



Kunshan Jiahua Electronics Co., Ltd.

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| 文件名称 System Name: | 产品品名 Description: | 文件编号 Document No.: | | |
| Product specification | NANOSIM CARD BLOCK 0.24H | PS-0119 | | |
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******* Revised history *******

| Edition | ECN NO. | Revised Page | Remark |
|---------|---------|--------------|-----------------|
| 1 | | None | Initial Release |
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1. 概述 Scope:

1.1 说明 Content

此份产品规格书是针对由昆山嘉华电子有限公司设计和制造的 **NANOSIM CARD BLOCK 0.24H CONN.** 产品所定义的产品性能和测试方法。

This product specification defines the product performance and the test methods to ensure the performance of the **NANOSIM CARD BLOCK 0.24H.**, which is designed and manufactured by Kunshan Jiahua Electronics Co., Ltd.

1.2 限制 Qualification

所有的测试和检验必须依照本文件中所要求的规格、方法进行。一旦产品的重要制程发生变更，必须立即进行品质验证和测试。

Tests and inspection shall be performed in accordance with the requirements, tests and methods contained herein. A re-qualification test shall be conducted immediately following all major process changes.

2. 参考文件 Referenced Documents:

EIA364

MIL-STD-883B: Methods 2022 solder Testing.

ISO 7816-1: Identification Cards-integrated circuit cards with contact-dimension and location of the contacts.

GSM11.11: IETS subscriber identity module-interface specification

EIA 481-3 ,SMD tapping standard

若某些项目被发现本规格书中的内容与以上参考文件要求不一致时，一律依本规格书中的内容为测试依据。

In case of any contradiction between this document and referenced documents, this document will take precedence.

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3. 规格要求 Requirements:

3.1 应用条件 Application Condition:

3.1.1 额定电流: 0.5Amps DC Min. per contact
CURRENT RATING : 0.5Amps DC Min. per contact

3.1.2 额定电压: 10 Volt DC Max.
VOLTAGE RATING : 10 Volt DC Max

3.1.3 使用环境 Operating Environment:

温度: -40°C to +80°C, 此条件下功能不可失效。

Temperature:-40°C to +80°C, Without loss of function.

3.1.4 储存环境 Storage Environment:

温度: -40°C to +80°C,相对湿度: 0%~90%或更低,此条件下储存六个月至少, 功能不可失效。

Temperature:-40°C to +80°C, Relative Humidity: 0%~90% or Less, Without loss of function store for at least six months.

3.2 绿色环保要求 Health, Safety and Environment

此产品中所有涉及环保有关的有害物质管控标准请参考嘉华系统文件:[JH-GP-213](#)

Hazardous substances (Environment related to be controlled substances) contained in this product should comply with the regulations specified by FAF's [JH-GP-213](#).

3.3 测试说明 Test Description

此产品性能须满足本文件第 4 节中的各项规格要求。除非有特别申明, 所有的测试和量测必须在以下条件中进行:

The product is designed to meet the requirements specified in section 3.4. Unless otherwise specified, all tests and measurements are to be performed under the following conditions:

温度 Temperature: 15 to 35°C

相对湿度 Relative Humidity: 25% to 75%

大气压 Atmospheric Pressure: 650 to 800 millimeters (25.6 to 31.5 inches) of Mercury.

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4.测试规范和方法 Test Requirements and Methods

4.1 外观 Appearance

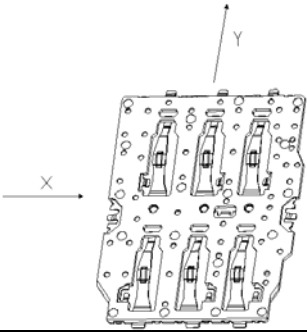
| 项目 Items | 规格要求 Requirements | 测试方法 Test Methods |
|------------------------------------|---|---|
| 4.1 产品外观和尺寸检查 Appearance | 所有零件必须组装完好,不能出现毛边,变形,刮伤,以及任何外观破坏等异常; All components shall be properly assembled and free of burrs, warps, scratches, broken chips, and other abnormalities | 依照相应的文件和规格书进行外观,功能,及尺寸的检验量测. Visual, functional, and dimensional inspection complies with applicable specification and document. |

