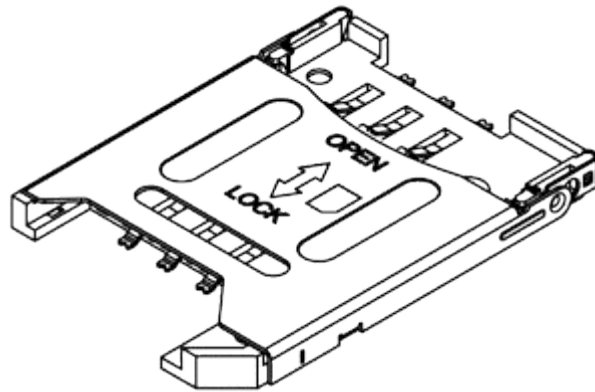


# PRODUCT SPECIFICATION

<b>Part Number</b>	SIM5050	<b>Rev</b>	A	<b>Date</b>	11/06/09		
<b>Product Description</b>	SIM Card Connector, Hinged Type, 6-Pin, SMT, 1.8mm Profile				<b>Page</b>	1	
<b>Doc Number</b>	SIM5050	<b>Prepared</b>	<b>BW</b>	<b>Checked</b>	<b>PN</b>	<b>Approved</b>	<b>DR</b>



# GCT

# PRODUCT SPECIFICATION

<b>Part Number</b>	SIM5050	<b>Rev</b>	A	<b>Date</b>	11/06/09
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## 1.0 SCOPE.

This specification covers performance, tests and quality requirements for the SIM Card connector SiIM5050 (Hinged Type, 6-Pin, SMT, 1.8mm Profile).

## 2.0 PRODUCT NAME AND PART NUMBER.

SIM Card Connector, 6 Pin Hinged Type: SIM5050.

## 3.0 PRODUCT SHAPE, DIMENSIONS AND MATERIAL.

Please refer to drawings.

## 4.0 RATINGS.

Current rating ..... 0.5 Amp AC/DC  
 Voltage rating ..... 100 Volts AC (RMS) Max.  
 Operating Temperature Range ..... -25°C to +70°C  
 Storage Temperature Range ..... -40°C to +70°C

## 5.0 TEST AND MEASUREMENT CONDITIONS.

Product is designed to meet electrical, mechanical and environmental performance requirements specified in Paragraph 6.0. All tests are performed under the following conditions unless otherwise specified.

Temperature ..... 15°C to +35°C  
 Relative Humidity ..... 45% to 75% R.H.

## 6.0 PERFORMANCE.

Item	Test Condition	Requirement
Examination of Product	Visual, dimensional and functional inspection as per quality plan.	Product shall meet requirements of product drawing and specification.

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## 6.1 Electrical Performance.

Item	Test Condition	Requirement
Contact Resistance	Measure and record contact resistance of mated connector using test current of 100mA max and 20 mV open circuit voltage in accordance with MIL-STD-1344A method 3002.1.	20 mΩ Max (Initial) 30 mΩ Max after test
Insulation Resistance	Apply 100Volts DC between adjacent contacts of mated connectors for one minute in accordance with MIL-STD-1344A method 3003.1.	1000 MΩ minimum
Dielectric Strength	Mate connectors and apply 200 V AC for 1 minute between adjacent terminal or ground, in accordance with MIL-STD-1344A method 3001.1.	No creeping discharge or flash over. 1000MΩ minimum

## 6.2 Mechanical Performance.

Item	Test Condition	Requirement
Contact Force	Conduct separation between connector and SIM card. over a distance of 0.6 mm.	30gf to 70gf/pin
Durability	The connector should be mated and unmated for 5000 cycles with 0.6mm of travel in accordance. MIL- STD1344A method 2016.	No evidence of physical damage.  Contact Resistance ≤ 30mΩ at end of test .
Vibration	Subject mated connectors to 10 to 55 to 10 Hz frequency span over 1 minute at a 1.52mm amplitude for a total of 15 minutes. Test to be conducted on 3 mutually perpendicular planes. 100mA Max. Applied. In accordance with EIA-364-28.	No evidence of physical damage  Contact Resistance ≤ 30mΩ Current discontinuity ≤ 0.1 μs at end of test
Mechanical Shock	Apply DC and 1mA to all contacts and subject the part to a 490 m/s <sup>2</sup> half sine wave acceleration for 11 ms. Three shocks to be applied in each of the X, Y and Z planes and in both directions. A total of 18 shocks and in accordance with EIA-364-27.	No evidence of physical damage  Contact Resistance ≤ 30mΩ Current discontinuity ≤ 0.1 μs at end of test.

