



SINGATRON ELECTRONIC (SUZHOU)CO.,LTD  
信音電子(蘇州)有限公司

**PRODUCT SPEC**

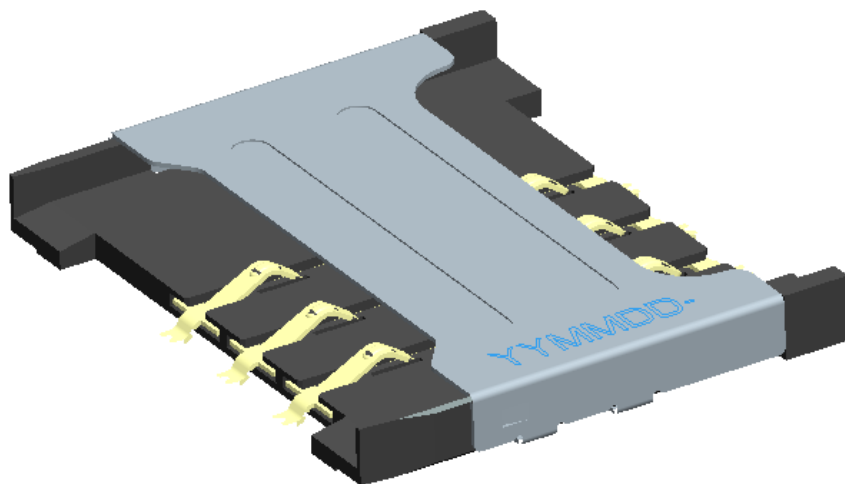
PRODUCT NAME : 2SM3003-004111

TO CONFIRM WITH “ROHS ”& “SE-01-001”STANDARD

DATE : 2009.12.11 REVISION : A

Revisions Control:

Rev.	Revised	Originator	Issue Date
A	NEW ISSUE	BOYE.QI	2009.12.11



Approved By :

Checked By :

Prepare By :

MAX 12/11/09'	QUAN 12/11/09'	BOYE.QI 12/11/09'
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## 1.Scope:

This product specification defines the product performance and the test methods to ascertain the performance of the **2.54MM PITCH 6 PIN SIM CARD CONN.(SMT TYPE)**, which is designed and manufactured by **Singatron Enterprise Co.,Ltd.**

## 2. Reference Documents:

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. 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.

**EIA-364:** The Test Sequence and Test Procedures for Electrical Connectors and Sockets.

**UL Std-94:** Test for Flammability of Plastic material for Parts in Devices and Appliances.

## 3.Material of Components:

NO	DIMENSIONS	MATERIAL	PLATING&COLOR
1	Body	Thermoplastic	Black,UL94V-0
2	Contact	Phosphor Bronze,T=0.12mm	AU PLATING
3	Cover	Stainless,T=0.12mm	AU PLATING

## 4.Design and Construction:

Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.

## 5.Ratings:

1.	Operating Temperature:	-40~+85°C
2.	Storage Temperature:	-40~+85°C
3	Operating Humidity:	95%R.H. maximum
4	Storage Humidity:	85%R.H. maximum

## 6.Performance and Test Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in paragraph 7. Unless otherwise specified, all tests are performed at ambient environmental conditions.

## 7. Test Requirements and Procedures Summary:

### 7-1 Electrical Performance:

Test Description	Test Procedures & Condition	Requirements
1. Temperature Rise vs. Current Rating	<p><b>EIA 364-70 Method B</b></p> <ul style="list-style-type: none"> <li>. The object of this procedure is to detail a standard method to assess the current carrying capacity of mated connector contacts.</li> <li>. Measure temperature rise vs. current at 0.5A when measured at an ambient temperature of 30°C.</li> </ul>	The $\Delta T$ shall not exceed +30°C per contact
2. Low Level Contact Resistance	<p><b>EIA 364-23</b></p> <ul style="list-style-type: none"> <li>. The object of this test procedure is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, will not be broken or asperity melting will not occur.</li> <li>. Subject mated contacts assembled in housing to closed circuit current of 10 mA maximum at open circuit at 20 mV maximum.</li> </ul>	Initial: 50mΩMax Δ: 30mΩMax
3. Insulation Resistance	<p><b>EIA 364-21</b></p> <ul style="list-style-type: none"> <li>. The object of this test procedure is to detail a standard method to assess the insulation resistance of connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members.</li> <li>. Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies.</li> <li>. Test Voltage: 500 Vdc.</li> </ul>	Initially: 1000 MΩMin. After test 100 MΩMin.
4. Dielectric Withstanding Voltage	<p><b>EIA 364-20</b></p> <ul style="list-style-type: none"> <li>. The object of this test procedure is to detail a test method to prove that a connector can operate safely at its rated voltage and withstand momentary over potentials due to switching, surges and/or other similar phenomena.</li> <li>. Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies.</li> <li>. Test Potential: 250 Vac at sea level, 60Hz Test Duration: 60 seconds</li> </ul>	<ol style="list-style-type: none"> <li>1. No flashover, No spark over, No excess leakage, No breakdown.</li> <li>2. Current leakage: &lt; 0.5 mA</li> </ol>

