

Product Specification [产品规格书]:	ISSUED BY: Engineering Dept	
Subject [主题]: 5.70mm Pitch HRS-5700 Series Connector Specification	Date Issued	2017/04/06
	Date Revised	2019/04/19

This specification is referred to the 5.70mm series wire to board connector

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【1.适用范围 Scope】

此种规格包括 5.70mm Pitch HRS-5700 Series 连接器规格说明.

This Specification Covers the 5.70mm Pitch HRS-5700 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-5700T-HXXX	NONE
胶壳/Housing	HRS-5700HX-2*XX-XXXX	NONE
针座/Wafer	HRS-5700WV-2*XXXX-XXXX HRS-5700WR-2*XXXX-XXXX	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	High conductivity copper	Tin Plated: Over 100μ" .Nickel: Over 50μ" . Au Plated: 15μ" .Nickel: Over 20μ"
胶壳/Housing	PA66	UL 94V-2/UL94V-0
针座/Wafer	Base	LCP
	PIN	High conductivity copper
		Over Tin 100μ" Plated ; Over 50μ" 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】

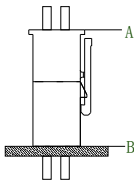
项 目【Item】	规 格【Standard】	
额定电压 Rated Voltage (Max.)	600V	[AC/DC]
额定电流 Rated Current (Max.)	10A	
使用温度范围 Ambient temperature Range	-40℃~+105℃	
适用线径 Applicable wire insulation O.D	AWG 12#~16# Insulation O.D.4.0mm(Max.)	

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

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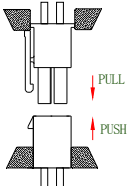
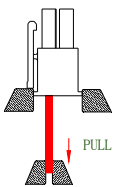
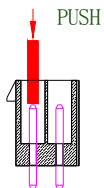
【5.性能 PERFORMANCE】

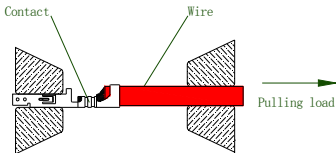
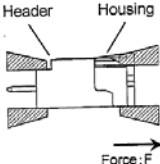
5-1. 电气的性能 Electrical Performance.

项 目 【Item】	条 件 【Test Condition】	规 格 【Requirement】
5-1-1 接触阻抗 Contact Resistance	<p>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).</p> 	<p>Initial: 2 milliohms Max. After Test: 10 milliohms Max.</p>
5-1-2 绝缘阻抗 Insulation Resistance	<p>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)</p>	1000 Megohms Min.
5-1-3 耐电压 Dielectric Strength	<p>公母配合,在相邻端子,端子与地片之间,使用 2200V 的交流电 1 分锺,检测连接器. Mate connectors, apply 2200V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A / MIL-STD-202 Method 301)</p>	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	<p>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.</p>	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 $25.4\pm 3\text{mm}$ 的速率插入和拔出。 Insert and withdraw Connectors at the speed rate of $25.4\pm 3\text{mm}/\text{minute}$.	参照第 6 项 Refer to paragraph 6
			
5-2-2	端子保持力 Terminal/ Housing Retention Force	以每分钟 $25.4\pm 3\text{mm}$ 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 $25.4\pm 3\text{mm}/\text{minute}$ on the terminal assembled in the housing.	29.4N {3.0kgf} 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.	14.7N {1.5kgf} Max.
5-2-4	Pin 针保持力 Pin Retention Force	以每分钟 $25.4\pm 3\text{mm}$ 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 $25.4\pm 3\text{mm}/\text{minute}$.	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#	#12	#14	#16
				Spec. .kgf. Min.	22.5	22.5	22.5
				Note> As for unspecified wire sizes in this specification define values with clients			
5-2-6	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		68N {7.0kgf} 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	10 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	10 milliohms Max.
		瞬断 Discontinuity	1 micro-second Max.

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5-3-4	耐冲击性 Shock	在 X.Y.Z 上 6 个方向上,以 490m/s ² (50g 的力量)冲击下各 3 回.490m/s ² {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	10 milliohms Max.
			瞬断 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	10 milliohms Max.
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	10 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	10 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	10 milliohms Max.
WRITTEN BY:Alan qin		APPROVED BY:Tang		Sheet: 6 of 7

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5-3-9	盐水喷雾 Salt Spray	在温度 $35\pm2^{\circ}\text{C}$, 盐水浓度 $5\pm1\%$ 下, 盐水喷雾 24 ± 1 小时. 24±1 hours exposure to a salt spray from the $5\pm1\%$ solution at $35\pm2^{\circ}\text{C}$. (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	10 milliohms Max.
5-3-10	焊锡附着性 Solder-ability	焊接时间: 3 ± 0.5 秒. 焊接温度: $245\pm5^{\circ}\text{C}$. Soldering Time: $3\pm0.5\text{second}$. Solder Temperature: $245\pm5^{\circ}\text{C}$. (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.
5-3-11	焊锡耐热性 Solder-Resistance	焊接时间: 3~5 秒. 焊接温度: $255+5/-5^{\circ}\text{C}$. Soldering time: 3~5 sec solder. Temperature: $255+5/-5^{\circ}\text{C}$. (Based upon EIA-364-56A)	外观 Appearance	无异状 No Damage
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			Sheet: 7 of 7	

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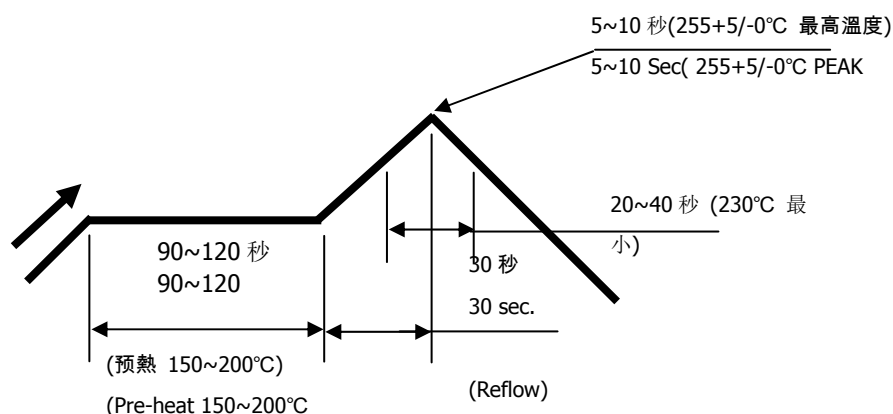
【6.综合插入力及拔出力 INSERTION/WITHDRAWAL FORCE】<Connector mating force>

PIN 数 No. of CKT	初次插入力(最大值) First Insertion (kgf Max.)	30 次拔出力(最大值) 30 th Withdrawal (kgf Max.)	PIN 数 No. of CKT	初次插入力(最大值) First Insertion (kgf Max.)	30 次拔出力(最大值) 30 th Withdrawal (kgf Max.)
2*01	1.4	1.4	2*04	5.6	5.6
2*02	2.8	2.8	2*05	7.0	7.0
2*03	4.2	4.2	2*06	8.4	8.4

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.