4.2 电气性能 Electrical Performance :

| | | |
|---|---|---|
| 4.2.1 接触阻抗 Low level contact resistance | 初始接触阻抗: 75mΩ Max; 试验后接触阻抗: 100mΩ Max; Initial: 75mΩ Max; After test: 100mΩ Max; | 插入模拟卡, 形成回路, 施加 20mVMAX 电压, 测量接触阻抗, 测试电流小于 100mA Measure contact resistance of product and test card PCB with 20mV Maximum voltage and less than current of 100 mA (exception for the conductor resistance) |
| 4.2.2 绝缘阻抗 Insulation resistance | 初始绝缘阻抗: 1000 MΩ Min 试验后绝缘阻抗: 100 MΩ Min Initial:1000 MΩ Min After test:100 MΩ Min | 测试电压: 直流 500V, 测试时间: 1 分钟, 测试相邻两端子之间的绝缘阻抗 Give DC 500V Voltage for 1 minutes and then measure insulation resistance of contact and contact |
| 4.2.3 耐电压 Dielectric withstanding voltage | 产品既无电火花也无气体产生 漏电流最大 0.2mA After the test, Neither creeping discharge nor flashover shall occur. Leakage current 0.2 mA Max | 两相邻端子之间加载交流 500V 电压 1 分钟; Give AC 500 V in near contact and insulator for 1 minute |
| 4.2.4 温升 Temperature Rise | 温度升高不超过 30 °C; Temperature Rise 30 °C Max; | 产品插卡后当额定电流通过时,测试端子之温度升高; Mate card and measure the temperature rise of contact,when rated current is passed |

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| 4.3 机械性能 Mechanical Performance : | | |
| 4.3.1 正向力 Normal Force | 正向力: 距离塑胶面 0.10mm 位置: 50gf~80gf; 最小干涉量 (距离塑胶面 0.26mm 位置): 30gf min, 平均值 35gf min. Normal Force : 0.1mm from plastic surface:50gf~80gf; Minimum interference(0.26mm from plastic surface):30gf min, average 35gf min | 产品焊板后, 将弹片端子以 25 ± 3 millimeters/minute 的速度垂直压缩到距离塑胶面 0.10mm 位置和 0.26mm 位置, 分别测量正向力 NF.取值时从曲线上取最大值. 使用量程为 2Kg 的荷重元进行测试; After Soldering of testing product at PCB, vertical compression the clip terminal to the plastic surface at the speed of $25+3$ millimeters/minute and testing the positive force NF at this time; |
| 4.3.2 抓板力 Shear force | 抓板力: 3.5kgf Min; Shear force: 3.5kgf Min; | 产品焊板后, 测量产品抓板力, 测试速度: $25+3$ mm/min,测试如图示方向 After Soldering of testing product at PCB, Measure pulling force of Plug at 25 ± 3 mm/min;  |
| 4.3.3 耐久 Durability | 1. 寿命后产品无断裂、无破损; 端子弹高和接触阻抗在规格内; 32 端子正向力: 45~80gf, 平均 50gf Min; 最小干涉量 (距离塑胶面 0.26mm 位置): 25gf min; 1. After testing,product did not have fracture, crack;contact resistance and Height of Spring within specifications ; 3. Normal Force: 45~80gf,Average 50gf Min; Minimum interference(0.26mm from plastic surface):25gf min, | 产品焊板后, 将弹片端子以 400~600cycles/hour 的速度垂直压缩到塑胶上表面位置,重复 3000 次; After Soldering of testing product at PCB, Repeat vertical compression the clip terminal to the plastic surface at the speed of 400~600cycles/hour as 3000cycles |

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|---|---|--|
| 4.3.4 振动 Vibration | 1 没有物理损坏, 端子无变形 2 不产生超过 1 微秒的瞬断 1No have fracture , crack, terminal contact point shake of product 2 No electrical discontinuity longer than 1 u sec. | 产品焊板后测试, 半正弦波, 通以1mA DC电流。 测试频率:10-2000-10 Hz; 振幅: 10mm,加 速度20m/s ² ; 波形完成扫描时间:5 minute; 将测试样本配 合好之后在X,Y,Z 3个轴向各测试50小时, 共150小时。(SIM卡用0.60mm厚度) half-sine wave, apply 1mA DC current. frequency:10-2000-10 Hz; amplitude: 10mm;accelerated velocity: 20m/s ² sweep time:5 minute the connector condition is PCB mounting and connector& testing board mating ,it must be tested 50 minutes in each of the 3 axis(X,Y,Z),total 150 minutes.(Use 0.6mm SIM card) Per EIA-364-28 |
| 4.3.5 机械冲击 Mechanical Shock | 1 没有物理损坏, 端子无变形 2 不产生超过 1 微秒的瞬断 1No have fracture , crack , terminal contact point shake of product 2 No electrical discontinuity longer than 1 u sec. | 产品插卡后依如下条件测试: 电流: DC 1mA Mate card and subjected to the following shock conditions. 3 mutually perpendicular axis, passing DC 1mA current during the test. (Total of 18 shocks) Test pulse: Half Sine Peak value: 490m/s ² {50G} Duration: 11ms, velocity change 3.44m/s Per EIA-364-27 |
| 4.4 环境性能 Environmental Performance : | | |
| 4.4.1 恒温恒湿 Humidity | 1. 产品无损坏, 端子无变形 2. 测试后接触阻抗:100mΩMax 1 .No have fracture crack ,terminal contact point deflection and shake of product 2. After testing contact resistance: 100 mΩ Max | 配合后的产品在以下条件下测试: 温度: 40±2°C; 相对湿度: 92~98% 时间: 96 hours Mated connectors shall be subjected to the following condition: Temperature: 40±2°C Relative humidity: 92 to 98% Period: 96 hours |
| 4.4.2 耐低温 Low Temperature | 1. 产品无损坏,端子无变形; 2. 测试后接触阻抗:100 mΩMax 1. No have fracture crack,terminal Contact point deflection and shake of product 2. After testing contact resistance: 100 mΩ Max | 配合后的产品在以下条件下测试: 温度: -40±2°C; 时间: 96 hours 取出后放置两小时再测试 The card shall be mated and exposed to the condition of -40±2°C for 96 hours. Recovery time 2 hours |

