

YUEQING HONGYI ELECTRONICS CO., LTD
乐清市宏一电子有限公司

SPECIFICATION FOR APPROVAL

承 认 书

CUSTOMER 客户名称	
DESCRIPTION 产品名称	1.0 普通带钩系列连接器
ITEM NO 料 号	
DATE 日 期	2022-8-22

CUSTOMER ACKNOWLEDGEMENT SEAL

客 户 承 认 印 签

(APPROVAL) 核准	(ENGINEERING) 工程	(PURCHASE) 采购	(QUALITY) 品质
承认结果： ☐ 通过 ☐ 不通过 ☐ 重新送样			

ISO9001

ISO14001

IATF16949 体系认证

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修订履历

[illegible]

产 品 承 认 书 目 录

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1、SCOPE

适用范围

The contents of specifications for 1002 series connector strip, including product performance, test methods and inspection requirements

本规格书内容适用于 1002 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 | Testing method for Environmental of Electrical Connectors Class 1 :
General Principles |
| | GB/T2421 | 电工电子产品环境试验 第一部分 总则 |
| 2.2 | GB/T2423 | Testing method for Environmental of Electrical Connectors |
| | GB/T2423 | 电工电子产品环境试验方法 |
| 2.3 | GB/T2424 | Testing method for Environmental of Electrical Connectors |
| | GB/T2424 | 电工电子产品环境试验导则 |
| 2.4 | GB/T5095 | Testing Procedure/method for components of electric equipment |
| | | 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 oxidized 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	Expiain 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	RoHS2.0
Housing 孔 座	Plastic 塑 壳	Nylon66 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 端子所压接电线，以每分钟 25±3mm 速率之轴向拔出力	AWG#28 wire AWG#28 导线 More than 13N ≥13N
			AWG#30 wire AWG#30 导线 More than 8N ≥8N
			AWG#32 wire AWG#32 导线 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 以每分锺 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

N0. 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 $\leq 30\text{ m}\Omega$ 接触电阻 $\leq 30\text{ m}\Omega$
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 $\leq 30\text{ m}\Omega$ 接触电阻 $\leq 30\text{ m}\Omega$ current Discontinuity: 1 micro second Max 电流中断：1 $\mu\text{ sec}$ Max

8、Endurance Characteristics:

环 境 性 能

N0. 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 $\pm$ 2 $^{\circ}\text{C}$ Period:96 hours continuously 温度：85 $\pm$ 2 $^{\circ}\text{C}$ 周期：持续 96 小时	Appearance: No damage 外观：无损伤 Contact Resistance $\leq 30\text{ m}\Omega$ 接触电阻 $\leq 30\text{ m}\Omega$

N0. 序号	Ltem 项 目	Test mode 试验方法	Requirement 技术要求
8.2	Temperature 温升	Mate connector measure the temperature rise of contact when the maximum rated current is passed 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	30℃ Max
8.3	Humidity 恒定潮湿	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 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 Temperature: 40 ± 2 °C Relative humidity:90-95%RH Period:96 hours continuously 温度:40±2℃ 相对湿度:90-95% 周期：持续 96 小时	Appearance: No damage 外观：无损伤 Contact Resistance: ≤30m Ω 接触电阻：≤30 m Ω Insulation Resistance: ≥100M Ω 绝缘电阻：≥100M Ω No breakdown or flashover 无击穿或者产生火花
8.4	Temperature cycling 温度循环	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 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 One cycle consists of: -55 ± 3 °C, 30 min, Room temp. 10-15 min 85 ± 3 °C, 30 min, Room temp. 10-15 min Total cycle: 5 cycle -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	Same as paragraph 8.3 同 8.3 章节

