
MICRO SIM CARD CONNECTOR
(P/N: 1.070 A0-006-5R0)

1. 适用范围 SCOPE

本技术规范适用于 MICRO SIM CARD 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 MICRO SIM CARD 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) ;

接触端子 CONTACT : 磷青铜 (PHOSPHOR BRONZE)

4. 额定值 Ratings

A. 额定电压 Rated voltage: 50V DC

B. 额定电流 Rated current : 1.0A

C. 大气环境标准 Standard atmospheric condition:

周围环境温度 Ambient temperature : 15°C to 35°C

相对湿度 Relative humidity : 63% to 67%

大气压力 Air pressure : 86 kpa to 106 kpa

D. 使用温湿度范围:

Service temperature : -20°C to 60°C

Service humidity:5~85%RH

E. 存储温湿度

Storage temperature : -40°C to 70°C

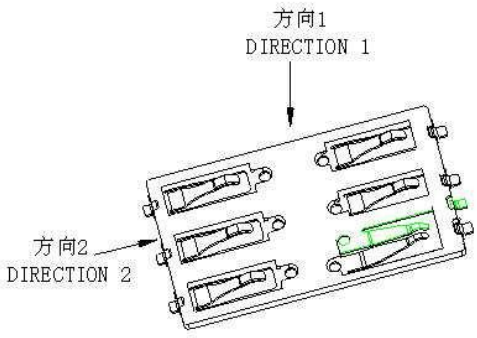
Storage humidity :5~95%RH

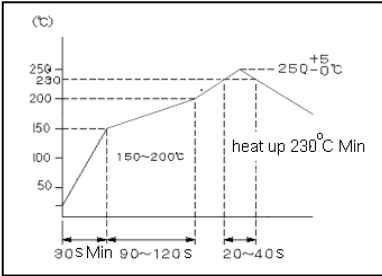
Approve: 谭林红 2017.03.10	Check: 罗树著 2017.03.10	Pre: 许志远 2017.03.10
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5. 产品性能及测试要求和规范 PERFORMANCE, TEST REQUIREMENT AND PROCEDURES SUMMARY

5-1. 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		
接触阻抗 Termination resistance	初值最大 50mΩ 50mΩ Max Initial 终值最大 60mΩ 60mΩ Max. Final.	插卡后使用最大 20 mV 电压, 开路最大 10mA 电流进行测试. 参考 MIL-STD-1344A,方法 3002.1 Apply the level condition of DC 20mV 1mA max. for the open circuit voltage and DC 10mA max. for the closed circuit current. then measure them that between each coupled terminal when mate with SIM CARD MIL-STD-1344A METHOD 3002.1
绝缘阻抗 Insulation Resistance	最小 100 MΩ 100 MΩ Min	使用直流电 500V, 保持 1 分钟, 测试邻近端子或者接地 PIN 间. 参考 MIL-STD-202F,方法 302 Applied DC 500V for 1 minute between adjacent terminal or ground. MIL-STD-202F,METHOD 302
耐电压 Dielectric Strength	不能有产品变形和电流衰弱现象等等. Without damaged such as arcing or breakdown etc.	使用交流电压 500V,电流 1mA,保持 1 分钟, 测试邻近端子或者接地 PIN 间. 参考 MIL-STD-202 方法 301 Applied AC 500V for 1 minute 1mA between adjacent terminal or ground. MIL-STD-202 METHOD 301
温度升高 Temperature rise	不能超过 30℃ 30℃ or less	在所有的端子将是连接,使用额定电流下测量,直到温度相对稳定(3 小时左右)用热电偶测量端子表面的温度. All the terminal shall be connected in a directed series, then applied the rated current. Until the temperature be not change,(about 3 hours). Using thermocouple measure the temperature of the terminal surface

机械性能 MECHANICAL		
端子正向力 Normal force	最小每 PIN 40g 40g or more per pin	用 SIM CARD 以每分 25+/-3mm 的速度插入。 位移量:0.36mm When applied SIM CARD mating at speed 25+/-3mm/min Stroke 0.36mm
寿命测试 Life test	方向 1	将连接器焊接在板上,用卡以每小时 400~600 次的速度插拔方向 1 为 5000 次, 方向 2 为 3000 次 Solder each of the JMD-3602 connector to the P.C.Board, then place each of the P.C.Board and SIM CARD onto the push-on/pull-off machine, then do mating / un mating 5000 cycles for direction 1 and 3000 cycles for direction 2 at speed of 400~600 cycles per hour. <div style="text-align: center;">  </div> (附图 为 寿命测试示意图)
	方向 2	
焊锡性能 Solder		
可焊性 Solder ability	焊锡表面浸渍超过 95%. More than 95%of the dipped surface shall be wet with solder.	将端子沉入 245°C +/-5°C 的焊液中 5+/-0.5 秒。 参考 MIL-STD-202,方法 208 Immerse the solder pin of the connector in the solder bath at 245°C +/-5°C for 5+/-0.5 seconds After dipped the pin in the flux of RAM or R type for 5 seconds MIL-STD-202 METHOD 208

