



深圳市兆达鑫科技有限公司  
Shenzhen Zhao Xin Technology Co., Ltd.

SPECIFICATION



客 户  
customer

品 名  
model

1.0MM-SH连接器系列  
Connector series

型 号  
ProductName

料 号  
Item No

设计人	设计日期	审核人	批准人
DESIGNED BY	DESIGN DATE	CHECKED BY	APPROVED BY
	2020.01.01		
设计单位	ISO9001 认证标志	客户承认	
DESIGN DEPARTMENT	CERTIFICATION OF ISO9001	CUSTOMER APPROVED	

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# 产 品 承 认 书 目 录

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## 1、SCOPE

### 适用范围

**The contents of specifications for1001 series connector strip, including product performance, test methods and inspection requirements**

本规格书内容适用于 1001 系列条形连接器，包含了产品的性能、试验方法和检验要求

## 2、APPLICABLE STANDARDS

### 适用的标准

- |     |          |   |
|-----|----------|---|
| 2.1 | GB/T2421 | <b>Testing method for Environmental of Electrical Connectors Class 1 :</b><br><b>General Principles</b> |
|     | GB/T2421 | 电工电子产品环境试验 第一部分 总则  |
| 2.2 | GB/T2423 | <b>Testing method for Environmental of Electrical Connectors</b>  |
|     | GB/T2423 | 电工电子产品环境试验方法  |
| 2.3 | GB/T2424 | <b>Testing method for Environmental of Electrical Connectors</b>  |
|     | GB/T2424 | 电工电子产品环境试验导则  |
| 2.4 | GB/T5095 | <b>Testing Procedure/method for components of electric equipment</b><br>电子设备用机电元件基本试验规程及测量方法            |

## 3、USE CONDITION

### 使用条件

- 3.1 Ambient temperature Range:-25℃~+85℃**  
环境温度：-25℃~+85℃
- 3.2 Applicable Wire Sizes:AWG#28~#32**  
适用线规：AWG#28~#32
- 3.3 Applicable PC board thickness:0.6~1.2mm**  
适用 PC 板厚度：0.6~1.2mm

## 4、Appearance and Dimension

### 外观及尺寸

- 4.1 Appearance:Product surface without defect、dirt、crack、and mechanical damang, Contact without rust,plating not oxided and not peeled.**  
产品表面不应有对制品有害的缺陷、污垢、裂痕及机械损伤；接触件无锈蚀、镀层氧化、脱落等现象.
- 4.2 Dimension:According to drawings**  
外形尺寸：依照附图
- 4.3 Exchangable:Exchangable with same specification products.**  
互换性：相同规格应能互换

## 5、Material

### 材 料

P/N 零件名称	Type 类 型	Material 材 料	Finish 表面处理	Explain 说 明
Terminal 端 子	Contact 插 簧	Phosphor bronze 锡青磷铜 厚 0.15mm	Tin Plating:3~5 μ m 镀锡: 3~5 μ m	RoHS
Housing 孔 座	Plastic 塑 壳	PBT UL94V-0	Color: White 颜色: 白色	
Wafer 卧贴针座	Plastic 塑 壳	LCP UL94V-0	Color: Beige 颜色: 米色	
	Contact 插 针	Phosphor bronze 锡青磷铜 厚 0.20mm	Tin Plating:3~5 μ m 镀锡: 3~5 μ m	
	Solder tab 焊护耳	Phosphor bronze 锡青磷铜 厚 0.20mm	Tin Plating:3~5 μ m 镀锡: 3~5 μ m	
Wafer 立贴针座	Plastic 塑 壳	LCP UL94V-0	Color: Beige 颜色: 米色	
	Contact 插 针	Phosphor bronze 锡青磷铜 厚 0.20mm	Tin Plating:3~5 μ m 镀锡: 3~5 μ m	
	Solder tab 焊护耳	Phosphor bronze 锡青磷铜 厚 0.20mm	Tin Plating:3~5 μ m 镀锡: 3~5 μ m	

## 6、Electrical Performance

### 电 气 性 能

N0. 序号	Ltem 项 目	Test mode 试验方法	Requirement 技术要求
6.1	Current Rated 额定电流		1A AC DC
6.2	Voltage Rated 额定电压		50V AC DC
6.3	ContactResistance 接触电阻	A maximum voltage of 20mV and a maximum current of 100mA are applied to the Mate connector 组合状态下的连接器, 两端施以最大测试电压 20 mV 以及最大测试电流 100 mA  Does not include wire resistance 不包含电线阻抗	Initial value Less than 20m Ω 初始值 ≤ 20 m Ω  After Test: 30m Ω Max 试验后: 30m Ω Max
6.4	withstandvoltage 耐电压	Apply 500V AC(rms)for 1 minute and the leakage current shall not exceed 0.5mA to the adjacent terminal and ground of the Mate connectors 组合状态下的连接器, 相邻两导体末端各施以电压 500V AC(有效值)时间 1 分钟, 且漏电流必须小于 0.5mA(毫安培)	No breakdownor flashover 无击穿或者产生火花

