

产品规格书

PRODUCT SPECIFICATION

1.0 适用范围 (SCOPE)

此规格书适用于 2.50mm 间距 WAFER 连接器 系列.

This specification covers the 2.50mm Pitch WAFER CONN series.

本规范涵盖了产品性能要求和试验方法.

This specification covers product performance requirements and test methods.

2.0 关联规范 (Related specification)

2.1 EIA-364 电子连接器及接插件测试程序.

EIA-364 test procedure for electronic connectors and connectors.

2.2 UL STD-94 关于塑材设备零配件及器材阻燃性测试规范.

UL STD-94 specification for testing flame retardancy of plastics equipment parts and Equipment.

3.0 产品构造、尺寸、材料 (Product structure, size, material)

结构及尺寸参见产品图纸, 材料参见下表

Please refer to the product drawings for structure and size, and the following table for materials

No	部件 (Parts)	材质 (Material)	表面处理/防火等级 (Surface finish/Fire rating)
1	板端	主体 (Housing)	高温材料 (High temperature material)
2		针脚 (Pin)	铜合金 (Copper alloy)
3			
4	线端	胶壳 (Housing)	尼龙 (Nylon)
5		端子 (Terminal)	磷铜 (Phosphor bronze)

4.0 额定标准 (Rated standard)

项目 (Item)	规格 (Standard)	
额定电压 (Rated voltage max)	250 V	AC (rms)/DC
额定电流*1 (Rated current max)	3.0 A	AC (rms)/DC
使用温度范围 (Operating temperature range)	-40 °C ~ +85 °C*2*3	
保管条件 (Storage Condition)	温度 (Temperature)	-10 °C ~ +50 °C
	湿度 (Humidity)	85% R.H. MAX (无冷凝) (85% R.H. MAX. (No Condensation))
	期限 (Time limit)	a. 出货后 6 个月内 (未拆包装) (For 6 months after shipping (unopened package)) b. 独立包装拆包后 48H 内用完 (Use up within 48 hours after independent packaging and unpacking)

本制品不含RoHS 禁止使用的环境物质
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Chin-Ban Electronic Technology Co.,LTD	产品名称 (Product name)	2.5mm Pitch/Disconnectable crimp style connectors		
文件编号 (Document number)	料号 (Material no)	1WF07-148006-00001	1/9	
日期 (Date)	2022-8-10	版本(Rev.) A	编制 (WRITTEN BY) HENRY	审核 (CHECKED BY) TIAN HAI
			核准 (APPROVED BY) CYKIN	

*1 回流焊后的无通电状态适用于使用温度范围.

Non-operating connectors after reflow must follow the operating temperature range condition.

*2 此包括导电所产生的终端温升.

This includes the terminal temperature rise generated by conducting electricity.

*3 适用的电线和电缆也必须满足规定的温度范围.

Applicable wires and cables must also meet the specified temperature range.

5.0 性能 (Performance)

5.1 构造 (Structure)

No.	项 目 (Item)	测试方法(test method)	规格要求(specifications)
1	外观 (Appearance)	目视, 量测 (Visual, Measurement)	满足图面及 SIP 要求 (Drawing and SIP requirements)

5.2 电气性能 (Electrical Performance)

No	项 目 (Item)	测试条件(Test Condition)	规格要求(Requirement)
5.2.1	接触阻抗 (Contact Resistance)	公母配插, 开放电压 20mv 以下, 在短路电流 10mA 以下进行测量. (Mate connectors, measure by dry circuit, 20mV Max, 10mA Max) . (EIA-364-06A)	20 毫欧姆 最大 20 mΩ Max
5.2.2	绝缘阻抗 (Insulation Resistance)	公母配插, 在相邻的终端之间和终端、地线之间施 DC 500V 时间: 1 分钟. (Mate connectors and apply 500V DC between adjacent terminal or ground. Time:1 minute) . (EIA-364-21B)	1000 兆欧姆 最小 1000 MΩ Min
5.2.3	耐电压 (Dielectric Strength)	公母配插, 在相邻的终端之间以及终端、地线之 AC1500V (实际值) 1 分钟. (Mate connectors, apply 1500V AC (rms) for 1 minute between adjacent terminal or .ground) (EIA-364-20A)	无异常 No Breakdown