<p>耐焊锡热 Resistance to Soldering reflow Heat</p>	<p>外观没有明显的损伤 焊锡表面浸渍超过 95%. Appearance shall not be distinct damage. More than 95% of the mounting pin surface shall be wet solder</p>	<p>温度条件:</p>  <p>Put the connector on the P.C. Board and expose them to the reflow oven for 2 times 将连接器放置在 PCB 上过两次焊锡炉 (正反各一次)</p>
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持久性能 Endurance		
<p>振动 Vibration</p>	<p>1. 不得有超过 1 微秒的漏电流产生. 2. 塑胶没有破裂,其它零件没有损伤. 3. 测试后接触电阻不大于 60 mΩ</p> <p>1. No electrical discontinuity greater than 1 u sec. shall occur. 2. Lossen, crack and breakage of the plastic part and other detrimental damage shall not be observed. 3. The contact resistance $R_f \leq 60$ mΩ</p>	<p>每个端子连接在 100mA 的直流电 焊接在 PCB 板上的插卡后的连接器固 定在振动测试机上. 测试条件如下: 频率: 10 赫兹-55 赫兹-10 赫兹/分 方向:三个互相垂直的方向进行振动, 每个方向 2 小时,总共 6 小时. 参考 MIL-STD-202 方法 201</p> <p>Each terminal shall be connected in series and then 100mA DC shall be carried. Solder the JMD-3602 connector to the P.C.Board, then mate the SIM CARD to them together. Place the mated connector firmly on the vibrator and apply the following condition shall be done Frequency:10Hz-55Hz-10Hz/min Direction: along three mutually Perpendicular Direction Sweep time:2 hours along each direction, a total 6 hours Amplitude:1.52mm MIL-STD-202 METHOD 201</p>

<p>热冲击 Thermal shock</p>	<p>测试后电阻值不大于 60 mΩ. 外观没有破裂产生和端子没有损伤. Resistance value after test $R_f \leq 60 \text{ m}\Omega$. Appearance shall not be cracking and pin lossen.</p>	<p>将插卡后连接器焊接在 PCB 板上暴露在以下环境中进行测试: 温度: $-40 \text{ }^\circ\text{C} \pm 3 \text{ }^\circ\text{C}$(30 分钟) → $70 \text{ }^\circ\text{C} \pm 2 \text{ }^\circ\text{C}$(30 分钟) 过渡时间:最大 5 分钟 循环:10 个循环 然后将产品放置在标准大气环境中 1-2 小时后检测产品是合格的. Solder the JMD-3602 connector to the P.C.Board,then mate the SIM CARD to them together, and expose them to the following environmental condition. Temperature:$-40 \text{ }^\circ\text{C} \pm 3 \text{ }^\circ\text{C}$(30 min) → $70 \text{ }^\circ\text{C} \pm 2 \text{ }^\circ\text{C}$(30 min) Transition time:5 min.max. Number of exposure:10 cycles It shall be subjected to standard Atmospheric condition for 1 to 2 h, after which measurements shall be made.</p>
<p>盐雾腐蚀 Salt water spray</p>	<p>外观无腐蚀现象 测试后电阻值不大于 60 mΩ By visual inspection without noticeable rust. Resistance value after test $R_f \leq 60 \text{ m}\Omega$</p>	<p>将插卡后连接器焊接在 PCB 板上暴露在以下环境中进行测试: 温度: $35 \pm 2^\circ$ 盐水浓度:$5 \pm 1\%$(重量比) 时间:48 小时 ± 15 分 然后放置中大气环境中 1 小时后无盐沉积 Solder the JMD-3602 connector to the P.C.Board, then mate the SIM CARD to them together, and expose them to the following environmental condition Temperature:$308 \pm 2 \text{ K}$($35 \pm 2^\circ$) Salt water density by weight:$5 \pm 1\%$ Duration:48 hours ± 15 Minute. It shall be subjected to standard atmospheric condition 1h. after removing the salt deposits.</p>