N0. 序号	Ltem 项目	Test mode 试验方法	Requirement 技术要求
6.5	InsulationResistance 绝缘电阻	Apply 500V DC(rms)for 1 minute between adjacent contacts to measure the insulation resistance  相邻两接触导体，1 分钟时间内施予 500V DC 电压，测量期间的绝缘阻抗值	More than 100 MΩ  ≥100 MΩ

## 7、Mechanical Performance:

### 机械性能

N0. 序号	Ltem 项目	Test mode 试验方法	Requirement 技术要求
7.1	Terminal crimping wire strength 端子压接导线强度	Terminal crimping wires, axial per minute to 25 ± 3mm rate of the pullout force	AWG#28 wire More than 13N ≥13N
		端子所压接电线，以每分钟 25±3mm 速率之轴向拔出力	AWG#30 wire More than 8N ≥8N
			AWG#32 wire More than 6N ≥6N
7.2	Fixed terminals and hole seat 端子与孔座固定力	The terminal and the hole seat, at a rate per minute to 25 ± 3mm along the wire direction are pulled out from the hole in the seat capacity  端子与孔座配合，以每分钟 25±3mm 的速率沿导线方向将端子从孔座中拔出的力	Per contact 单一接触点  More than 8N ≥8N
7.3	Insertion & withdrawal force 插拔力	Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute  以每分钟 25.4±3mm 的速率插入和拔出	Refer to paragraph 9 参照第 9 项
7.4	Pin Retention force PIN 针固定力	Exerts a force on the pin end, at a rate per minute 25 ± 3mm, until the needle exit seat pull-out force  在针脚前端施加力，以每分钟 25±3mm 的速率，直到针退出针座的拔出力	Per contact 单一接触点  More than 3N ≥3N

NO. 序号	Ltem 项目	Test mode 试验方法	Requirement 技术要求
7.5	Durability 耐久性	Mate connectors up 30 cycles at a Maximun rate of 10cycles per minute prior toenvironmental test  组合状态下的连接器且未经环境测试，每分钟内进行 10 次嵌入与拔出，连续 30 次嵌入与拔出往返测试	Contact Resistance ≤30 mΩ 接触电阻≤30 mΩ
7.6	Vibration 振动	Connector combination state of the welding circuit board as test samples, the request in accordance with the following specifications, resistance to vibration test, whether to produce discontinuous current determined during the experiment (off) phenomenon, after the experiment measuring contact resistance  组合状态下的连接器焊接电路板上作为试验样品，依照如下规格要求，进行耐振动试验，试验过程中确定是否产生不连续电流（断电）现象，试验过后测量接触电阻值  Frequency(频率):10-55-10 Hz/minute Amplitude(振幅):1.5mm p-p Direction(方向): 1、 Axis of up and down 上下轴向(Y 轴) 2、 Axis of right the left 左右轴向(X 轴) 3、 Axis of front and back 前后轴向(Z 轴) Period(周期):2 hous for each direction 每一个轴向持续 2 小时	Appearance: No damage 外观: 无损伤  Contact Resistance ≤30 mΩ 接触电阻≤30 mΩ  current Discontinuity: 1 micro second Max 电流中断: 1 μ sec Max

## 8、Endurance Characteristics:

### 环境性能

NO. 序号	Ltem 项目	Test mode 试验方法	Requirement 技术要求
8.1	Thermal Aging 高温老化试验	Connector combination condition is placed in the oven, the request in accordance with the following specifications, high temperature aging test, after the test and measurement of contact resistance  组合状态下的连接器放置于加热烤箱中，依照如下规格要求，进行高温老化试验，试验后并测量接触电阻值  Temperature:85± 2 °C Period:96 hours continuously 温度: 85± 2 °C 周期: 持续 96 小时	Appearance: No damage 外观: 无损伤  Contact Resistance ≤30 mΩ 接触电阻≤30 mΩ