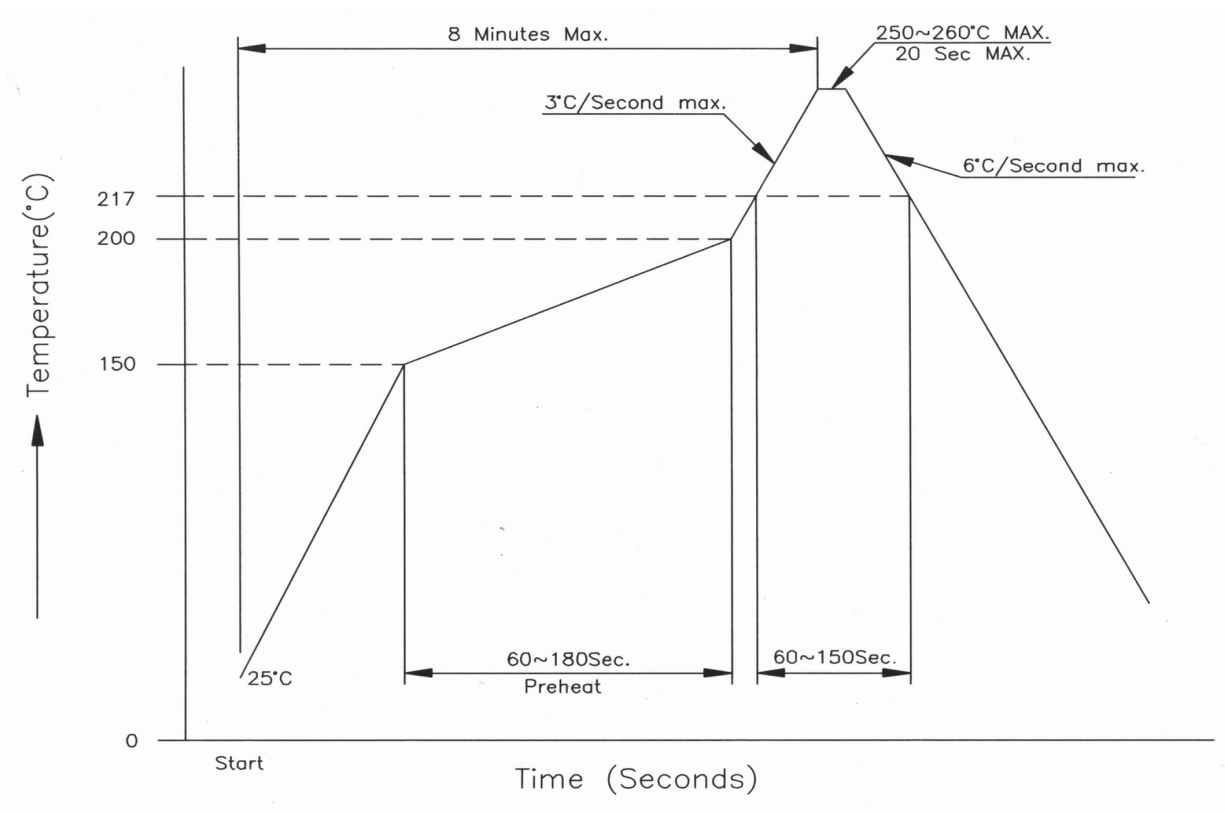
N0. 序号	Ltem 项 目	Test mode 试验方法	Requirement 技术要求
8.5	Salt spray 盐雾	The combined state of connector as test samples, salt spray test according to the following specifications, test samples will be clean again with the water to dry naturally, measurement of contact resistance 组合状态下的连接器作为试验样品，依照如下规格要求进行盐水喷雾试验，试验后将样品用清水冲干净自然凉干，测量接触电阻值 Temperature: $35 \pm 3^{\circ}\text{C}$ Solution: $5 \pm 1\%$ Period: 24h 温度: $35 \pm 3^{\circ}\text{C}$ 浓度: $5 \pm 1\%$ 周期: 24h	Appearance: No damage 外观: 无损伤 Contact Resistance: $\leq 30\text{m}\Omega$ 接触电阻: $\leq 30\text{ m}\Omega$
8.6	Solder ability 可焊性	In accordance with the following specifications were placed tin soldering test 放置锡炉中依照如下规格进行焊锡试验 Solder Temperature: $245 \pm 5^{\circ}\text{C}$ Immersion period: $3 \pm 0.5\text{S}$ 焊锡温度: $245 \pm 5^{\circ}\text{C}$ 沉浸周期: $3 \pm 0.5\text{S}$	Area of Soldering: $\geq 90\%$ 焊锡面积: $\geq 90\%$
8.7	Solder- Resistance 焊锡耐热性	Soldering time: 5~10 sec solder. Temperature: $255 \pm 5^{\circ}\text{C}$ 焊接时间: 5~10 秒. 焊接温度: $255 \pm 5^{\circ}\text{C}$	Appearance: No damage 外观: 无损伤