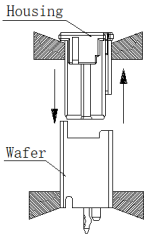
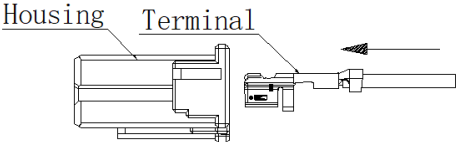
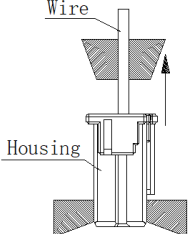
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5.3 机械性能 (Mechanical Performance)

No	项 目 (Item)	测试条件(Test Condition)	规格要求(Requirement)
5.3.1	插拔力 (Insertion and Withdrawal Force)	以每分钟 $25.0 \pm 3\text{mm}$ 的速度插入和拔出。(不含塑胶锁扣) (Insert and withdraw connectors at the speed rate of $25.0 \pm 3\text{mm/minute.}$) (Excluding plastic lock) 	参照第 8 项 Refer to paragraph 8
5.3.2	端子插入力 (Terminal Insertion force)	端子插入胶壳所需力度。 (Insert a crimped terminal into the housing.) 	1.0kgf 最大 1.0kgf Max
5.3.3	端子保持力 (Terminal Retention force)	以每分钟 $25.0 \pm 3\text{mm}$ 的速度将端子从胶壳中轴向拔出。 (Apply axial pull out force at the speed rate of $25.0 \pm 3\text{mm/minute}$ on a crimped terminal assembled in the housing)(EIA-364-29) 	1.0kgf 最小 1.0kgf Min
5.3.4	Pin 针保持力 (Header terminal Retaining force)	以每分钟 $25.0 \pm 3\text{mm}$ 的速度将 pin 针从 Wafer 中轴向拔出。(Apply axial pull out force at the speed rate of $25.0 \pm 3\text{mm/minute}$ on a header pin assembled in the header housing) (EIA-364-29)	1.5kgf 最小 1.5kgf Min
5.3.5	插拔耐久性 (Insertion and removal durability)	以下动作进行 50 次巡回： 以每分钟 10 次的速度，循环插拔 50 次。 (Insert and withdraw connectors up to 50cycles repeatedly at speed rate of 10 cycles per minute maximum) (EIA-364-22)	外观：无损伤 接触阻抗：40 mΩ 最大 Appearance : No Damage Contact Resistance: 40 mΩ Max

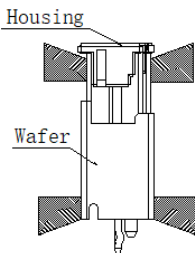
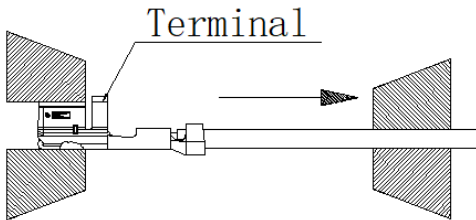
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5.3 机械性能 (Mechanical Performance)

