



<b>Product Specification</b> [产品规格书]:	ISSUED BY: Engineering Dept	
<b>Subject</b> [主题]: 1.50mm Pitch 1511 Series Connector Specification	Date Issued	2017/07/31
	Date Revised	2018/01/24

This specification is referred to the 1.50mm series wire to board connector

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**【1.适用范围 Scope】**

此种规格包括 1.50mm Pitch 1511 Series 连接器规格说明。

This Specification Covers the 1.50mm Pitch 1511 Series Connector Specification.

**【2.规格与料号 Spec and Part number】**

规格内容 Specification	产品料号 Production No.
端子/Terminal	1511T-HXX-01
胶壳/Housing	1511H-2*10-PT
针座/Wafer	1511WRS-2*10HX-LPXXX 1511WVS-2*10HX-LPXXX

**【3.材质与表面处理 Disposal of Material and surface】**

规格内容 Specification	材质 Materials	表面处理 Disposal of Surface
端子/Terminal	High conductivity copper	Nickel: Over 30μ" . Tin: Over 70μ"
胶壳/Housing	PBT	UL 94V-0
针座/Wafer	Base	LCP
	PIN	High conductivity copper Over Tin 70μ" or Gold Flash / Over 30μ" Nickel

(上述参数请以工程图为准/Please Refer to the Project drawing for the above Specification)

**【4. 额定等级 Ratings and applicable wires】**

项目【Item】	规格【Standard】	
额定电压 Rated Voltage (Max.)	350V	[AC/DC]
额定电流 Rated Current (Max.)	4A	
使用温度范围 Ambient temperature Range	-40°C ~ +105°C	
适用线径 Applicable wire insulation O.D	AWG #24~28 Insulation O.D. 1.10mm(Max.)	

【 \*升温时含端子.Including terminal temperature rise. 】



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**【5.性能 PERFORMANCE】**

**5-1. 电气的性能 Electrical Performance.**

项 目 【Item】	条 件 【Test Condition】	规 格 【Requirement】
5-1-1 接触阻抗 Contact Resistance	公母配合,开放电压 20mV 以下,电流 10mA 检测连接器 A~B 区. Mate connectors, measure by dry circuit, 20mV MAX, 10mA. (Based upon EIA-364-06A).	Initial: 20 milliohms Max. After Test: 40 milliohms Max.
5-1-2 绝缘阻抗 Insulation Resistance	公母配合,在相邻端子,端子与地片之间,使用 500V 的直流电,检测连接器. Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon EIA-364-21B / MIL-STD-202 Method 302 Cond.B)	1000 Megohms Min.
5-1-3 耐电压 Dielectric Strength	公母配合,在相邻端子,端子与地片之间,使用 500V 的交流电 1 分钟,检测连接器. Mate connectors, apply 500V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A / MIL-STD-202 Method 301)	不出现中断等情况 No Breakdown and Flashover
5-1-4 铆线后端子接触阻抗 Contact resistance on crimped portion	铆线后之端子,开放电压 20mV 以下,电流 10mA 检测连接器. Crimp the applicable wire on to the terminal measure by dry circuit 20mV MAX, 10mA.	10 milliohms Max.



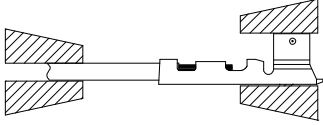
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**5-2. 机械的性能 Mechanical Performance.**

项 目 【Item】	条 件 【Test Condition】	规 格 【Requirement】
5-2-1 插拔力 Insertion & Retention Force	以每分钟 25.4±3mm 的速率插入和拔出。 Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute.	参照第 6 项 Refer to paragraph 6
5-2-2 端子保持力 Terminal/ Housing Retention Force	以每分 25.4±3mm 的速率,将端子从 Housing 内轴向拔出的力量。 Apply axial pull out force at the speed rate of 25.4±3mm/minute on the terminal assembled in the housing.	7.84N {0.8kgf} Min.
5-2-3 端子插入力 Terminal Insertion Force	铆线后之端子插入 Housing 所需最大力量。 Insert the crimped terminal into the housing.	9.8N {1.0kgf} Max.
5-2-4 Pin 针保持力 Pin Retention Force	以每分 25.4±3mm 的速率,将 PIN 针从 Wafer 内轴向拔出的力量。 Apply axial push force at the speed rate of 25.4±3mm/minute.	9.8N {1.0kgf} min.



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项目 【Item】	条件 【Test Condition】	规格 【Requirement】			
5-2-5 端子压着强度 Tensile strength (Crimped connections)	固定铆线后的端子, 使电线与端子分离时所需的最小力量. Fix the crimped terminal, apply axial pull out force on the wire. (Do not crimp insulation part).	AWG	#24	#26	#28
		Spec.kgf. Min.	3.0	2.0	1.0
		Note> As for unspecified wire sizes in this specification define values with clients			