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	20	2.0	2.0	12	50	5.0	5.0
3	20	2.0	2.0	13	50	5.0	5.0
4	20	2.0	2.0	14	60	6.0	6.0
5	30	3.0	3.0	15	60	6.0	6.0
6	30	3.0	3.0	16	60	6.0	6.0
7	30	3.0	3.0	17	70	7.0	7.0
8	40	4.0	4.0	18	70	7.0	7.0
9	40	4.0	4.0	19	70	7.0	7.0
10	40	4.0	4.0	20	80	8.0	8.0
11	50	5.0	5.0				

10、SMT lead-free process temperature curve

SMT 无铅工艺温度曲线



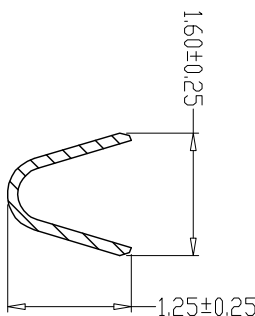
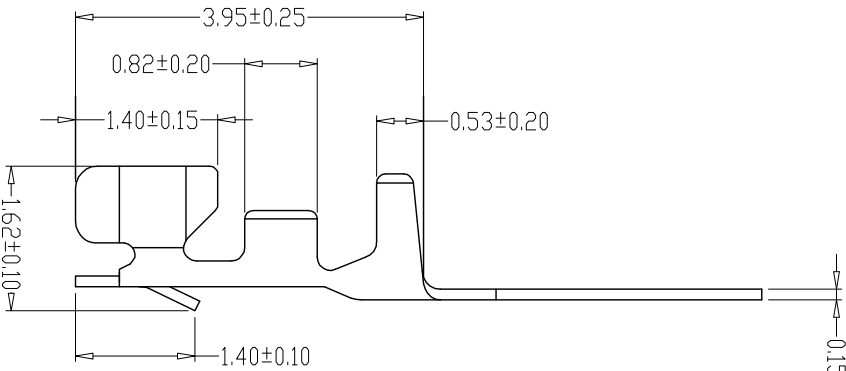
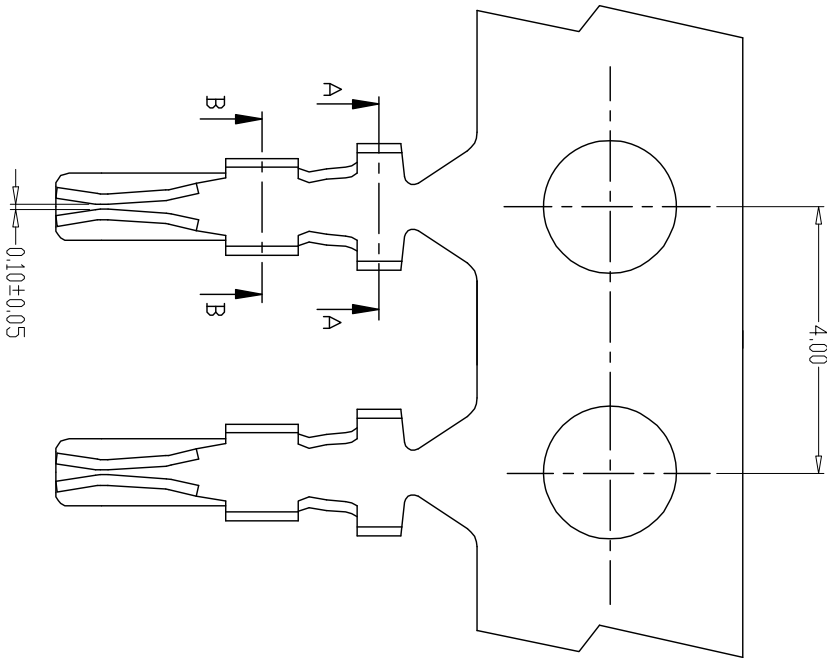
11、Caution

注意事项

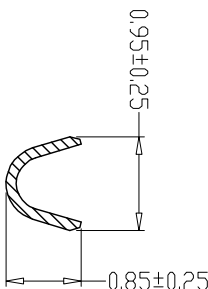
plastic because of characteristics with water after package is opened should avoid exposure to, the temperature is higher than 30 °C, humidity is higher than 60%RH in the environment, and in the 24 hours after all after use, to prevent subsequent reflow, wave soldering process to produce foaming phenomenon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