No	项 目 (Item)	测试条件(Test Condition)	规格要求(Requirement)	
5.3.6	胶壳锁扣强度 (Locking Strength)	<p>以每分钟 $25.4 \pm 3\text{mm}$ 的速度将 Housing 从 Wafer 中轴向拔出。 (Apply axial pull out force at the speed rate of $25.4 \pm 3\text{mm}$ / minute on a housing in the header) (EIA-364-29)</p> 	<p>2.0kgf/pin 最小 2.0kgf/pin Min</p>	
5.3.7	端子铆压强度 (Crimp Tensile Strength)	<p>以每分钟 $25.0 \pm 3\text{mm}$ 的速度将铆压端子与线轴向分离。 (Fix the crimped terminal. apply axial pull out force on the wire at the speed rate of $25.0 \pm 3\text{mm/minute}$) (EIA-364-29)</p> 	AWG#22	4.0kgf/pin Min.
			AWG#24	3.0kgf/pin Min
			AWG#26	2.0kgf/pin Min
			AWG#28	1.0kgf/pin Min
5.3.8	耐振动性 (Vibration resistance)	<p>端子以电流1mA DC串联导通, 振幅1.6mm,频率10-55-10Hz,X,Y,Z方向各2小时, 共6小时。 (Mate connectors and conduct test subject to the following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1mA during the test. Cables should be fixed during the test. Amplitude : 1.6mm P-P Frequency : 10~55~10 Hz in 1 minute. Duration : 2 hours in each X.Y.Z.axes.) (EIA-364-28E)</p>	外观 Appearance	无损坏 No Damage
			接触阻抗 Contact Resistance	40 毫欧最大 40 mΩ Max
			瞬断 Discontinuity	1 微秒最大 1.0micro second Max

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5.3 机械性能 (Mechanical Performance)

项 目 (Item)		测试条件(Test Condition)	规格要求(Requirement)	
5.3.9	耐冲击性 (Resistance to impact)	端子以电流1mA DC串联导通, 加速度490m/s ² , X,Y,Z 方向各11ms, 各3回, 共18回. (The terminal is connected in series with the current 1mA DC., the acceleration is 490m/ S ² , and the X,Y and Z directions are 11ms, 3 cycles each, for A total of 18 cycles) (EIA-364-27B)	外观 Appearance	无损坏 No Damage
			接触阻抗 Contact Resistance	40 毫欧最大 40mΩ Max
			瞬断 Discontinuity	1 微秒最大 1.0micro second Max

5.4 环境性能 (Environmental performance)

项 目 (Item)		测试条件(Test Condition)	规格要求(Requirement)
5.4.1	冷热冲击 (Cold and hot shock)	-25±3℃; 85±2℃的温度下各放置30分钟, 共进行5次循环 (- 25 + 3 °C; The samples were placed at 85±2℃ for 30 minutes each, and a total of 5 cycles were carried out) (EIA-364-32B)	外观: 无损伤 接触阻抗: 40 mΩ 最大 Appearance : No Damage Contact Resistance: 40 mΩ Max
5.4.2	耐热性 (Heat resistance)	温度 105 ± 2℃中放置时间 96H. (The temperature is 105 ± 2℃ and the time is 96H.) (EIA-364-32D)	
5.4.3	耐湿性 (Wet resistance)	温度40±2℃; 湿度90~95% RH中放置时间 96H. (40 + 2 °C temperature; Humidity 90 to 95% RH for 96 hours.) (EIA-364-31A)	
5.4.4	耐寒性 (Cold tolerance)	温度-40±3℃中放置时间 96H. (The temperature is -40±3℃ and the time is 96H.) (EIA-364-105)	
5.4.5	Reflow 耐热性 (Reflow heat resistance)	回流焊, 参考以下回流焊曲线图。 Soldered by IR Reflow Machine Using the reflow profile condition below paragraph 7, the product shall be reflowed. (EIA-364-56C) 手工烙铁焊接, 使用烙铁温度265±5 °C 5s.但不能对端子施加过大压力。 Soldered by Manual Soldering iron Using a manual soldering iron [265±5 °C for 5 seconds MAX.], the product shall be heated up. However, do not apply excessive pressure to either the terminals or fitting nails.	外观: 无损伤 Appearance : No Damage

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5.4 环境性能 (Environmental performance)

项 目 (Item)		测试条件(Test Condition)	规格要求(Requirement)	
5.4.6	沾锡性 (Wetting property)	沾锡温度 $250\pm5^{\circ}\text{C}$ (Sn: Lead Free) ; 时间 $3\pm0.5\text{S}$. (Tin temperature $250\pm5^{\circ}\text{C}$ (Sn: Lead Free); The time is $3\pm0.5\text{S}$.) (EIA-364-52)	浸锡面积需 95%以上 The area of the tin immersion should be more than 95%	
5.4.7	温升测试 (Temperature Rise)	端子在额定电压·电流下工作时测量端子上升的温度. (Measure the terminal temperature when the terminal is working at rated voltage current.) (EIA-364-70B)	30°C 最大 30°C Max	
5.4.8	盐雾试验 (Salt spray test)	温度 $35\pm2^{\circ}\text{C}$; 盐水比重 $5\pm1\%$ 喷雾试验8H (Temperature 35 plus or minus 2 °C; Saline specific gravity $5\pm1\%$ spray test 8H) (EIA-364-26B)	外观 Appearance	无损坏 No Damage
			接触阻抗 Contact Resistance	40 毫欧最大 40 mΩ Max