NO. 序号	Ltem 项 目	Test mode 试验方法	Requirement 技术要求
8.2	Temperature 温升	<p>Mate connector measure the temperature rise of contact when the maximum rated current is passed</p> <p>组合状态下的连接器，通过最大容许电流测量导体温度上升值</p>	30°C Max
8.3	Humidity 恒定潮湿	<p>Connector combination under the condition of constant temperature and humidity place space, in accordance with the requirements of the following specifications, constant temperature and humidity test, after the experiment measuring contact resistance, insulation resistance and withstand voltage test</p> <p>组合状态下的连接器放置恒定温度的湿气空间，依照如下规格要求，进行恒温恒湿试验，试验过后测量接触电阻、绝缘电阻以及耐电压测试</p> <p>Temperature: 40 ± 2 °C Relative humidity:90-95%RH Period:96 hours continuously</p> <p>温度:40±2°C 相对湿度:90-95% 周期：持续 96 小时</p>	<p>Appearance: No damage 外观：无损伤</p> <p>Contact Resistance: ≤30m Ω 接触电阻：≤30 m Ω</p> <p>Insulation Resistance: ≥100M Ω 绝缘电阻：≥100M Ω</p> <p>No breakdown or flashover 无击穿或者产生火花</p>
8.4	Temperature cycling 温度循环	<p>The combined state of connectors as test samples, in accordance with the requirements of the following specifications, thermal shock test, after the test measuring contact resistance, insulation resistance, and resistance to voltage</p> <p>组合状态下的连接器作为试验样品，依照如下规格要求，进行冷热冲击试验，试验后测量接触电阻、绝缘电阻、以及耐电压测试</p> <p>One cycle consists of: -55 ± 3°C, 30min, Room temp. 10-15 min 85 ± 3°C, 30min, Room temp. 10-15 min Total cycle: 5 cycle</p> <p>-55 ± 3°C, 30 分钟，放置转换时间 10-15 分钟 85 ± 3°C, 30 分钟，放置转换时间 10-15 分钟 循环次数：5 次</p>	Same as paragraph 8.3 同 8.3 章节

NO. 序号	Ltem 项目	Test mode 试验方法	Requirement 技术要求
8.5	Salt spray 盐雾	<p>The combined state of connector as test samples, salt spray test according to the following specifications, test samples will be clean again with the water to dry naturally, measurement of contact resistance</p> <p>组合状态下的连接器作为试验样品，依照如下规格要求进行盐水喷雾试验，试验后将样品用清水冲干净自然凉干，测量接触电阻值</p> <p>Temperature: <math>35 \pm 3^{\circ}\text{C}</math>  Solution: <math>5 \pm 1\%</math>  Period: 24h</p> <p>温度: <math>35 \pm 3^{\circ}\text{C}</math>  浓度: <math>5 \pm 1\%</math>  周期: 24h</p>	<p>Appearance: No damage 外观: 无损伤</p> <p>Contact Resistance:  <math>\leq 30\text{m}\Omega</math>  接触电阻: <math>\leq 30\text{m}\Omega</math></p>
8.6	Solder ability 可焊性	<p>In accordance with the following specifications were placed tin soldering test</p> <p>放置锡炉中依照如下规格进行焊锡试验</p> <p>Solder Temperature:<math>245 \pm 5^{\circ}\text{C}</math>  Immersion period:<math>3 \pm 0.5\text{S}</math></p> <p>焊锡温度: <math>245 \pm 5^{\circ}\text{C}</math>  沉浸周期: <math>3 \pm 0.5\text{S}</math></p>	<p>Area of Soldering: <math>\geq 90\%</math></p> <p>焊锡面积: <math>\geq 90\%</math></p>
8.7	Solder- Resistance 焊锡耐热性	<p>Soldering time:<math>5\sim 10\text{ sec}</math>  solder. Temperature:<math>255 \pm 5^{\circ}\text{C}</math></p> <p>焊接时间: 5~10 秒.  焊接温度: <math>255 \pm 5^{\circ}\text{C}</math></p>	<p>Appearance: No damage 外观: 无损伤</p>



