

Product Specification [产品规格书]:	Document No	PS-HRS-2008-03
Subject [主题]:	Date Issued	2017/06/21
2.00mm Pitch HRS-2008 Series Connector Specification	Date Revised	2020/03/14
	Version	B

This specification is referred to the 2.00mm series wire to board connector

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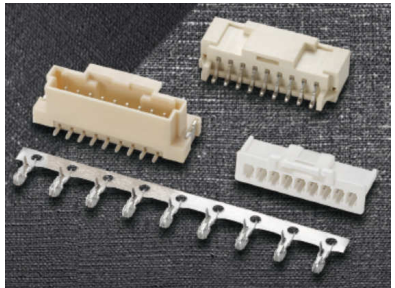
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【1.适用范围 Scope】

此种规格包括 2.00mm Pitch HRS-2008 Series 连接器规格说明.

This Specification Covers the 2.00mm Pitch HRS-2008 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-2008T-PSN1 HRS-2008TH-PSN1	
胶壳/Housing	HRS-2008H-XX-PT	
针座/Wafer	HRS-2008WVS-XX-9TSWR HRS-2008WRS-XX-9TSWR HRS-2008WVS-1xXX-9TNB05XRXXXQ HRS-2008WRS-1xXX-9TNB05RRXXXQ	

【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(C5191)/Phosphor Bronze	Nickel Plated: 50u" Min Bright Tin Plated: 100u" Min
胶壳/Housing	PBT	UL 94V-0
针座/Wafer	Base	PA9T
	PIN	UL 94V-0
	Solder tab	Nickel Plated: 50u" Min Matte Tin Plated: 100u" Min

(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】

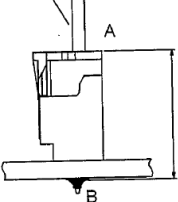
项 目【Item】		规 格【Standard】		
4-1.	额定电压 Rated Voltage (Max.)	125V	[AC/DC]	
4-2.	额定电流 Rated Current (Max.)	3A		
4-3.	使用温度范围 Ambient temperature Range	-40℃ ~+105℃		
4-4.	适用线径 Applicable wire insulation AWG(mm ²)	HRS-2008T-PSN1（普通脚）	AWG#24~26 (0.22~0.13mm ²)	绝缘Ø O.D：1.40mm(Max.)
		HRS-2008TH-PSN1（高脚）	AWG#20~22 (0.50~0.35mm ²)	绝缘Ø O.D：1.50mm(Max.)

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

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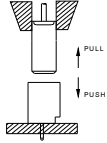
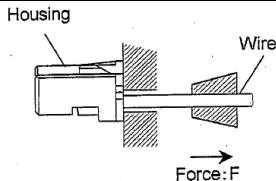
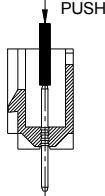
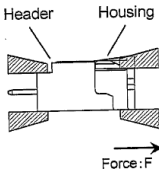
【5.性能 PERFORMANCE】

5-1. 电气的性能 Electrical Performance.

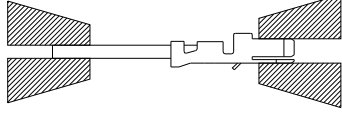
项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】
5-1-1	接触阻抗 Contact Resistance	公母配合,开放电压 20mV 以下,电流 10mA 检测连接器 A~B 区. Mate connectors, measure by dry circuit, 20mV MAX, 10mA. (Based upon EIA-364-06A).	Initial: 10 milliohms Max. After Test: 20 milliohms Max.
			
5-1-2	绝缘阻抗 Insulation Resistance	公母配合,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 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)	外观无损伤, 无打火花 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 & Withdraw Force	50±3mm 以每分钟 的速率插入和拔出 Insert and withdraw Connectors at the speed rate of 50±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 50±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 50 ±3mm/minute on the terminal assembled in the housing. 	9.8N {1.0kgf} 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 100mm 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 100mm/minute. 	9.8N {1.0kgf} min.
5-2-5 Lock 保持力 Lock Retention Force	将 Housing 与 Wafer 匹配后, 将 Housing 从 Wafer 内轴向拔出的力量, 看其卡扣的承受力量 A housing and a header shall be mated , Pulling load shall be applied them, the load to make them come off each other shall be measured 	29.4N {3.0kgf} min.