## 7-2 Mechanical Performance:

Test Description	Test Procedures & Condition	Requirements
1.Contact Retention Force	<p><b>EIA 364-29A</b></p> <ul style="list-style-type: none"> <li>· The object of this test is to detail a standard method to assess the ability of the contact retaining system to withstand the axial mechanical stresses likely to be encountered during normal usage.</li> <li>· Apply axial compressive force to a pin at a speed of approximately 25±3mm per minute. Record by using autograph.</li> </ul>	<ul style="list-style-type: none"> <li>· 1.0N(0.1Kgf) contact Minimum</li> </ul>
2.Mating and Unmating force	<p><b>EIA 364-13A</b></p> <ul style="list-style-type: none"> <li>· The object of this test is to detail a standard method for determining the mechanical forces required for inserting connector.</li> <li>· Subject connector to mate and unmated to measure the mechanical forces required to engage and disengage at a rate of 25±3mm per minute. Record by using autograph.</li> <li>· Operation Times: <b>100 cycles</b></li> <li>· Operation Travel:0.45mm</li> </ul>	<ul style="list-style-type: none"> <li>· 50gf×n Min (n=No of contact)</li> </ul>
3.Durability	<p><b>EIA 364-09</b></p> <ul style="list-style-type: none"> <li>· The object of this test procedure is to detail a uniform test method for determining the effects caused by subjecting a connector to the conditioning action of insertion and extraction, simulating the expected life of the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress.</li> <li>· Operation Speed: 5.00mm/min</li> <li>· No. Of Cycles: <b>5,000 Cycles</b></li> <li>· Displacement: 0.45mm</li> </ul>	<ul style="list-style-type: none"> <li>· No damage</li> <li>· Contact Resistance Change shall be less than 30mΩ after 5,000 cycle of engagement .</li> </ul>

4.Solder ability	<p><b>EIA 364-52 Category 3</b></p> <ul style="list-style-type: none"> <li>. The object of this test procedure is to detail a uniform test method for determining connector solder ability. The test procedure contained herein utilizes the solder dip technique. It is not intended to test or evaluate solder cup, solder eyelet, other hand-soldered type or SMT type terminations.</li> <li>. Subject unmated connectors should be tested according to the condition listed below:</li> <li>. Soldering Temperature: 230±5°C</li> <li>. Soldering Time: 3~4 seconds</li> <li>. Flux: Inactivated</li> </ul>	Continuous solder coating with a minimum 95% coverage.
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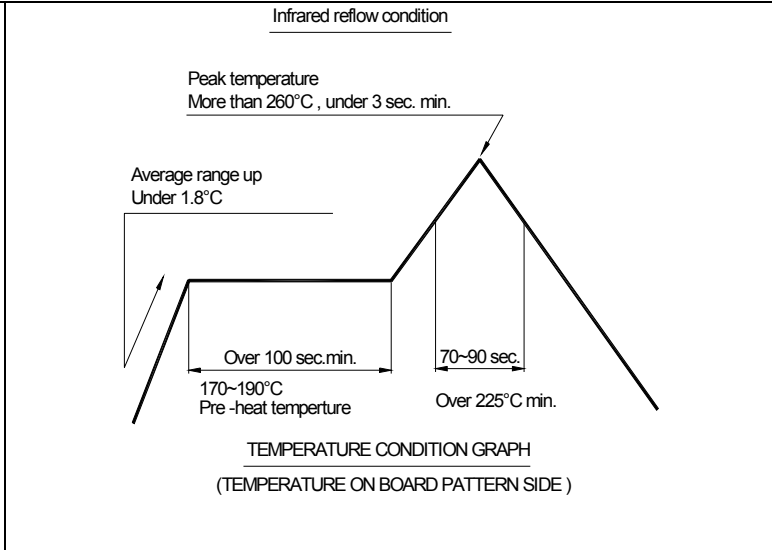
### 7-3 Environmental Performance :