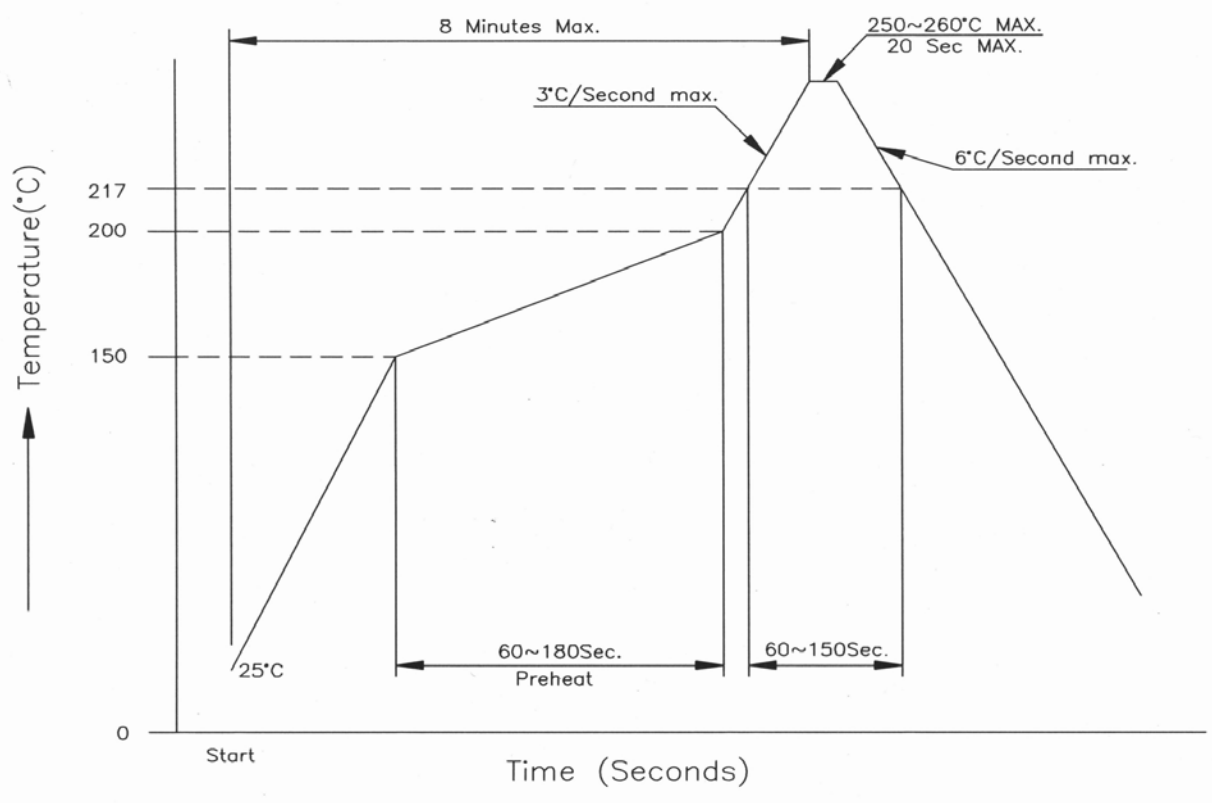
## 9、INSERTION/WITHDRAWAL FORCE

### 综合插入力及拔出力

No. of CTK PIN 数	At Initial 初始值		At 30th 插拔 30 次	No. of CTK PIN 数	At Initial 初始值		At 30th 插拔 30 次
	(N Max) 插入力	(N Min) 拔出力	(N Min) 拔出力		(N Max) 插入力	(N Min) 拔出力	(N Min) 拔出力
2	15	2.0	1.5	12	45	5.0	4.5
3	18	2.3	1.8	13	48	5.3	4.8
4	21	2.6	2.1	14	51	5.6	5.1
5	24	2.9	2.4	15	54	5.9	5.4
6	27	3.2	2.7	16	57	6.2	5.7
7	30	3.5	3.0	17	60	6.5	6.0
8	33	3.8	3.3	18	63	6.8	6.3
9	36	4.1	3.6	19	66	7.1	6.6
10	39	4.4	3.9	20	69	7.4	6.9
11	42	4.7	4.2				

## 10、SMT lead-free process temperature curve

SMT 无铅工艺温度曲线

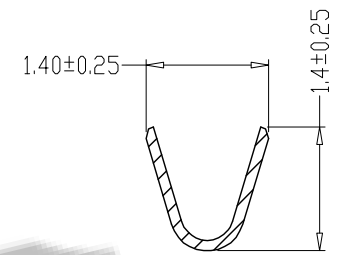
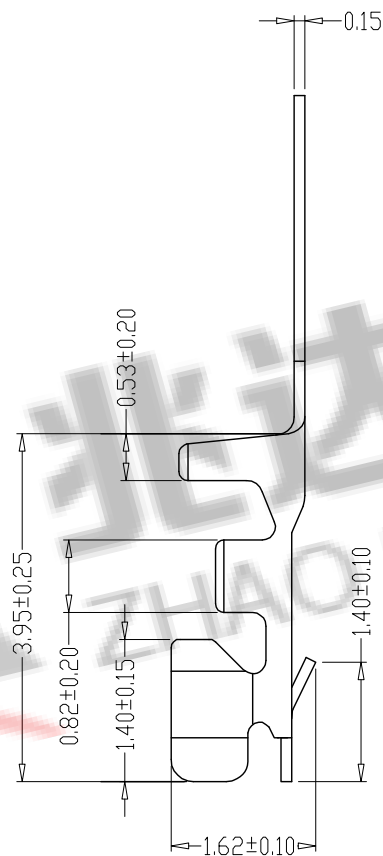
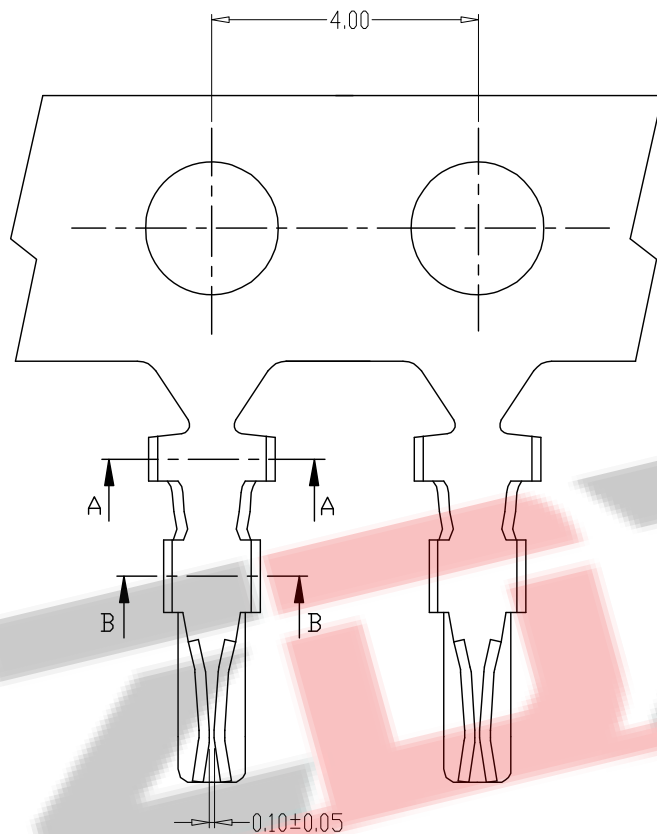


