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Subject [主题]:	Date Issued	2019/09/01
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This specification is referred to the 1.50mm series wire to board connector

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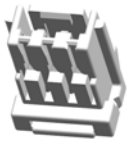
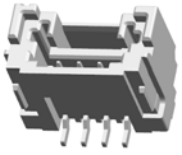
【1.适用范围 Scope】

此种规格包括 1.50mm Pitch HRS-1506 Series 连接器规格说明.

This Specification Covers the 1.50mm Pitch HRS-1506 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-1506TM-PXXSX-01F	
胶壳/Housing	HRS-1506HM-lxXX-PTNBR01F	
针座/Wafer	HRS-1506WVS-1xXX-9TNP37RR001F HRS-1506WRS-1xXX-9TNP37RR001F	

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【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	Underplate:Ni 40~120u"(1~3um) overall Top plating:Sn 80~200u"(2~5um) overall
胶壳/Housing		PBT (UL 94V-0)	/
针座/Wafer	Base	High Temperature Plastic (UL 94V-0)	/
	PIN	磷铜/Phosphor Bronze	Underplate:Ni 50~100u"(1~3um) overall Top plating:Sn100~200u"(2~5um) overall
	Solder tab	黄铜/Brass	Underplate:Ni 50~100u"(1~3um) overall Top plating:Sn100~200u"(2~5um) overall

（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.)	125V Max	[AC/DC]
额定电流 Rated Current (Max.)	2A Max	
使用温度范围 Ambient temperature Range	-40℃~+105℃	
适用线径 Applicable wire insulation O.D	AWG #24~28(0.08~0.22mm^2) Insulation O.D. 1.2mm(Max.)	

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

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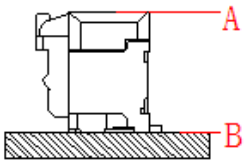
【5.性能 PERFORMANCE】

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)	500 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 800V 的交流电 1 分锺,检测连接器. Mate connectors, apply 800V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A / MIL-STD-202 Method 301)	没有击穿或者出现电火花 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.
5-1-5	电压降落 Voltage Drop	在 75 或 100 毫米的点上，测量的量测值下降到 12±1v，在 75 或 100 毫米的短电路中。从总电阻中减去导线电阻。 Measure voltage drop by 12 ± 1V of open circuit and1 ± 0.05A of short circuit at the 75 or100mm of point from crimped section. Subtract wire conductor resistance from total resistance.	10mV/A Max

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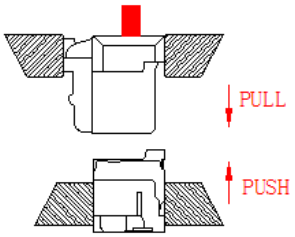
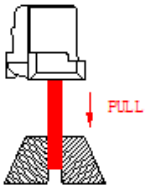
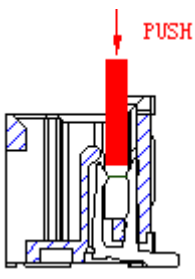
5-2. 机械的性能 Mechanical Performance.

项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】
5-2-1	插拔力 Insertion & Retention Force	以每分锺 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. 	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 100±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 100±3mm/minute. 	9.8N {1.0kgf} min.

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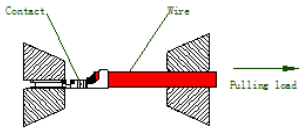
项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】			
5-2-5	端子压着强度 Tensile strength (Crimped connections)	固定铆线后的端子，使电线与端子分离时所需的最小力量. Fix the crimped terminal, apply axial pull out force on the wire. (Do not crimp insulation part).	AWG 线号 (平方毫米)	#24 (0.22mm²)	#26 (0.13mm²)	#28 (0.08mm²)
			Spec.kgf. Min.	2.27	1.37	0.91
			Note> As for unspecified wire sizes in this specification define values with clients			
5-2-6	公母座带卡扣保持力 Male/Female Housing Retention Force	将插好端子的公母座含卡扣以每分钟 50±3mm 的速度拔出所需要力量。 Mate connectors and apply pull-out force at the speed rate of 50±3mm/min. This Test should be done with positive lock locked.	19.6N(2.0kgf) MIN			

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	40 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℃ Max.
5-3-3	耐振动性 Vibration	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/S2 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 axis. (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.
			电压降 Voltage Drop	20mV/A Max
			瞬断 Discontinuity	1 micro-second Max.