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|---|--|---|
| 4.4 环境性能 Environmental Performance : | | |
| 4.4.3 耐高温 High temperature | 1 产品无损坏, 端子无变形 2. 试验后接触阻抗: 100 mΩ Max 1.No have fracture crack ,terminal contact point deflection and shake of product 2.After testing contact resistance: 100 mΩ Max; | 配合后的产品在以下条件下测试: 温度: 80±2°C 时间: 96h 取出后放置两小时再测试 Mated connectors shall be subjected to the following condition: temperature: 80±2°C Duration: 96h Recovery time 2 hours |
| 4.4.4 冷热冲击 Thermal shock | 测试后满足相应机械及电气规格; 测试后接触阻抗: 100 mΩ Max After test: 100 mΩ Max | 参考测试标准: EIA-364-32; -40°C和+80°C各 30 分钟, 总计 5 个循环. Comply with method EIA-364-32. -40°C for 30 minutes and +80°C for 30 minutes for 5 cycles. |
| 4.4.5 盐雾测试 Salt Spray Test | 1.产品无损坏, 端子无变形 2. 40 倍显微镜下观察, 接触区无腐蚀; 1. No have fracture crack ,terminal contact point deflection and shake of product 2. There was no corrosion in the contact area under 40 times minicroscope | 盐水浓度: 5±1% 时间: 48 小时 温度: 35±2°C 湿度: 85±2°C Mated connector shall be subjected to the following condition Concentration : 5±1% Spray time : 48hours Temperature : 35±2°C Relative humidity: 85±2°C |

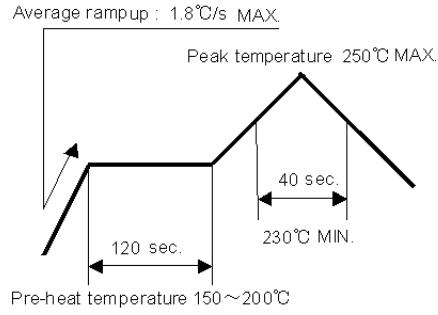
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| 4.4.6 吃锡性测试 Solder ability | 焊脚吃锡面积 95%以上 More than 95% of area dipped in molten solder should be coated by solder | 温度: 255°C ± 5°C 粘锡时间: 3~5 秒 Solder Temperature : 255°C ± 5°C Immersion Duration : 3~5 seconds |
|----------------------------------|--|--|

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|--|---|---|
| 4.4.7 耐 Reflow 高温 Resistance to Reflow Soldering Heat | 1.无损坏, 端子无变形; 2.产品结构无破坏; 1.No have fracture crack ,terminal contact point deflection and shake of product 2.No have break down outer feature/structure | 根据下图温度条件测试产品的耐焊接热 The connector shall be tested resistance to soldering heat in the following conditions, The temperature shall be measured on the surface of PCB  <p>Average rampup : 1.8°C/s MAX Peak temperature 250°C MAX 120 sec. 40 sec. 230°C MIN. Pre-heat temperature 150~200°C</p> |
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4.5 Test Sequence

| Group Number | A | B | C | D | E | F | G | H | J |
|-------------------------------------|-----|---|-------|-------|-------|-----|---|---|---|
| Contact Resistance | 1,6 | | 1,3,5 | 1,5,7 | 1,3,5 | 1,3 | | | |
| Insulation Resistance | | | | 2,8 | | | | | |
| Dielectric Withstanding Voltage | | | | 3,9 | | | | | |
| Temperature Rise | | | | | | | | | 1 |
| Normal force | 2,4 | | | | | | | | |
| Shear force | | 1 | | | | | | | |
| Durability | 3 | | | | | | | | |
| Vibration | | | 2 | | | | | | |
| Mechanical Shock | | | 4 | | | | | | |
| High Relative Humidity Exposure | | | | 6 | | | | | |
| Low Temperature Exposure | | | | | 2 | | | | |
| High Temperature Exposure | | | | | 4 | | | | |
| Thermal Shock | | | | 4 | | | | | |
| Salt Spray Test | | | | | | 2 | | | |
| Solderability | | | | | | | 1 | | |
| Resistance to Soldering reflow Heat | | | | | | | | 1 | |
| Height of Spring | 5 | | | | | | | | |

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