## 11、Caution

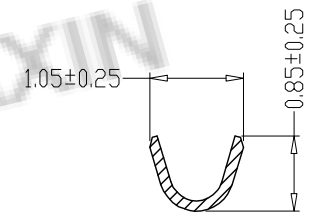
注意事项

plastic because of characteristics with water after package is opened should avoid exposure to, the temperature is higher than 30 °C, humidity is higher than 60%RH in the environment, and in the 24 hours after all after use, to prevent subsequent reflow, wave soldering process to produce foaming phenomenon of deformation

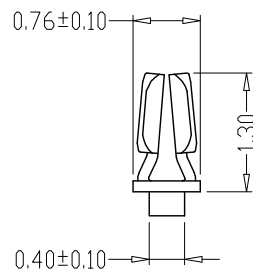
塑料因具有吸水之特性包装拆封后应避免暴露于，温度高于 30°C，湿度高于 60%RH 的环境中，并在拆封后 24 小时内全数使用完毕，防止后续回流焊、波峰焊制程产生起泡变形现象



SEC: A-A



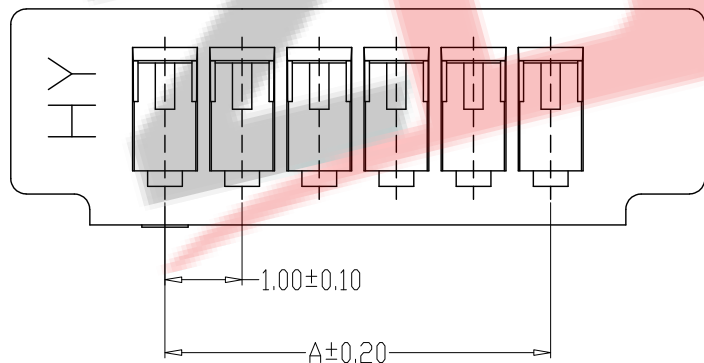
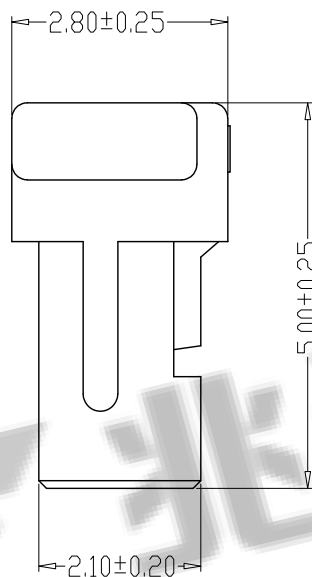
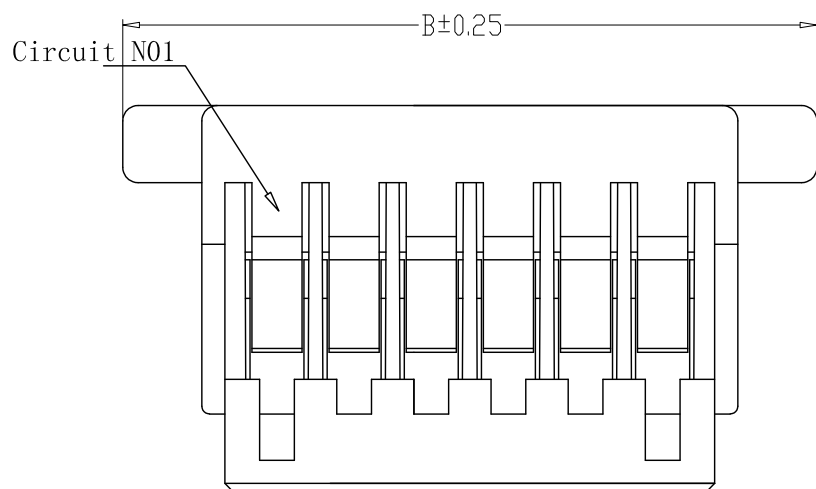
SEC: B-B