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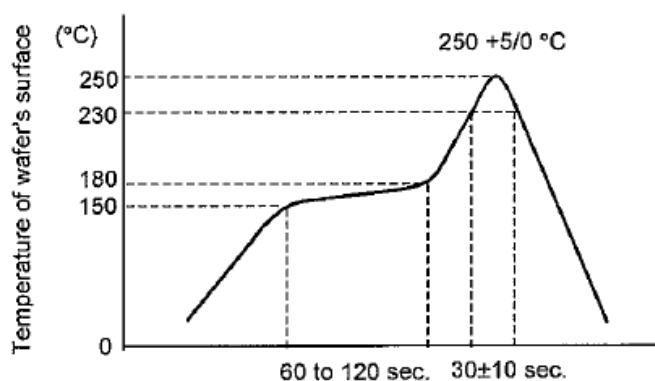
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6.0 包装 (Packing)

见包装规范 (See packaging specifications)

7.0 回流焊条件 (Reflow soldering condition)

参见右图 (See picture on right)



[Temperature profile for reflow soldering]

8.0 插拔力: (单位:kgf) (Insertion Force & Withdrawal Force Unit: kgf)

极数 No. of circuits	初始值 At initial		50 次后 At 50th
	插入力 I.F(Max) kgf	拔出力 W.F(Min) kgf	拔出力 W.F(Min) kgf
2	2.0	0.102	0.0816
3	2.5	0.122	0.102
4	3.0	0.153	0.122
5	3.5	0.204	0.153
6	4.0	0.255	0.204
7	4.5	0.296	0.255
8	5.0	0.347	0.296
9	5.5	0.398	0.347
10	6.0	0.449	0.398
11	6.0	0.500	0.449
12	7.0	0.551	0.500
13	7.0	0.602	0.551
14	8.0	0.653	0.602
15	8.0	0.704	0.653

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9. 测试顺序: (The test sequence)

项目 project	描述 (describe)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R
	产品检查 (Product inspection)	1,3	1,7	1 3	1,3	1,3	1,3	1,3	1,6	1,6	1,6	1,6	1,6	1,3	1,4	1,4	1,4	1,4
1	接触阻抗 (Contact Resistance)		2,6						2,5	3	3	3	3		3	3	3	2,5
2	绝缘阻抗 (Insulation Resistance)									4	4	4	4					
3	绝缘耐压 (Insulation Resistance)									5	5	5	5					
4	插拔力 (Insertion and Withdrawal Force)		3,5															
5	端子插入力 (Terminal Insertion force)			2														
6	端子保持力 (Terminal holding force)				2													
7	Pin针保持力 (Header terminal Retaining force)					2												
8	插拔耐久性 (durability)		4															
9	胶壳锁扣强度 (Locking Strength)						2											
10	端子铆压强度 (Crimp Tensile Strength)							2										
11	耐振动性 (Vibration resistance)								3									
12	耐冲击性 (Resistance to impact)								4									
13	冷热冲击 (Cold and hot shock)									2								
14	耐热性 (Heat resistance)										2							
15	耐湿性 (Wet resistance)											2						
16	耐寒性 (Cold tolerance)												2					
17	沾锡性 (Wetting property)													2				
18	Reflow耐热性 (Reflow heat resistance)														2			
19	温升测试 (Temperature Rise)	2																
20	盐雾试验 (Salt spray test)																	3
	数量 (quantity)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

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10.0 修改内容(Modify the content)

标识 mark	改正日期 Correct date	改正内容 Correct content	作 成 Modify	审 查 Review

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