版本 REV.	日期 DATE	ECN NO.	变更内容 DESCRIPTION	制图 DRAWN



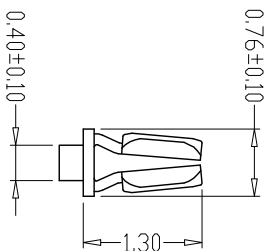
SEC:A-A



SEC:B-B

SPECIFICATIONS

- Current Rating: 1A AC, DC
- Voltage Rating: 50V AC, DC
- Temperature Range: -25°C~+85°C
- Contact Resistance: 20mΩ Max
- Insulation Resistance: 100MΩ Min
- Withstanding Voltage: 500V AC/minute
- Material: Phosphoric bronze Tin-plated
- Applicable Wire Sizes: AWG#28~32#

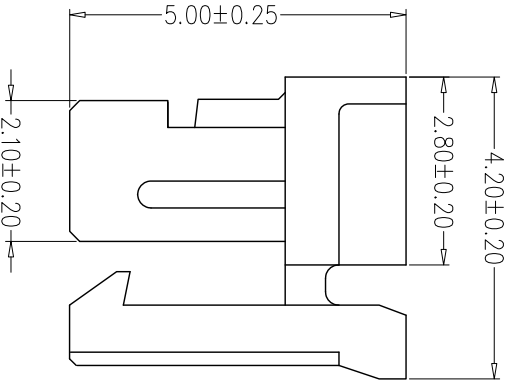
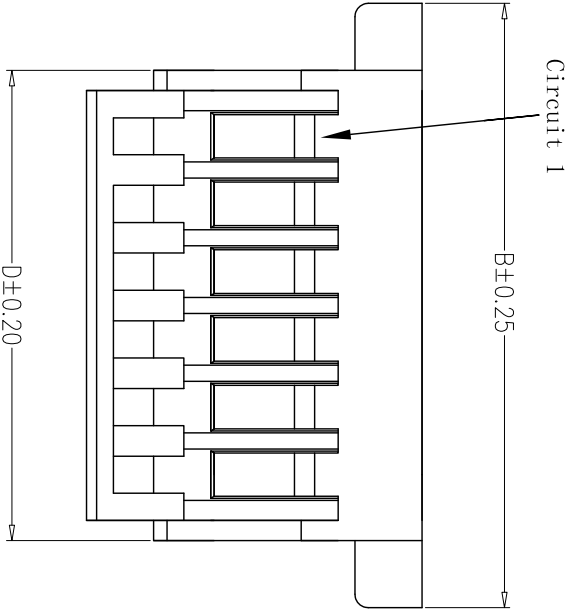
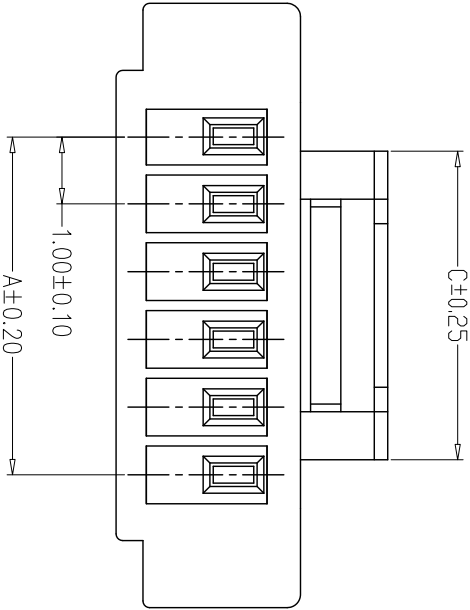


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.X±0.20	.X±1°	核准 Approved	2022、08、21	
.XX±0.15	.XX±0.5°	单位 Units	张名 2022、08、22	
.XXX±0.10	.XXX±0.5°	MM SCALE	1:1	
乐清市宏一电子有限公司 YUEQING HONGYI ELECTRONICS CO., LTD				

版本 REV.	日期 DATE	ECN NO.	变更内容 DESCRIPTION	制图 DRAWN

SPECIFICATIONS

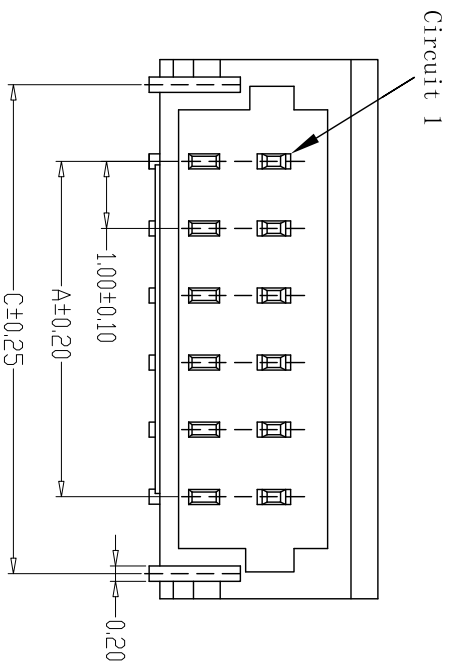
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- Insulation Resistance: 100MΩ Min
- Withstanding Voltage: 500V AC/minute
- Material: Nylon66, UL94V-0