SPECIFICATIONS

- 1、Current Rating: 1A AC, DC
- 2、Voltage Rating: 50V AC, DC
- 3、Temperatuer Range: -25℃~+85℃
- 4、Contact Resistance: 20mΩ Max
- 5、Insulation Resistance: 100MΩ Min
- 6、Withstanding Voltang: 500V AC/minute
- 7、Material:Phosphoric bronze Tin-plated
- 8、Applicable Wire Sizes:AWG#28`32#

GENERAL TOLERANCE		制图 Mapping	江涛	料号 PART NO.	<b>ZDX-L-1001-T</b>	版本 REV.	A
X.±0.25	X.*±2'	审核 Audit	李毅	品名 TITLE	1.0普通单排 WAFER SMT TYPE	页次 SHEET	1/1
.X±0.20	.X*±1'	核准 Approved	刘志强	客户料号 CUTM. NO.			
.XX±0.15	.XX*±0.5'	单位 Units	MM	比例 SCALE	1:1		
.XXX±0.10	.XXX*±0.5'	深圳市兆达鑫科技有限公司 Shenzhen zhaodaxin Technology Co., Ltd					



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- 6、Withstanding Voltang: 500V AC/minute
- 7、Material:PBT,UL94V-0

PIN=NY	尺寸 (mm)	
	A	B
02Y	1.00	5.00
03Y	2.00	6.00
04Y	3.00	7.00
05Y	4.00	8.00
06Y	5.00	9.00
07Y	6.00	10.00
08Y	7.00	11.00
09Y	8.00	12.00
10Y	9.00	13.00
11Y	10.00	14.00
12Y	11.00	15.00
13Y	12.00	16.00
14Y	13.00	17.00
15Y	14.00	18.00
16Y	15.00	19.00
17Y	16.00	20.00
18Y	17.00	21.00
19Y	18.00	22.00
20Y	19.00	23.00

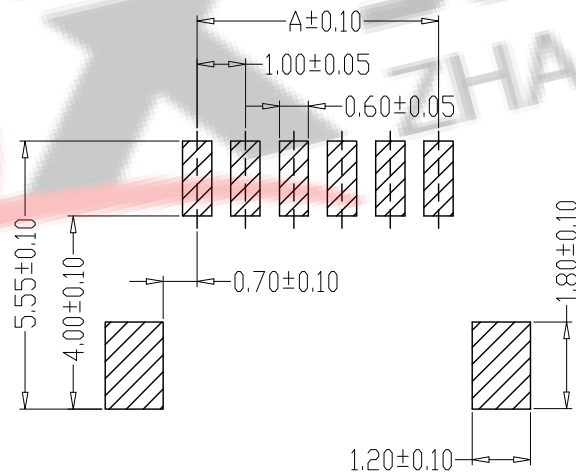
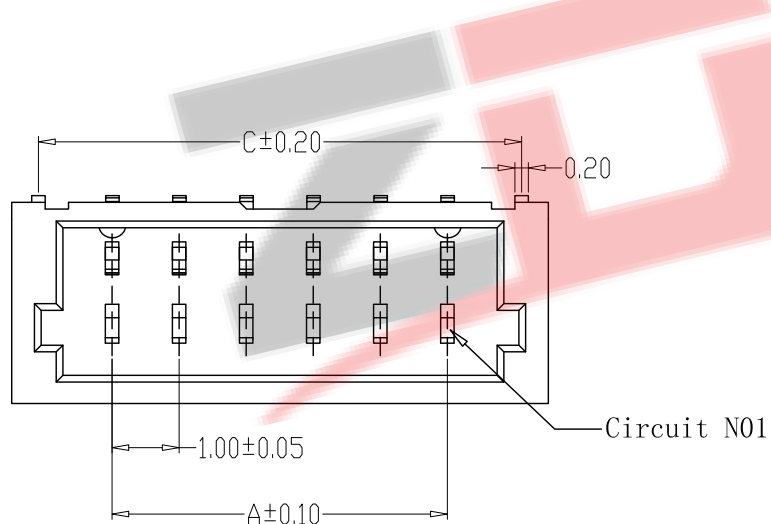
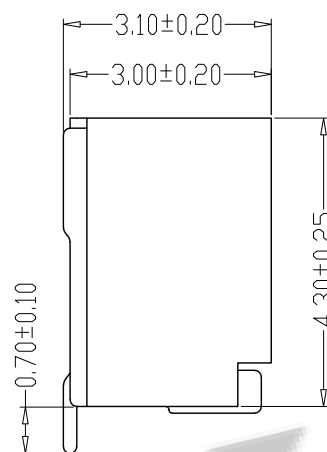
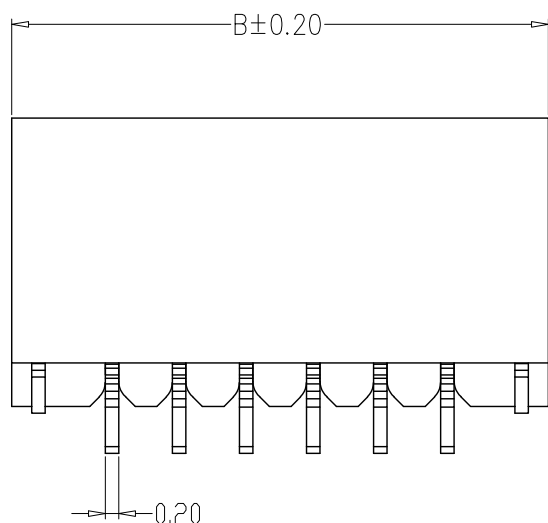
制图 DRAWN	变更内容 DESCRIPTION	日期 DATE	GENERAL TOLERANCE		制图 Mapping	江涛		料号 PART NO.	ZDX-L-1001-NY		版本 REV.	A					
			X.±0.25	X.*±2'		审核 Audit	李毅		品名 TITLE	1.0普通单排		页次 SHEET	1/1				
			.X±0.20	.X*±1'			核准 Approved			刘志强			客户料号 CUTM. NO.				
			.XX±0.15	.XX*±0.5'						单位 Units				MM	比例 SCALE		1:1
.XXX±0.10	.XXX*±0.5'																

