



Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	SMA CONN,立式母头,板上 DIP 型, 自带开关 H17mm	PS-00**			
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1. 适用范围 SCOPE

本技术规范适用于 SMA CONN,立式母头,板上 DIP 型,自带开关 H17mm (料号:7.047A*-000-*Y2)连接器, 其中包括产品性能, 品质要求和测试方法

The specification covers performance, tests and quality requirements for R SMA CONN,立式母头,板上 DIP 型,自带开关 H17mm (料号:7.047A*-000-*Y2) CONNECTOR.

2. 参考文件 APPLICABLE DOCUMENT

以下参考文件有 MIL-STD-202, EIA-364, UL-498, JIS C0020

The following documents form a part of this specification to the extent specified herein. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

MIL-STD-202, EIA-364, JIS C0020.

3. 产品构成/材料 CONSTRUCTION AND MATERIAL.

塑胶主体 HOUSING : 热塑性塑胶 (THERMOPLASTIC) ;

塑胶后盖 COVER: 热塑性塑胶 (THERMOPLASTIC) ;

导体端子(固定)CONTACT1(NORNAL) : 铜合金 (COPPER ALLOY)

导体端子(弹性)CONTACT1(COMMON) : 铜合金 (COPPER ALLOY)

外 壳 SHELL : 锌铝合金 (ALLUMEN)

4. 额定值 Ratings

A. 额定电压 Voltage Rating: 335V AC

B. 公称特性 Nominal characteristic impedance:50Ω

C. 周波数 Frequency:DC~4.2GHz

D. VSWR:1.6Max.(~4.2GHz)

E. 使用温度范围 Service Temperature: -40℃ to 85℃

F. 存储温度范围 Storage Temperature:-55℃ to 155℃

5. 产品性能及测试要求和规范 PERFORMANCE, TEST REQUIREMENT AND PROCEDURES SUMMARY

5-1 试验条件 Test condition

温度 Temperature: 15℃ to 35℃



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湿度 Humidity:45~75%RH

5-2. 产品性能及测试要求和规范 PERFORMANCE, TEST REQUIREMENT AND PROCEDURES SUMMARY

项目 ITEM	规格 STANDARD	测试规范 PROCEDURES
电性能 ELECTRICAL		
低功率接触阻抗 Low Level Contact Resistance	初值最大 100mΩ,试验后最大 200 mΩ. Contact resistance initial 100 mΩ Max, after testing 200 mΩ Max.	公母端连接器配合后使用最大 20 mV 电压, 开路最大 100mA 电流进行测试. 参考 MIL-STD-202,Method 307 Mated connector, 20 mV Max. Open circuit at 100mA Max. MIL-STD-202,Method 307
绝缘阻抗 Insulation Resistance	最小 5000 MΩ 5000 MΩ Min	使用直流电 500V, 保持 1 分钟, 测试端子与 外壳间. 参考 MIL-STD-202,Method 302 500V DC for 1 minute. Test between shell and contact. MIL-STD-202,Method 302
耐电压 Dielectric withstanding Voltage	不能有电火花产生,绝缘不能破坏,漏电 流不能超过 0.5mA No creeping discharge or flash over shall occur, Current leakage: 0.5mA Max.	使用交流 1000V, 保持 1 分钟, 测试端子与 外壳间. 参考 MIL-STD-202 Method 301 1000V AC 1 minute. Test between shell and contact. MIL-STD-202 Method 301



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驻波比 VSWR	~4.2GHz : ~NORMAL CLOSE:1.5 最大 ~NORMAL OPEN:1.5 最大 ~4.2GHz : ~NORMAL CLOSE:1.5MAX ~NORMAL OPEN:1.5MAX	周波数: ~4.2GHz Analyzer.Frequency: ~4.2GHz
插入损耗 Insertion Loss	4.2GHz : ~NORMAL CLOSE:0.5 最大 ~NORMAL OPEN:0.65 最大 4.2GHz : ~NORMAL CLOSE:0.5MAX ~NORMAL OPEN:0.65MAX 大	周波数: ~4.2GHz Analyzer.Frequency: ~4.2GHz
隔离度 Isolation	~4.2GHz : 10 dB 最小, 10 dB Min. at ~4.2GHz	周波数: ~4.2GHz Analyzer.Frequency: ~4.2GHz
机械性能 MECHANICAL		
可焊性 Solderability.	焊锡表面浸渍超过 95%. Wet solder coverage: 95%Min	焊锡温度: 245°C 焊锡时间: 3 秒 参考 MIL-STD-202 方法 208H Solderability temperature: 245°C. Immersion duration: 3 seconds. MIL-STD-202 Method 208H