PIN	尺寸(mm)			
	A	B	C	D
-02Y	1.00	5.00	2.60	3.00
-03Y	2.00	6.00	3.60	4.00
-04Y	3.00	7.00	4.60	5.00
-05Y	4.00	8.00	4.60	6.00
-06Y	5.00	9.00	4.60	7.00
-07Y	6.00	10.00	4.60	8.00
-08Y	7.00	11.00	6.60	9.00
-09Y	8.00	12.00	6.60	10.00
-10Y	9.00	13.00	6.60	11.00
-11Y	10.00	14.00	6.60	12.00
-12Y	11.00	15.00	6.60	13.00
-13Y	12.00	16.00	6.60	14.00
-14Y	13.00	17.00	6.60	15.00
-15Y	14.00	18.00	6.60	16.00
-16Y	15.00	19.00	6.60	17.00
-17Y	16.00	20.00	6.60	18.00
-18Y	17.00	21.00	6.60	19.00
-19Y	18.00	22.00	6.60	20.00
-20Y	19.00	23.00	6.60	21.00

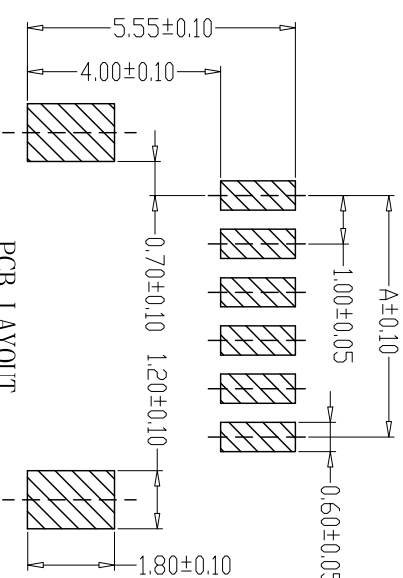
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.XX±0.15	.XX±0.5°	核准	张名
.XXX±0.10	.XXX±0.5°	单位 Units	2022、08、22
		MM	SCALE
			1:1
乐清市宏一电子有限公司 YUEQING HONGYI ELECTRONICS CO., LTD			

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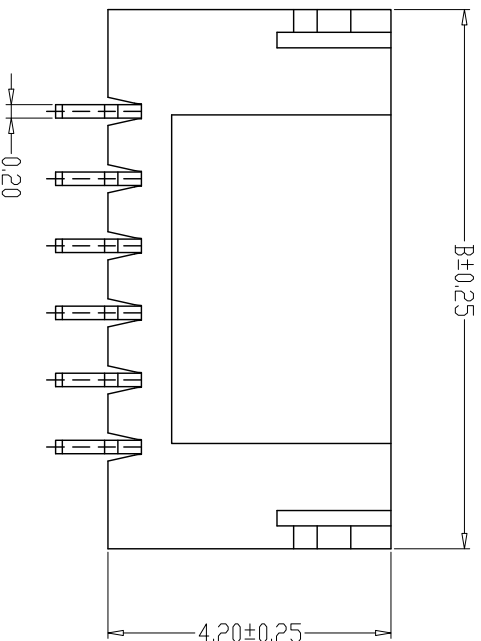


SPECIFICATIONS

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



PCB LAYOUT



PIN	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

GENERAL TOLERANCE		制图	料号	版本
X.±0.25	X.±2°	Mapping	1002-nAWB	REV. A
X.±0.20	X.±1°	审核	品名	1.0带钩贴片
.XX±0.15	.XX±0.5°	核准	TITLE	WAFER SMT TYPE
.XXX±0.10	.XXX±0.5°	Approved	客户料号	SHEET 1/1
		单位	张名	比例
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			1:1	
乐清市宏一电子有限公司				
YUEQING HONGYI ELECTRONICS CO., LTD				