



产品规格书 PRODUCT SPECIFICATION

1. 适用范围 SCOPE

本规范适用于WAFER系列条形连接器，包含了产品的性能、试验方法和检验要求。

This specification applies to WAFER connector series, contains the product performance, test methods and inspection requirements.

2. 适用的标准 APPLICABLE STANDARDS

- | | | |
|-----|----------|---|
| 2.1 | GB/T2421 | 电工电子产品环境试验 第一部分 总则
Testing method for Environmentai of Electrical Connectors
Class 1:general Principles |
| 2.2 | GB/T2423 | 电工电子产品环境试验方法
Testing method for Environmentai of Electrical Connectors |
| 2.3 | GB/T2424 | 电工电子产品环境试验导则
Testing method for Environmentai of Electrical Connectors |
| 2.4 | GB/T5095 | 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 electr eequipment |

3. 外观及尺寸 APPEARANCE AND DIMENSION

3.1 外观 appearance

经目视观察，外观不可有变形，电镀脱落等会降低其功能的异常现象，也不可有严重破裂、刮伤或污损之缺点。

By looking, there shall not be any abnormality such as deformity, exfoliation of plating,etc., which can reduce performance. No defect such as cracks scratches or blemishes.

3.2 尺寸 measure

参照工程图

With reference to engineering drawing

3.3 互换性 interchangeability

互换性：相同规格应能互换

Exchangable:Exchangble with same specification products

3.4 建议 PCB LAYOUT 图 Recommended PCB LAYOUT drawing

参照工程图

With reference to engineering drawing



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4. 材质 THE MATERIAL

塑胶 plastic Wafer SMT: LCP

颜色 Color: Rice white & BLACK

阻燃等级 (UL94V-0) Flammability Rating (UL94V-0)

PIN 针 The PIN needle: Copper alloy H65

助焊脚 SolderTAB: Copper alloy H65

工艺介绍



镀锡	Tin plated over
镍底	Nickel underplated
原材/基材	Material

5. 标准额定值 RATINGS

项 目 ITEM	规 格 SPECIFICATIONS
额 定 电 压 Rated Voltage	250V
额 定 电 流 Rated current	3.0A AC /DC
温 度 范 围 Temperature Range	-25℃ ~ +105℃
湿 度 范 围 Humidity range	相对湿度 90% 以下 Relative humidity 90% max
保存温度范围 Storage temperature range	-10℃ ~ +50℃
保存湿度范围 Storage humidity range	相对湿度 90% 以下 Relative humidity 90% max

6. 部件名称&部件编号 Part name & part number

部 件 名 称 Part name	部 件 编 号 Part number
Housing	
Terminal	
Wafer (DIP)	
Wafer (SMT)	A2501AWV、A2501AWR



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7. 电气特性 ELECTRICAL EFFICIENCY

No. 编号	项目 Item	试验方法 Test Method	性能要求 Requirement
7.1	接触电阻 Contact Resistance	测量时将连接器插合，两端施以最大测试电压 20mV 以及最大测试电流 100mA，测量时减去导线电阻值。 (GB/T5095. 2-2b) Mate connectors, load voltage: A maximum voltage of 20mV and a maximum current of 100mA are appliend to the Mate connector. (GB/T5095. 2-2b)	20mΩ Max.
7.2	绝缘电阻 Insulation Resistance	相邻接触体 1 分钟时间内施加 1000V DC 电压进行测试，测量期间的绝缘阻抗值。(GB/T5095. 2-3a) Mate connectors, Appiy 1000V DC (rms) for 1minute between adjacent contacts to measure the insulation resistance. (GB/T5095. 2-3a)	1000MΩ Min.
7.3	耐电压 Withstanding Voltage	在各相邻接触件间施加 1000V AC 之电压持续 1 分钟。 (GB/T5095. 2-4a) Mate connectors, apply 1000V AC for 1 minute Between adjacent terminal or ground. (GB/T5095. 2-4a)	无击穿或者产生火花 No breakdownor flashover

8. 环境特性 ENVIRONMENTAL EFFICIENCY

No. [编号]	项目 Item	试验方法 Test Method	性能要求 Requirement	
8.1	耐热试验 Heat Resistance	将连接器放在温度为+105±2℃的环境中 96 小时，再置于室温下 1~2 小时。(GB/T5095. 6-11j) Mated connector shallbe placed in an environmental for 96 hours at +105±2℃, Again in 1 ~ 2 hours at room temperature . (GB/T5095. 6-11j)	外观 Appearance	目视外观无任何损坏异状 No Breakdown
			接触阻抗 Contact Resistance	30mΩ Max.
8.2	耐冷试验 Cold Resistance	将连接器放在温度为-25±3℃的环境中 96 小时，再置于室温下 1~2 小时。(GB/T5095. 6-11i) Mated connector shall be placed in an environmental for 96 hours at -25±3℃ Again in 1 ~ 2 hours at room temperature. (GB/T5095. 6-11i)	外观 Appearance	目视外观无任何损坏异状 No Breakdown
			接触阻抗 Contact Resistance	30mΩ Max.