Test Description	Test Procedures & Condition	Requirements
1.Humidity	<ul style="list-style-type: none"> <li>. The object of this test procedure is to detail a standard test method for the evaluation of the properties of materials used in connectors as the effects of high humidity and heat influences them.</li> <li>. Subject mated and unmated connectors should be tested according to the condition listed below:</li> <li>. Temperature: 40 ±2°C</li> <li>. Humidity: 90 ~ 95% (R.H)</li> <li>. Duration: 96 hours</li> </ul>	<ol style="list-style-type: none"> <li>1. No evidence of damage.</li> <li>2. The electrical performances should meet the spec. Specified.</li> </ol>
2.Salt Spray	<p><b>EIA 364-26 test condition A</b></p> <ul style="list-style-type: none"> <li>. The object of this test procedure is to detail a standard test method to assess the effects of a controlled salt laden atmosphere on connector components, finishes and mechanisms.</li> <li>. Subject mated and unmated connectors should be tested according to the condition listed below:</li> <li>. Temperature: 35±2°C</li> <li>. Humidity: 95 ~ 98% (R.H.)</li> <li>. PH Value: 6.5 ~ 7.2</li> <li>. Duration: 48 hours</li> </ul>	<ol style="list-style-type: none"> <li>1. No evidence of damage.</li> <li>2. The electrical performances should meet the spec. Specified.</li> </ol>

3. Thermal Shock	<ul style="list-style-type: none"> <li>. The object of this test is to determine the resistance of a connector to exposure at extremes of high and low temperatures and to the shock of alternate exposures to these extremes, simulating the worst case conditions for storage, transportation and application.</li> <li>. Subject mated and unmated connectors should be tested according to the condition listed below:</li> <li>. Temperature: -55~+85°C .</li> <li>. Cycles: 5 cycles (1 cycle=1 hour)</li> <li>. Transition time: 5 minutes</li> </ul>	<ol style="list-style-type: none"> <li>1. No evidence of damage.</li> <li>2. The electrical performances should meet the spec. Specified.</li> </ol>
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Test Description	Test Procedures & Condition	Requirements
4. Heat Resistance	<p><b>MIL-STD-202 Method 108</b></p> <ul style="list-style-type: none"> <li>. Mate dummy card and exposed to 85±2°C for 96 hours.</li> <li>. Upon completion of the exposure period, the Test specimens shall be conditions at ambient Room conditions for 1 to 2 hours, after which the Specified measurements shall be performed.</li> </ul>	<ol style="list-style-type: none"> <li>1. No evidence of damage.</li> <li>2. The electrical performances should meet the spec. Specified</li> </ol>
5. Cold Resistance	<ul style="list-style-type: none"> <li>. Mate dummy card and exposed to -25±2°C for 96 hours.</li> <li>. Upon completion of the exposure period, the Test specimens shall be conditions at ambient Room conditions for 1 to 2 hours, after which the specified measurements shall be performed.</li> </ul>	<ol style="list-style-type: none"> <li>1. No evidence of damage.</li> <li>2. The electrical performances should meet the spec. Specified</li> </ol>

**6. Resistance to Soldering Heat**



No evidence of damage.

**Note:** Shall meet visual requirements, show no physical damage, and shall meet requirements of additional tests as specified in Test Sequence in paragraph 8.

**8. Product Qualifications and Requalification Test Sequence:**

**A. Sample Selection:**

Test samples shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production.

**B. Test Sequence:**

The following is an example of how the test sequence works: In Test Group 1, the first test is (1), examination of product, followed by test (2), temperature rise vs. current, followed by test (3), examination of product. Six samples are tested in this test group.

Test Description Sequence	Test Group									
	1	2	3	4	5	6	7	8	9	10
Examination of product	1,3	1,5	1,5,9	1,9	1,5	1,5	1,5	1,5	1,3	1,3

Low Level Contact Resistance		2,4	2,6	2,6	2,4	2,4	2,4	2,4		
Insulation Resistance				3,7						
Dielectric Withstanding Voltage			3,8	4,8						
Temperature Rise vs. Current Rating		3								
Mating & Unmating Force			7							
Contact Retention Force	2									
Durability			4							
Solder ability									2	
Humidity				5						
Thermal Shock					3					
Heat Resistance						3				
Cold Resistance							3			
Salt Spray								3		
Resistance to Soldering Heat										2
Sample Size per Test Group	6	6	6	6	6	6	6	6	6	6