### 5-3. 环境性能及其它 Environmental Performance and Others.

项目 【Item】	条件 【Test Condition】	规格 【Requirement】	
5-3-1 重复插拔 Repeated Insertion/ Withdrawal	以每分钟不超过 10 次的速率,将公母插拔 30 次. When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	接触阻抗 Contact Resistance	40 milliohms Max.
5-3-2 温升测试 Temperature Rise	公母对插后,在通过额定电流下,所测定的温度. Carrying rated current load. (UL 1977)	温升测试 Temperature rise	30°C Max.
5-3-3 耐振动性 Vibration	振幅: 1.5mm P-P 时间: 10~55~10 HZ in 1 minute 持续时间: 每轴向 2 小时 Amplitude: 1.5mm P-P Sweep time: 10~55~10 HZ in 1 minute Duration: 2 hours in each X.Y.Z axials. (Based upon EIA-364-28B/MIL-STD-202 Method 213B Cond.A)	外观 Appearance	无异状 No Damage
		接触阻抗 Contact Resistance	40 milliohms Max.
		瞬断 Discontinuity	1 micro-second Max.
5-3-4 耐冲击性 Shock	在 X.Y.Z 上 6 个方向上,以 490m/s <sup>2</sup> (50g 的力量)冲击下各 3 回 .490m/s <sup>2</sup> {50G}, 3 strokes in each X.Y.Z. axes. (Based upon EIA-364-27B/MIL-STD-202 Method 213B Cond.A)	外观 Appearance	无异状 No Damage
		接触阻抗 Contact Resistance	40 milliohms Max.
		瞬断 Discontinuity	1 micro-second Max.



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项目 【Item】		条件 【Test Condition】	规格 【Requirement】	
5-3-5	耐热性 Heat Resistance	105±2°C, 96 hours. (Based upon MIL-STD-202 Method 108A Cond.A)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
5-3-6	耐寒性 Cold Resistance	-40±5°C, 96 hours. (Based upon EIA-364-105)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
5-3-7	耐湿性 Humidity	温度: 40±2°C 湿度: 90~95%(RH) 持续时间: 96 hours Temperature: 40±2°C Relative Humidity: 90~95% Duration: 96 hours (Based upon EIA-364-31A/MIL-STD-202 Method 103B Cond.B)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
			耐电压 Dielectric Strength	Must meet 5-1-3
5-3-8	温度变化 Temperature Cycling	从-40°C持续 30 分钟升至+105°C持续 30 分钟,循环 5 次. 5 cycles of: a) -40°C 30 minutes. b) +105°C 30 minutes. (Based upon EIA-364-32B)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
5-3-9	盐水喷雾 Salt Spray	在温度 35±2°C, 盐水浓度 5±1% 下, 盐水喷雾 24±1 小时. 24±1 hours exposure to a salt spray from the 5±1% solution at 35±2°C. (Based upon EIA-364-26B/MIL-STD-202 Method 101D Cond.B).	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
5-3-10	焊锡附着性 Solder-ability	焊接时间: 3~5 秒. 焊接温度: 245±5°C. Soldering Time: 3~5second. Solder Temperature: 245±5°C. (Based upon EIA-364-52)	Solder Wetting	浸渍面积需 95% 以上 95% of immersed area must show no voids, pin holes.



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项 目 【Item】	条 件 【Test Condition】	规 格 【Requirement】	
5-3-11 焊锡耐热性 Solder-Resistance	焊接时间: 5~10 秒. 焊接温度: 255+5/-5°C. Soldering time: 5~10 sec solder. Temperature: 255+5/-5°C. (Based upon EIA-364-56A)	外观 Appearance	无异状 No Damage

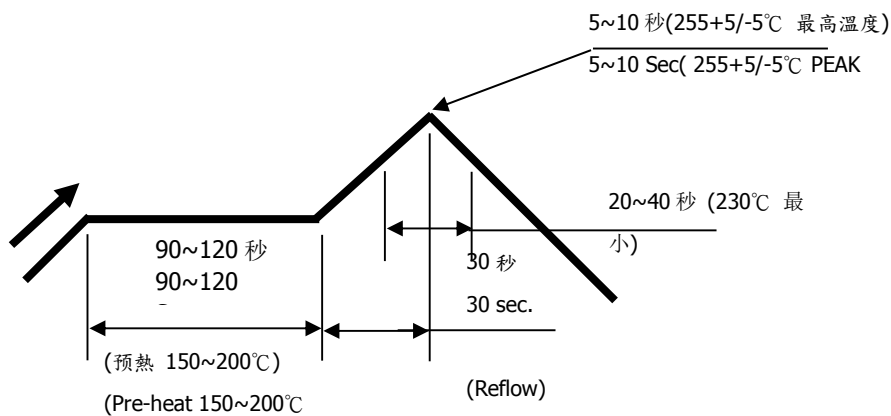
**【6. 综合插入力及拔出力 INSERTION/WITHDRAWAL FORCE】 <Connector mating force>**

PIN 数 No. of CKT	初次插入力(最大值) First Insertion (kgf Max.)	30 次拔出力(最小值) 30 <sup>th</sup> Withdrawal (kgf Min.)	PIN 数 No. of CKT	初次插入力(最大值) First Insertion (kgf Max.)	30 次拔出力(最小值) 30 <sup>th</sup> Withdrawal (kgf Min.)
2*10	5.50	0.50			

注: 以上插拔次数为 30 次

Note: Insertion and Withdrawal for 30Cycles

**【7. SMT 回流条件 SMT REFLOW CONDITION】**



温度条件曲线图/ 基板上温度

TEMPERATURE CONDITION GRAPH/ (TEMPERATURE ON BOARD PATTERN SIDE)

注记: 由于 P.C 板等焊接装置改变条件, 所以请预先用自己的装置检查回流焊的条件.

Notes: Please check the reflow soldering condition by your own devices beforehand. Because the condition changes by the soldering devices, P.C. boards, and so on.