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波峰焊接温度 Wave Soldering Temperature	产品无外观及其它异常 No physical abnormalities shall be Present after test	波峰焊接温度曲线见图 4 Wave Soldering Temperature soldering by fig4
耐久性 Durability	接触阻抗: 初期 100 mΩ,以下, 试验后 200 mΩ 以下 Contact resistance initial 100 milli-ohm MAX. after testing 200milli-ohm MAX.	将连接器焊接在板上以每分钟 25±3mm 的速度插拔 500 次 Mate and un-mate the receptacle connector (soldered to the test board)and plug 500cycles at a speed 25±3mm/minutes along the mating by the push-on/pull-off machine.
机械振动 Mechanical Vibration	外观无异常 Apply the following vibration to the mating connector. 试验中不得有超过 1 微秒的瞬断产生 Electrical discontinuity: No electrical discontinuity grater than 1 micro-sec.shall occur. 接触阻抗: 初期 100mΩ,以下, 试验后 200mΩ 以下 Contact resistance initial 100 milli-ohm MAX. after testing 200 milli-ohm MAX.	嵌合状态下振动, 试验中 DC100mA 电流的瞬断确认。 Apply the following vibration to the mating connector. 测试方向: 3 个相互垂直方向; Test directions: 3 mutually perpendicular directions; 周波数:10Hz-100Hz-10Hz 约 20 分 10Hz-30Hz :3mm(0.12 inch) 30Hz-100Hz :60m/ s ² Frequency:10Hz-100Hz-10Hz/approx 20 minutes. 10Hz-30Hz :3mm(0.12 inch) peak to peak 30Hz-100Hz :60m/ s ² 测试次数:一个方向 3 次, 共 9 次; Test cycles:1 direction 3cycles total 9cycles;



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机械冲击 Mechanical shock	<p>外观无异常 Appearanec:Looseness between the parts, chipping, breakage or other abnormality shall not occur.</p> <p>试验中不得有超过 1 微秒的瞬断产生 Electrical discontinuity: No electrical discontinuity grater than 1 micro-sec. shall occur.</p> <p>接触阻抗:初期 100mΩ 以下,试验后 200mΩ 以下. Contact resistance initial 100 milli-ohm MAX. after testing 200milli-ohm MAX</p>	<p>嵌合状态在冲击试验机下冲击,试验中 DC100mA 电流的瞬断确认。MIL-STD-202 试验法 203,试验条件 B</p> <p>Apply the following vibration to the mating connector in accordance with MIL-STD-202, Method 213, Condition B. During the testing, run 100mA DC to check electrical</p> <p>最大加速度:735m/s²(75G) Peak value of acceleration:735m/s²(75G).</p> <p>时间: 6 毫秒: Duration:6 msec 波形: 半正弦冲击波 Wave Form: half sinusoidal</p> <p>冲击次数/方向:以 fig5 图示方向正反冲击各 3 次,共 6 次. Diretions,cycle: pcrpendicular, 3 cycles each to normal and reversed directions of fig5 direction. totally 6 drops</p>
压力疲劳测试 Stress Fatigue Test	<p>测量内部接触电阻 1) Measure the inner contact resistance; 将本产品与合适的SMA接口配对, 并保持24小时 2) Mate this product with the suitable connector through the SMA interface, and leave this state for 24hours; 将对配插头拔出后, 1分钟内量测本产品的内部接触电阻 3) Unmate the above connectors, measure the inner contact resistance of this product within 1minutes after the unmating operation; 重复上述步骤5次 4) Repeat the above steps for 5 times.</p>	<p>初始接触电阻100m Ω 最大 1) Initial Contact Resistance : less than 100m Ω ; 接触电阻变化值, 每周期10 m Ω 最大 2) Changes of contact resistance per cycle : less than 10 m Ω .</p>
环境性能 ENVIRONMENTAL		