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项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】	
5-3-4	耐冲击性 Shock	在 X.Y.Z 上 6 个方向上,以 981m/s2(100g 的力量)冲击下各 3 回.作用时间：6ms 981m/s2{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
			Discontinuity	1 micro-second Max.
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	40 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	40 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	40 milliohms Max.
			耐电压 Dielectric Strength	Must meet 5-1-3
			绝缘阻抗 Insulation Resistance	500 Meg ohm Min.

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项 目 【Item】		条 件 【Test Condition】	规 格 【Requirement】	
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1000次. 1000 cycles of: a) -40℃ 30 minutes. b) +105℃ 30 minutes. (Based upon EIA-364-32B)	外观 Appearance	无异状 No Damage
			端子与 HSG 保持力 Terminal/Housing Retention Force	满足 5-2-2 Must meet 5-2-2
			端子压着拉力测试 Crimping Pull Out Force	满足 5-2-5 Must meet 5-2-5
			电压降落 Voltage Drop	20mV/A Max
			公母座带卡扣保持力 Housing/Header Retention Force	满足 5-2-6 Must meet 5-2-6
			接触阻抗 Contact Resistance	40 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-364-26B/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	耐亚硫酸腐蚀性 SO2 gas	将公母对插好的样品放入温度40±2℃，亚硫酸浓度在50±5ppm环境中放置 24小时。 24 Hours exposure to 50±5ppm SO2 gas at 40±2℃	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.
5-3-11	焊锡性 Solder- Resistance	焊接时间: 3±0.5秒. 焊接温度: 245±5℃. Soldering time: 3±0.5sec solder. Temperature: 245±5℃.	浸锡性 Solder Wetting	浸渍面积需90%以上 90% of immersed area must show no voids, pin holes.
5-3-12	焊锡耐热性 Resistance to Soldering Heat	将恒温铬铁温度调整至350±5℃，将熔融状态的锡焊料按压在PIN脚3秒。 Press the solder trowel of 350±5℃ for 3sec	外观 Appearance	无异状 No Damage
			接触阻抗 Contact Resistance	40 milliohms Max.

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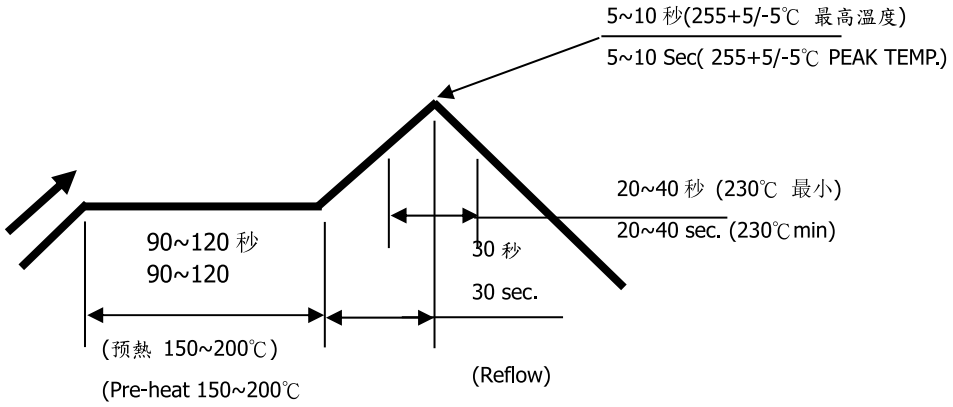
【6.综合插入力及拔出力 INSERTION/WITHDRAWAL FORCE】<Connector mating force>

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) 30th 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) 30th Withdrawal (kgf Min.)
02	0.66	0.04	09	2.97	0.18
03	0.99	0.06	10	3.30	0.20
04	1.32	0.08	11	3.63	0.22
05	1.65	0.10	12	3.96	0.24
06	1.98	0.12	13	4.29	0.26
07	2.31	0.14	14	4.62	0.28
08	2.64	0.16	15	4.95	0.30
			16	5.28	0.32

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.