RoHS Compliant

CUSTOMER DRAWING

SPECIFICATIONS

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- 5、Insulation Resistance: 100MΩ Min
- 6、Withstanding Voltang: 500V AC/minute
- 7、Material: Wafer LCP, UL94V-0  
PIN Phosphoric bronze Tin-plated  
Solder tad Phosphoric bronze Tin-plated



PCB LAYOUT

PIN=NAWB	尺寸 (mm)		
	A	B	C
02AWB	1.00	4.00	3.20
03AWB	2.00	5.00	4.20
04AWB	3.00	6.00	5.20
05AWB	4.00	7.00	6.20
06AWB	5.00	8.00	7.20
07AWB	6.00	9.00	8.20
08AWB	7.00	10.00	9.20
09AWB	8.00	11.00	10.20
10AWB	9.00	12.00	11.20
11AWB	10.00	13.00	12.20
12AWB	11.00	14.00	13.20
13AWB	12.00	15.00	14.20
14AWB	13.00	16.00	15.20
15AWB	14.00	17.00	16.20
16AWB	15.00	18.00	17.20
17AWB	16.00	19.00	18.20
18AWB	17.00	20.00	19.20
19AWB	18.00	21.00	20.20
20AWB	19.00	22.00	21.20

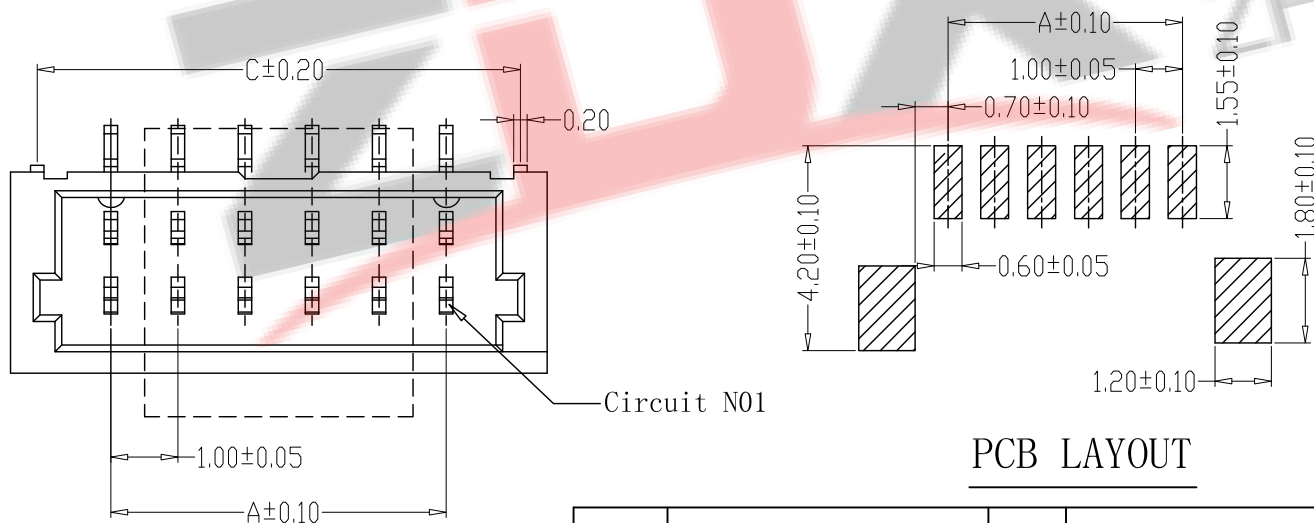
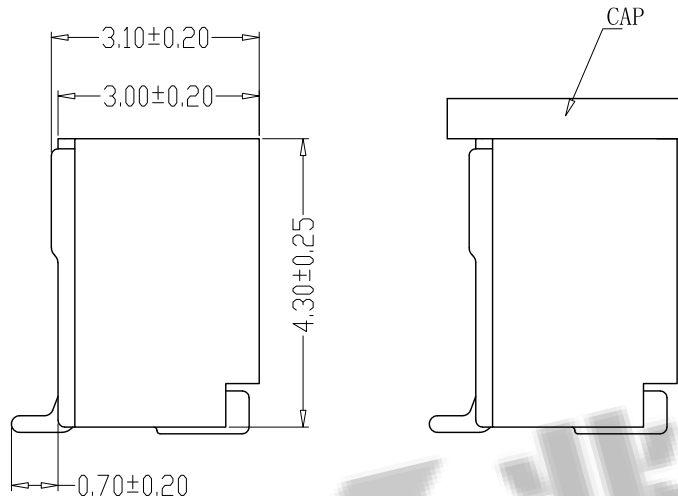
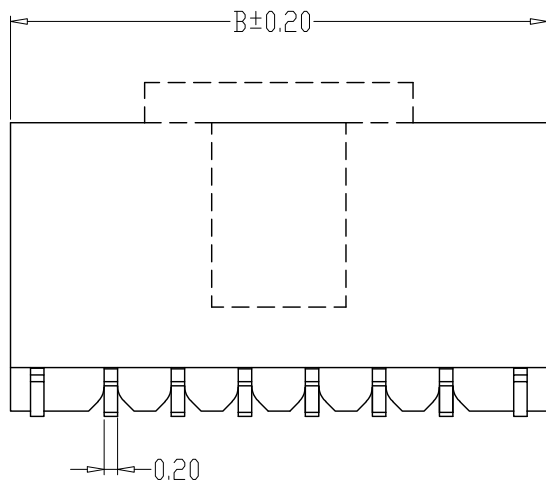
制图 DRAWN	变更内容 DESCRIPTION	日期 DATE	GENERAL TOLERANCE		制图 Mapping	江涛	料号 PART NO.	ZDX-W-1001-NAWB	版本 REV.	A
			X.±0.25	X.*±2'	审核 Audit	李毅	品名 TITLE	1.0普通单排卧贴 WAFER SMT TYPE	页次 SHEET	1/1
			.X±0.20	.X*±1'	核准 Approved	刘志强	客户料号 CUTM. NO.			
			.XX±0.15	.XX*±0.5'	单位 Units	MM	比例 SCALE	1:1	ZDX 深圳市兆达鑫科技有限公司 Shenzhen zhaodaxin Technology Co., Ltd	
