

Product Specification [产品规格书]:	Document No	PS-HRS-1806-01
Subject [主题]: 1.80mm Pitch HRS-1806 Series Connector Specification	Date Issued	2019/05/08
	Date Revised	2023/08/28
	Version	B1

This specification is referred to the 1.80mm series wire to board connector

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【1.适用范围 Scope】

此种规格包括 1.80mm Pitch HRS-1806 Series 连接器规格说明.

This Specification Covers the 1.80mm Pitch HRS-1806 Series Connector Specification.

【2.规格与料号 Spec and Part number】

规格内容 Specification	产品料号 Production No.	产品图示 Picture of Product
端子/Terminal	HRS-1806T-P08SH-01Q	NONE
胶壳/Housing	HRS-1806HF-1x02-N0NBR01Q	NONE
针座/Wafer	HRS-1806WRS-1x02-LPNB05RR001Q	NONE

【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	磷铜/Phosphor Bronze	50~100u" Ni \100~180u" Bright Tin
胶壳/Housing	PA66	UL 94V-0
针座/Wafer	Base	High Temperature Plastic
	PIN	UL 94V-0
	Solder tab	50~100u" Ni \100~180u" Matte Tin

(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】

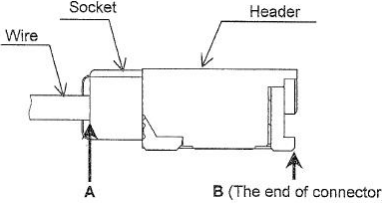
项 目【Item】	规 格【Standard】	
额定电压 Rated Voltage (Max.)	350V	[AC/DC]
额定电流 Rated Current (Max.)	4A(AWG#22)	
使用温度范围 Ambient temperature Range	-40℃~+105℃	
适用线径 Applicable wire insulation O.D	AWG#22~24(0.205~0.326mm²) Insulation O.D:1.30mm(Max.)	

*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.

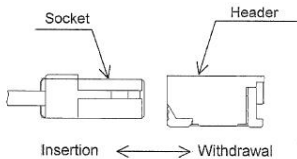
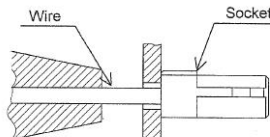
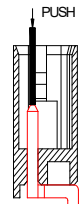
项 目 【Item】	条 件 【Test Condition】	规 格 【Requirement】
5-1-1 接触阻抗 Contact Resistance	公母配合,开放电压 20mV 以下,电流 10mA 检测连接器 A~B 区. Mate connectors, measure by dry circuit, 20mV MAX, 10mA. (Based upon EIA-364-06A). 	Initial: 10 milliohms Max. After Test: 20 milliohms Max.
5-1-2 绝缘阻抗 Insulation Resistance	公母配合,在相邻端子,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 1700V 的交流电 1 分钟,检测连接器. Mate connectors, apply 1700V 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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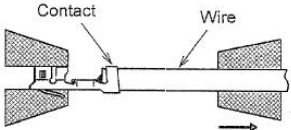
Subject [主题]:

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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 & withdraw Force	以每分钟 $50\pm 3\text{mm}$ 的速率插入和拔出。 Insert and withdraw Connectors at the speed rate of $50\pm 3\text{mm/minute}$.	参照第 6 项 Refer to paragraph 6
			
5-2-2	端子保持力 Terminal/ Housing Retention Force	以每分 $50\pm 3\text{mm}$ 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 $50\pm 3\text{mm/minute}$ on the FFC in the housing.	15N {1.58kgf} Min.
			
5-2-3	Pin 针保持力 Pin Retention Force	以每分 $100\pm 3\text{mm}$ 的速率,将 PIN 针从 Wafer 内轴向推出 的力量。 Apply axial push force at the speed rate of $100\pm 3\text{mm/minute}$.	4.9N {0.50kgf} Min.
			
5-2-4	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.
5-2-5	Lock HSG 卡扣保持力 Lock Retention Force	以每分 $50\pm 3\text{mm}$ 的速率,将 HSG 从 Wafer 内轴向拔出 的力量。 Apply axial push force at the speed rate of $50\pm 3\text{mm/minute}$.	15N {1.58kgf} Min.