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盐水喷雾 Salt water spray	<p>外观无异常,性能良好 Appearance no abnormality adversely affecting the performance shall occur</p> <p>接触阻抗: 初期 100 mΩ,以下, 试验后 200 mΩ 以下. Contact resistance Initial: 100 milli-ohm MAX. after testing 200 milli-ohm MAX.</p>	<p>嵌合状态的连接器放置于以下条件: Apply the following environment to the mating connector in accordance with MIL-STD-202,Method 101,Condition B</p> <p>温度: 308+/-2K(35+/-2°) Temperature:308+/-2K(35+/-2°)</p> <p>盐水浓度:5+/-1%(重量比) Salt water density by weight:5+/-1%</p> <p>时间:48 小时 Duration:48 hours</p>
冷热冲击 Thermal shock	<p>部品无外观及其它异常 Appearance: Looseness between the parts, chipping, breakage or other abnormality shall not occur.</p> <p>接触阻抗: 初期 100mΩ,以下, 试验后 200 mΩ 以下 Contact resistance initial 100 milli-ohm MAX. after testing 200milli-ohm MAX.</p> <p>绝缘阻抗:最小 1000MΩ, Insulation resistance: 1000 MΩ Min</p>	<p>嵌合状态的连接器在以下环境 Apply the following environment to the mating connector. MIL-STD-202,Method 107.</p> <p>温度, 持续时间: Temperature, duration:</p> <p>1). 233K(-40°)/30 分钟 2). 298K(25°)/5 分钟以下 3). 358K(85°)/30 分钟 4). 298K(25°)/5 分钟以下</p> <p>1). 233K(-40°)/30minutes 2). 298K(25°) /5minutes MAX. 3). 358K(85°)/30minutes 4). 298K(25°)/5minutes MAX</p> <p>实施 50 个循环 No. of cycles: 50 cycles</p>



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高温寿命 Temperature Life	<p>部品无外观及其它异常</p> <p>Appearance: Looseness between the parts, chipping breakage or other abnormality shall not occur</p> <p>接触阻抗: 初期 100 mΩ,以下, 试验后 200 mΩ 以下</p> <p>Contact resistance</p> <p>Initial: 100milli-ohm MAX.</p> <p>after testing:</p> <p>200milli-ohm MAX.</p> <p>绝缘阻抗:最小 1000MΩ,</p> <p>Insulation resistance: 1000 MΩ Min</p>	<p>嵌合状态的连接器放置以下环境</p> <p>Apply the following environment to the mating connector in accordance</p> <p>温度 358K(85°)</p> <p>Temperature:358K(85°)</p> <p>时间:96 小时</p> <p>Duration:96 hours</p>
耐湿性 Humidity	<p>部品无外观及其它异常</p> <p>Appearance: Looseness between the parts, chipping, breakage or other abnormality shall not occur.</p> <p>接触阻抗: 初期 100 mΩ,以下, 试验后 200 mΩ 以下</p> <p>Contact resistance initial 70 milli-ohmMAX.</p> <p>after testing</p> <p>80milli-ohm MAX.</p> <p>绝缘阻抗:最小 1000MΩ,</p> <p>Insulation resistance:1000 MΩ Min</p> <p>耐电压:无发生沿面放电,空中放电,绝缘破坏等异常.</p> <p>D.W.Voltage:No creeping discharge,flashover,nor insulator breakdown shall occur</p>	<p>嵌合状态的连接器在以下环境放置.MIL-STD-202.试验法 103,条件 B</p> <p>Apply the following environment to the mating connector in accordance with MIL-STD-202,Method103,Condition B.</p> <p>温度:313K(40°)</p> <p>Temperature:313K(40°)</p> <p>湿度:85%RH</p> <p>Humidity:85%RH</p> <p>时间:96 小时(50 小时*)</p> <p>Duration:96 hours (50 hours*)</p> <p>备注: 1).在有转接器插合状态下测试为“ * ”值。2). 所有测量应在完成湿度测试 2 小时内完成。</p> <p>Note: The condition is under the “*”value when test is done with adaptor. Measurements should be done within 2hours.</p>



