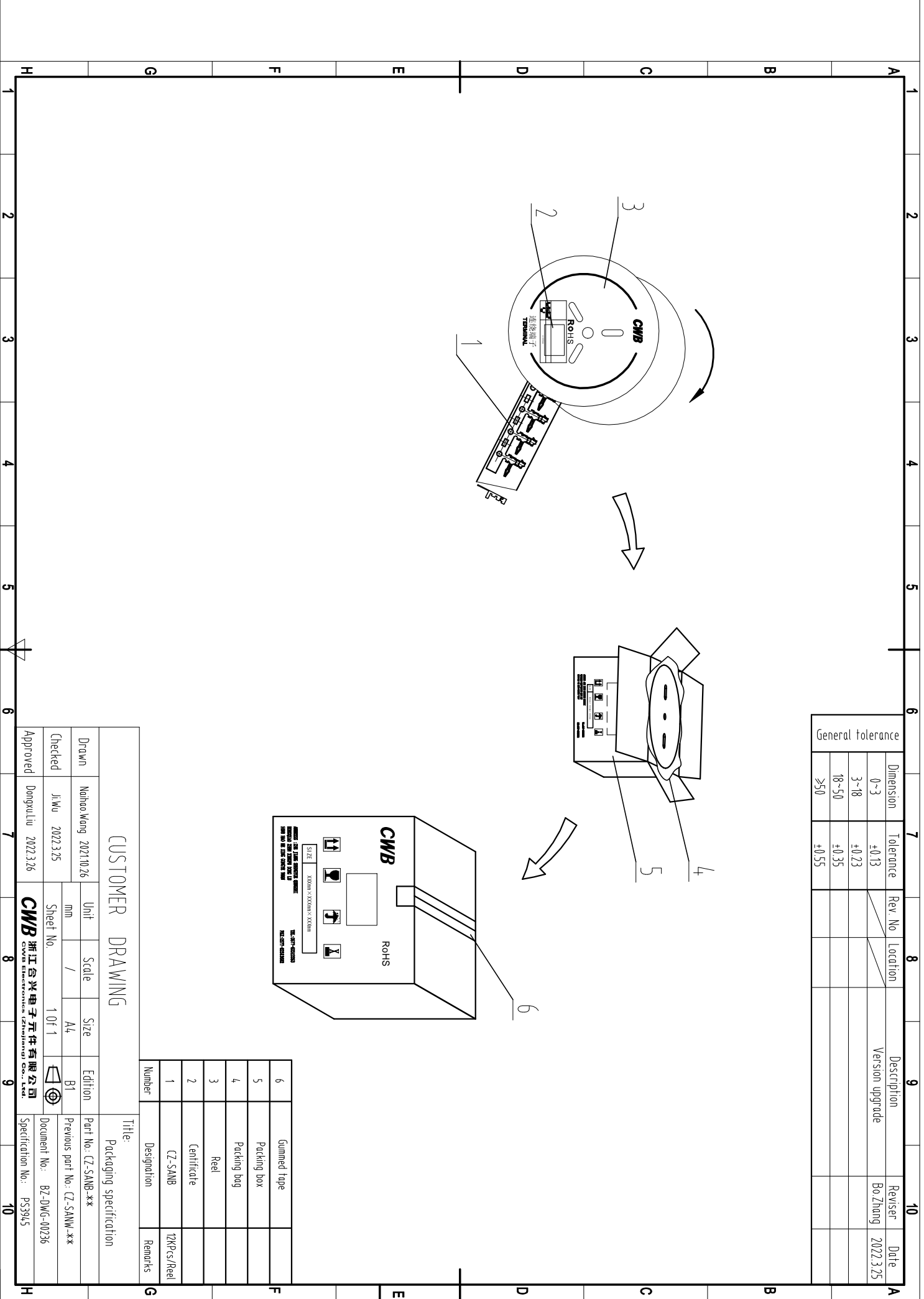
General tolerance			
Dimension	Tolerance	Rev. No	Location
0~3	±0.13		
3~18	±0.23		Version upgrade
18~50	±0.35		
≥50	±0.55		



Number	Designation	Remarks
6	Gummed tape	
5	Packing box	
4	Packing bag	
3	Reel	
2	Certificate	
1	CZ-SANB	12K/PCS/Reel

CUSTOMER DRAWING

Title: Packaging specification			
Drawn	Mulinuo Wang 2021/10/26	Unit	mm
Checked	JiWu 2022/3/25	Scale	1/ A4
Approved	Dongxuliu 2022/3/26	Edition	B1
		Part No.:	CZ-SANB-xx
		Previous part No.:	CZ-SANW-xx
		Document No.:	BZ-DWG-00236
		Specification No.:	PS3945



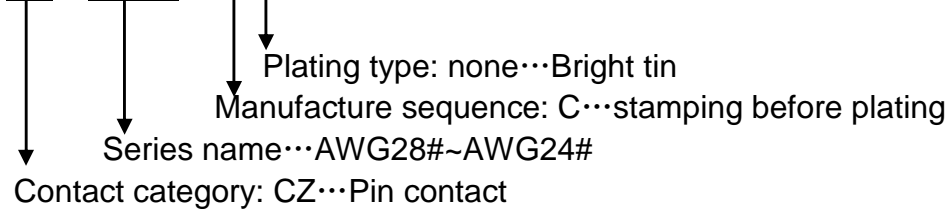
SAN-nAW 系列命名规则

SAN-nAW series naming conventions

1. Contact

CZ-SANB-C*

CH - SANB - * *



2. Receptacle housing

SAN-nAW (* * -*)

SAN - n A W * (* * -*)