			.XXX±0.10	.XXX*±0.5'						

RoHS Compliant

CUSTOMER DRAWING

SPECIFICATIONS

- 1、Current Rating: 1A AC, DC
- 2、Voltage Rating: 50V AC, DC
- 3、Temperatuer Range: -25°C~+85°C
- 4、Contact Resistance: 20mΩ Max
- 5、Insulation Resistance: 100MΩ Min
- 6、Withstanding Voltang: 500V AC/minute
- 7、Material: Wafer LCP, UL94V-0  
PIN Phosphoric bronze Tin-plated  
Solder tad Phosphoric bronze Tin-plated



PCB LAYOUT

PIN=NAB	尺寸 (mm)		
	A	B	C
02AB	1.00	4.00	3.20
03AB	2.00	5.00	4.20
04AB	3.00	6.00	5.20
05AB	4.00	7.00	6.20
06AB	5.00	8.00	7.20
07AB	6.00	9.00	8.20
08AB	7.00	10.00	9.20
09AB	8.00	11.00	10.20
10AB	9.00	12.00	11.20
11AB	10.00	13.00	12.20
12AB	11.00	14.00	13.20
13AB	12.00	15.00	14.20
14AB	13.00	16.00	15.20
15AB	14.00	17.00	16.20
16AB	15.00	18.00	17.20
17AB	16.00	19.00	18.20
18AB	17.00	20.00	19.20
19AB	18.00	21.00	20.20
20AB	19.00	22.00	21.20

DRAWN	DESCRIPTION	DATE	GENERAL TOLERANCE		制图 Mapping	江涛	料号 PART NO.	ZDX-L-1001-NAB		REV.	A
			X±0.25	X*±2'			品名 TITLE	1.0普通单排立贴 WAFER SMT TYPE		SHEET	1/1
			.X±0.20	.X*±1'			客户料号 CUTM. NO.				
			.XX±0.15	.XX*±0.5'			核准 Approved	刘志强			
			.XXX±0.10	.XXX*±0.5'		MM SCALE	1:1		深圳市兆达鑫科技有限公司 Shenzhen zhaodaxin Technology Co., Ltd		