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干冷测试 Dry cold test	零下 40 摄氏度，持续时间 96 小时 -40℃，96H。	接触电阻200mΩ 最大 绝缘电阻5000MΩ 最小 无损坏，裂纹或震动 Contact Resistance : 200m Ω Insulation resistance: 5000M Ω No damage, crack or shake
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6. 产品认定和测试群组 PRPDUCT QUALIFICATION AND TEST SEQUENCE

	Test of Examination													
	A	B	C	D	E	F	G	H						
1. 外观和尺寸检查 Visual and dimensional inspections	1,17	1,6	1,7	1,9	1,7	1,4	1,6	1,3						
2. 绝缘阻抗 Insulation resistance	2			2,5	2,7	2,5								
3. 接触阻抗 Contact resistance	3.13	2.5	3.6	3.8	3.6		3,5							
4. 耐电压 withstanding voltage	4						4,8							
5. 驻波比 V.S.W.R	5.14													
6. 插入损耗 Insertion Loss	6.15													
7. 隔离度 Isolation	7.16													
8. 适合性 Suitable.							2							
9. 耐久性 Durability	10													
10. 压力疲劳测试 Stress Fatigue Test							4							
11. 机械冲击 Mechanical Shock		3												
12. 机械振动 Mechanical Vibration		4												
13. 配合 Mating	8.11													
14. 插拔力 Unmating	9.12													
15. 湿度稳定状态 Humidity Steady State			4											
16. 温度周期 Temperature Cycle				6										



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17.寿命 Life				4			
18.干冷测试 Dry cold test				5			
19.盐水喷雾 Salt spray					4		
20.阻焊性 Resistance to solderingt						2	
21.可焊性 Soldering						3	
22.波峰焊接温度 Wave Soldering Temperature							2
23.最小测试数量 Number Of Test Samples Min.	5	5	5	5	5	5	5

7. 波峰焊接温度 Wave Soldering Temperature

7.1 预热段 Preheating Section 90~130℃ , 45~70s.

7.2 焊接段 Soldering Section 250~260℃ , 2.5~6s

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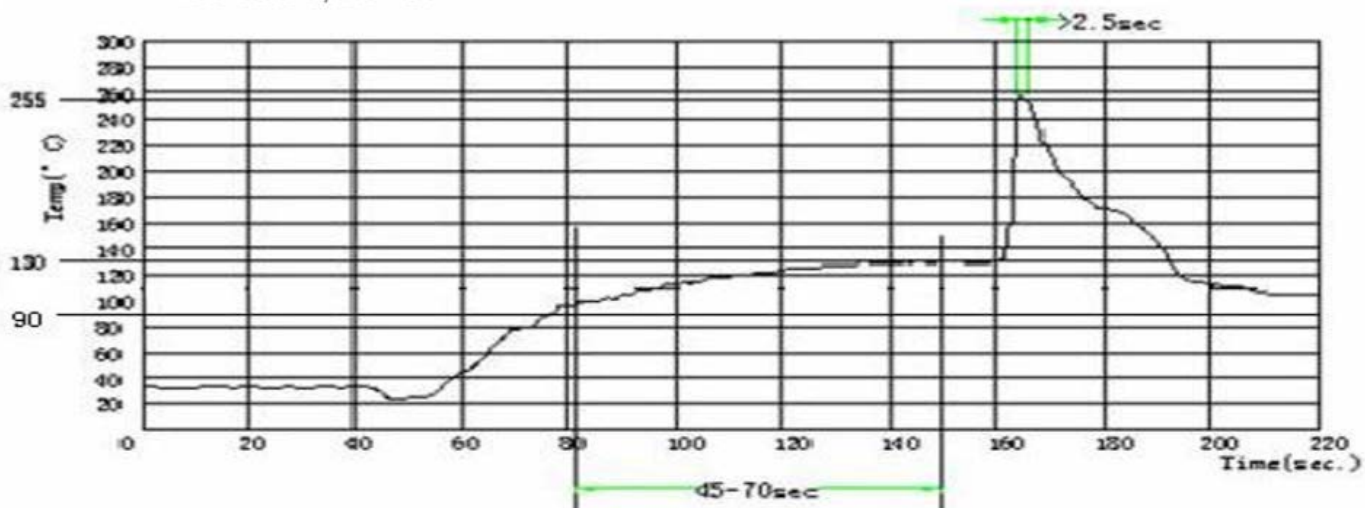


图 4