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项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】			
5-2-6	端子压着强度 (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 线号 (平方毫米)	#22 (0.35 mm ²)	#24 (0.22 mm ²)	#26 (0.13 mm ²)
			Spec. kgf Min.	4.0	3.0	2.0
			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	20 milliohms Max.
5-3-2	温升测试 Temperature Rise	公母连接器配合后, 加载额定电流直到温度上升到稳定状态, 然后再测量温升 (EIA364-70,Method 1) Mating connectors shall be energized at rating current until thermal stability is achieved, and then measured the temperature rise. (EIA364-70,Method 1)	温升测试 Temperature rise	30°C Max.
5-3-3	振动测试 Vibration test	振幅: 1.5mm P-P 时间: 20~200~20 Hz in 3minute 持续时间: 每轴向 3 小时 加速度: 44m/S ² 开放电压: 20mV 以下 开放电流: 10mA 以下 Amplitude: 1.5mm P-P Sweep time: 20~200~20 Hz in 3 minute Duration: 3 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	20 milliohms Max.
			瞬断 Discontinuity	1 micro-second Max.
			电压降落 Voltage Drop	20mV/A Max
5-3-4	冲击测试 Shock test	在 X.Y.Z 上 6 个方向上,以 491m/s ² (100g 的力量)冲击下各 3 回. 491m/s ² {100G}, 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	20 milliohms Max.
			瞬断 Discontinuity	1 micro-second Max.

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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	20 milliohms Max.

项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】	
5-3-6	耐寒性 Cold Resistance	-40±5℃,96 hours. (Based upon EIA-364-105)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	20 milliohms Max.
5-3-7	耐湿性 Humidity	温度: 40±2℃ 湿度: 90~95%(RH) 持续时间: 96 hours Temperature: 40±2℃ 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	20 milliohms Max.
			耐电压 Dielectric Strength	Must meet 5-1-3
			绝缘阻抗 Insulation Resistance	500 Megohms Min.
5-3-8	温度变化 Temperature Cycling	从-40℃持续 30 分锺升至+105℃持续 30 分锺,循环 5 次. 5 cycles of: a) -40℃ 30 minutes. b) +105℃ 30 minutes. (Based upon EIA-364-32B)	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	20 milliohms Max.
5-3-9	盐水喷雾 Salt Spray	在温度 35±2℃,盐水浓度 5±1%下,盐水喷雾 48±1 小时. 48±1 hours exposure to a salt spray from the 5±1% solution at 35±2℃. (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	20 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℃. Soldering Time: 3~5second. Solder Temperature: 245±5℃. (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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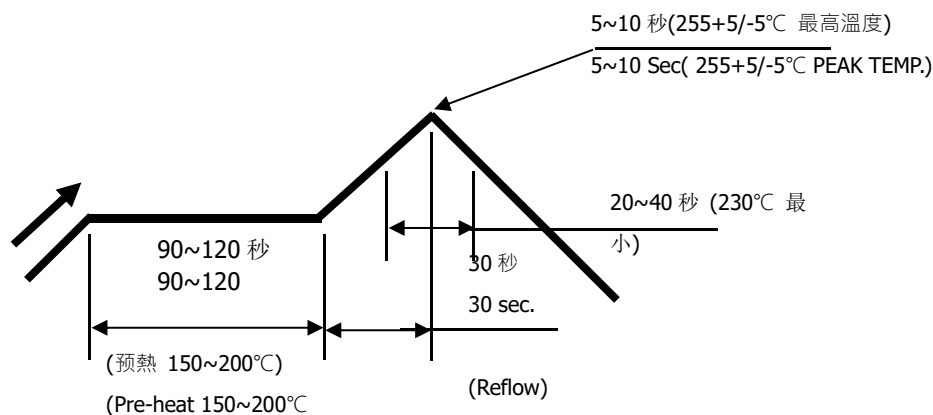
项 目 【Item】	条 件 【Test Condition】	规 格 【Requirement】	
5-3-11 焊锡耐热性 Solder-Resistance	焊接时间: 5~10 秒. 焊接温度: 255+5/-5°C. Soldering time:5~10 sec solder. Temperature:255+5/-5°C. (Based upon EIA-364-56A)	外观 Appearance	无异状 No Damage

【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 th 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 th Withdrawal (kgf Min.)
2	2.00	0.20			

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.