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5-2-6	端子压着强度 Crimped contact	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(mm ²)	AWG# 20 (0.50mm ²)	AWG# 22 (0.35mm ²)	AWG# 24 (0.22mm ²)	AWG# 26 (0.13mm ²)
		Spec.kgf. Min.	6.0	4.0	3.0	2.0	
			Note> As for unspecified wire sizes in this specification define values with customer.				

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	以每分锺不超过 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 termperature rise. （EIA364-70,Method 1）	温升测试 Temperature rise	30℃ 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 981m/s ² (100G 的力量)冲击下各 3 回。 作用时间: 6ms 981m/s ² {100G}, 3 strokes in each X.Y.Z. axes. Operation time:6ms (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℃,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.
5-3-6	耐寒性 Cold Resistance	-40±3℃,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: 60±2℃ 湿度: 90~95%(RH) 持续时间: 96 hours Temperature: 60±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	100 Megohms Min.
5-3-8	温度变化 Temperature Cycling	从-40℃持续 30 分钟升至+105℃持续 30 分钟,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±4 小时. 48±4 hours exposure to a salt spray from the 5±1% solution at 35±2℃. (Based upon EIA-364-26A/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: 3~5sec solder. Temperature: 245±5℃.	Solder Wetting	浸渍面积需 95% 以上 95% of immersed area must show no voids, pin holes.
WRITTEN BY: <u>Alan qin</u>		APPROVED BY: <u>Robing</u>		Sheet: 6 of 8

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5-3-11	焊锡耐热性 Resistance to Soldering Heat	焊接时间: 5~10 秒. 焊接温度: 255+5/-5℃. Soldering time:5~10 sec solder. Temperature:255+5/-5℃. (Based upon EIA-364-56A)	外观 Appearance	无异状 No Damage
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【6.综合插入力及拔出力 INSERTION/WITHDRAWAL FORCE】 <Connector mating force>

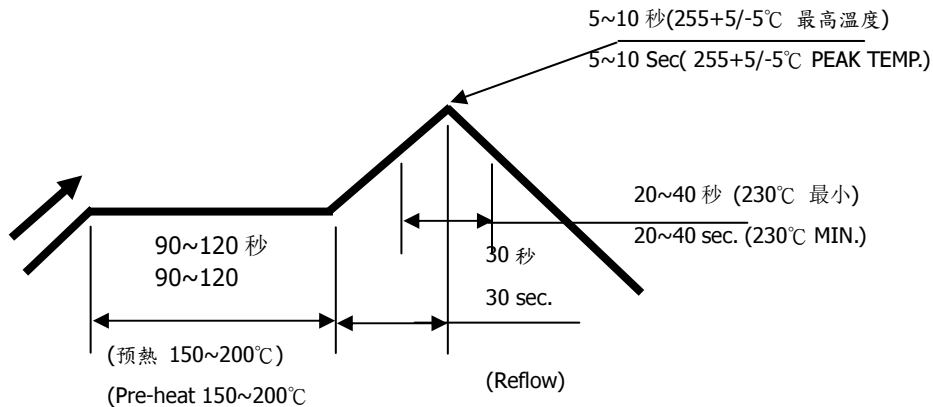
PIN 数 No. of CKT	初次插入力(最大值) First Insertion (kgf Max.)	30 次拔出力(最小值) 30 th Withdrawal (kgf Min.)	PIN 数 No. of CKT	初次插入力(最大值) First Insertion (kgf Max.)	30 次拔出力(最小值) 30 th Withdrawal (kgf Min.)
Single	/	/	09	9.2	0.55
02	3.6	0.10	10	10.0	0.60
03	4.4	0.20	11	10.8	0.65
04	5.2	0.30	12	11.6	0.70
05	6.0	0.35	13	12.4	0.75
06	6.8	0.40	14	13.2	0.80
07	7.6	0.45	15	14.0	0.85
08	8.4	0.50			

注：以上插拔次数为 30 次

Note: Insertion and Withdrawal for 30Cycles

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【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.