<p>耐湿性能 Humidity</p>	<p>测试后电阻值不大于 60 mΩ. 外观没有明显的损伤. 绝缘阻抗和耐电压能力必须符合规范要求.</p> <p>Resistance value after test $R_f \leq 60 \text{ m}\Omega$.</p> <p>Appearance shall not be distinct damage.</p> <p>The insulation resistance and dielectric strength must coincide previously specification.</p>	<p>对插好的连接器焊在 PCB 板上,然后将其放置在以下环境中: 温度: 55+/-2℃ 相对湿度:91%~95% 时间:96 小时 把测试好的样品放置在标准环境 1 小时后检测产品是合格的.</p> <p>Solder the JMD-3602 connector to the P.C. Board,then mate the SIM CARD to them together, and expose them to the following environmental condition.</p> <p>Temperature: 55+/-2℃ Relative humidity:91%~95% Duration:96 hours It shall be subjected to standard atmospheric condition for 1 hour after which measurements shall be made.</p>
<p>温度寿命 Temperature Life</p>	<p>测试后电阻值不大于 60 mΩ 外观无明显损伤.</p> <p>Resistance value after test $R_f \leq 60 \text{ m}\Omega$</p> <p>Appearance shall not be distinct damage.</p>	<p>连接器在 85±2℃ 高温下保持 96 小时.然后放置在标准环境中 1 小时检测产品是合格的. 参考 MIL-STD-202 方法 108 条件 A</p> <p>The connector shall be store at temperature of 85±2℃ for 96 hours,then it shall be subjected to standard atmospheric condition for 1h.after which measurements shall be made.</p> <p>MIL-STD-202 METHOD 108 CONDITION A</p>

<p>机械冲击 Physical shock</p>	<p>测试后电阻值不大于 60 mΩ. 外观没有明显的损伤. Resistance value after test $R_f \leq 60$ mΩ. Appearance shall not be distinct damage.</p>	<p>对插后的连接器焊在 PCB 板上,每个端子接通直流电 100mA. 对插好的连接器固定在振动测试机上.测试条件如下: 最大加速度:490m/s². 测试时间: 11 毫秒. 波形:半正弦冲击波 冲击次数:正反三个相互垂直方向和冲击 3 次,共 18 次 参考规范:MIL-STD-202 方法 213 条件 A Solder the JMD-3602 connector to the P.C.Board, then mate the SIM CRAD to them together, then each terminal shall be connected in series and then DC 100mA be carried. Place the mated connector firmly on the shock machine and apply the following condition to be tested. Peak acceleration:490m/s². During of the plus:11 m Second. Wave: half sinusoidal Number of drops:18 times Direction: Along 3 mutually Perpendicular direction. MIL-STD-202 METHOD 213 CONDITION A</p>
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<p>耐低温性能</p> <p>Cold Resistance</p>	<p>测试后电阻不大于 60 mΩ</p> <p>外观无明显损伤.</p> <p>Resistance value after test $R_f \leq 60\text{m}\Omega$</p> <p>Appearance shall not be distinct damage.</p>	<p>将插卡后连接器焊接在 PCB 板上暴露在以下环境中:</p> <p>温度: $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$</p> <p>时间: 96 ± 1 小时</p> <p>然后在标准环境中放置 1 小时后检测产品是合格的.</p> <p>Solder the JMD-3602 connector to the P.C.Board, then mate the SIM CARD to them together, and expose them to the following environmental condition.</p> <p>Temperature: $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$</p> <p>Duration: 96 ± 1 hour</p> <p>It shall be subjected to standard atmospheric condition 1 h. after which measurements shall be made.</p>
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6. 产品认定和测试群组 PRPDUCT QUALIFICATION AND TEST SEQUENCE

Test of Examination	测试群组 Test Group													
	A	B	C	D	E	F	G	H	J	K	L	M	N	O
	测试序列 Test Sequence													
产品细查 Examination of product	1,5	1,7	1,7	1,3	1,3	1,6	1,5	1,3	1,5	1,7	1,7	1		
接触阻抗(低功率) Termination resistance	2,4		2,6			2,5	2,4		2,4	2,5	2,5			
绝缘阻抗 Insulation resistance		2,5								3,6	3,6			
耐电压 Dielectric Withstanding Voltage		3,6												
温升 Temperature rise				2										
端子保持力 Cable retention Force												2		
端子正向力 Normal force			3,5											
耐久性 Durability			4											
可焊性 Solder ability					2									
耐焊锡热 Resistance to Soldering Reflow Heat								2						
振动 Vibration						3								
热冲击 Thermal Shock							3							
盐雾腐蚀 Salt Water Spray									3					
耐湿性能 Humidity	3	4												
温度寿命 Dry heat											4			
机械冲击 Physical Shock						4								
耐低温性能 Cold Resistance										4				

RAV.	ECN NO.	DESCRIPTION	DATE	WRITTEN
A	---	RELEASED	2017. 03. 10	许志远