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8.3	耐湿性试验 Humidity	把插合的连接器, 温度 $40 \pm 2^{\circ}\text{C}$, 相对湿度 90~96% 的环境中, 持续 96 小时。经试验后, 连接器须于室温中放置 1~2 小时, 再测定其值。 (GB/T5095.6-11c) Mate connectors, $40 \pm 2^{\circ}\text{C}$ in temperature and 90~95%RH in an environmental for 96 hours. After testing connector shall be left alone for 1 to 2 hours in a room ambient. (GB/T5095.6-11c)	外观 Appearance	目视外观无任何损坏异状 No Breakdown
			绝缘电阻 Insulation Resistance	500M Ω MIN.
			耐电压 Withstanding Voltage	800V AC/minute MIN
8.4	温度循环 Temperature Cycling	低温: $-25 \pm 3^{\circ}\text{C}$, 30 分钟, 放置转换时 10-15 分钟 高温: $+105 \pm 3^{\circ}\text{C}$, 30 分钟, 放置转换时 10-15 分钟 5 次循环后放置在正常环境中恢复 2 小时后进行测试。(GB/T5095.6-11d) Low temperature: $-25 \pm 3^{\circ}\text{C}$, 30min, room temp 10-15min high temperature: $+105 \pm 3^{\circ}\text{C}$, 30min, room temp 10-15min After 5 cycles at the normal environment for testing after 2 hours. (GB/T5095.6-11d)	外观 Appearance	目视外观无任何损坏异状 No Breakdown
			接触电阻 Contact Resistance	30m Ω Max.
8.5	盐雾试验 Salt spray	盐水比重: $5 \pm 1\%$ 温度: $35 \pm 2^{\circ}\text{C}$ 试验时间: 24 ± 2 小时, 试验结束后用清水将残留盐份清洗并将水滴清除后, 才可测量。 (GB/T5095.6-11f) Salt concentration: $5 \pm 1\%$ Temperature: $35 \pm 2^{\circ}\text{C}$ Testing time: 24 ± 2 hours, After salt is removed by running water and a drop is removed, it is measured. (GB/T5095.6-11f)	外观 Appearance	目视外观无任何损坏异状 No Breakdown
			接触电阻 Contact Resistance	30m Ω Max.
8.6	Solderability [可焊性试验]	焊锡时间: 2.5 ± 0.5 秒 焊锡温度: $245 \pm 5^{\circ}\text{C}$ (GB/T5095.6-12a) Soldering time: 2.5 ± 0.5 S Solder Temperature: $245 \pm 5^{\circ}\text{C}$ (GB/T5095.6-12a)	焊锡面积 $\geq 95\%$ 95% min. of solder area	



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8.7	耐焊性 Resistance to soldering heat	将连接器置于 PCB 板上, 然后将产品通过 $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 回流焊 $5 \pm 1\text{S}$ 进行测试。(GB/T5095.6-12a) Puts the connector on the PCB, and then the product through $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ reflow $5 \pm 1\text{S}$ test. (GB/T5095.6-12a)	塑胶不得有明显的变形或损坏。 1. Without deformation of case or excessive loosen. 电气特性必须符合规格 2. Electrical characteristics shall be satisfied.

9. 机械特性 MECHANICAL EFFICIENCY

No. [编号]	项目 Item	试验方法 Test Method	性能要求 Requirement
9.1	PIN 针固定力 Pin retention force	固定连接器基座, 在连接器单一接触件轴线方向上施加推力, 施力速率 $\leq 10\text{N/S}$, 将接触件从基座中推出。(GB/T5095.8-15a) Fixed the wafer of the connector, then apply thrust at a speed $\leq 10\text{N/S}$ push force the single contact of the connector; push the contact out of the wafer. (GB/T5095.8-15a)	单一 PIN 针 12N Min. Only per PIN
9.2	端子与孔座固定力 Terminal crimping wire strength	将测力计固定在距离连接导线 150mm 处, 在连接器轴线方向施加拉力. 施力速率 $\leq 10\text{N/S}$, 将端子从孔座中拉出。(GB/T5095.8-15a) Fix the dynamometer 150mm away from the wire of the connection, then apply axial pull out force at a speed $\leq 10\text{N/S}$ on the terminal assembled in the housing. (GB/T5095.8-15a)	单一端子 15N Min. Only per terminal



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9.3	机械寿命 Mechanical Life	1、连接器必须承受 50 次的插拔循环 2、测试速度: 100mm/分种 (GB/T5095. 5-9a) 1、Connectors shall be subjected to 50 cycle of Insertion and Withdrawal. 2、Speed:100mm/minute (GB/T5095. 5-9a)	接触电阻 Contact Resistance	30mΩ Max.
9.4	端子压接导线强度 Terminal crimping wire strength	端子所压接电线, 以每分钟 25 ± 3mm 的速率之轴向拔出力 Terminal crimping wires , axial per minute to 25 ± 3mm rate of the pullout force	20AWG 导线 20AWG wire	More than 55N ≥55N
			22AWG 导线 22AWG wire	More than 40N ≥40N
			24AWG 导线 24AWG wire	More than 30N ≥30N
9.5	插入力&拔出力 Insertion force (I. F.) & withdrawal force (W. F.)	(1) 试验方法 Test method: 将孔座和端子配合好, 与针座在同一轴线上进行插拔测试(测试速度: 20 ± 5 mm/minute)。 (GB/T5095. 7-13b) Housing with crimped terminal and wafer shall be mated and unmated on the same axis. For the measurement of single circuit . (Speed: 20 ± 5mm/minute. (GB/T5095. 7-13b) (2) 性能要求 Requirement: (UNITS: N)		
		Number of circuits	At initial	
			I. F. (max)	W. F. (min)
		single	16.00	2.00
		2	20.00	10.00
		3	24.00	12.00
		4	28.00	14.00
		5	32.00	16.00
		6	36.00	18.00
		7	40.00	20.00
		8	44.00	22.00
		Number of circuits	At initial	
			I. F. (max)	W. F. (min)
		9	48.00	24.00
		10	52.00	26.00
		11	56.00	28.00
		12	60.00	30.00
		13	64.00	32.00
		14	68.00	34.00
		15	72.00	36.00
		16	76.00	38.00