# PRODUCT SPECIFICATION

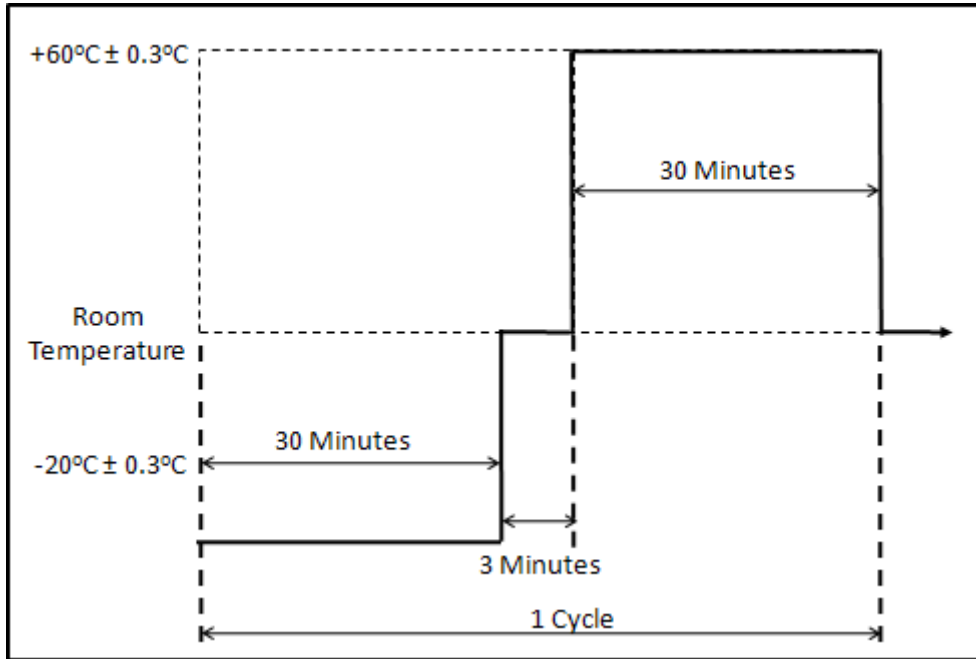
<b>Part Number</b>	SIM5050	<b>Rev</b>	A	<b>Date</b>	11/06/09
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## 6.3 Environmental Performance and Others.

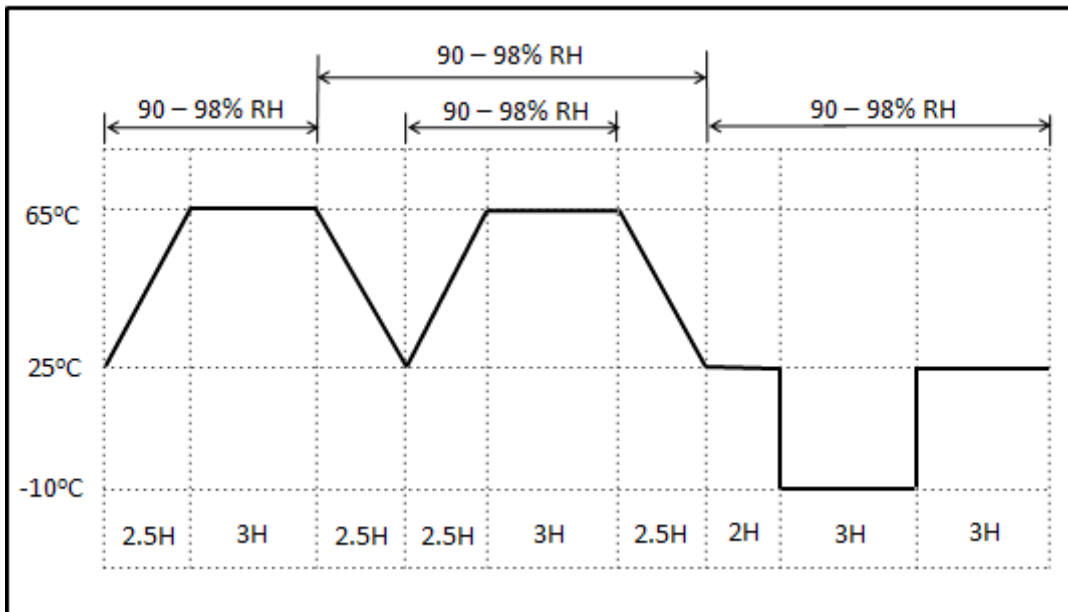
Item	Test Condition	Requirement	
Thermal Shock	Mate Connector and perform thermal cycle shown in fig. 1. - Repeat for 5 cycles in accordance with MIL-STD-202F, Method 107G Condition A.	No evidence of physical damage, discharge, flashes or corrosion in contact areas.  Contact Resistance $\leq 30 \text{ m}\Omega$ Insulation Resistance $\geq 1000 \text{ M}\Omega$	
Humidity Test (Steady State)	Mate connector and expose to the following environment in accordance with EIA-364-31, Method III. Temperature : $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Humidity : 90 to 95%RH Duration : 500 hours		
Humidity (Cycling)	Mate connector and expose to following environmental profile in accordance with EIA-364-31 Method III :- Temperature : $25^{\circ}\text{C}$ to $65^{\circ}\text{C}$ Humidity 90~98%RH Duration : 10 cycles 240 hours		
Salt Water Spray	Subject mated connectors to $35 \pm 2^{\circ}\text{C}$ and $5 \pm 1\%$ salt condition for 48hours. Test in accordance with MIL-STD-1344A method 1001.		
Temperature Life (High)	Subject mated connectors to $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 500 hours in accordance with MTL-STD-202F, Method 108A , Condition C.		
Temperature Life (Low)	Subject mated connectors to $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ for 500 hours in accordance with MTL-STD-202F, Method 108A.		
Solderability	Dip solders tails into molten solder, held at a temperature of $250 \pm 10^{\circ}\text{C}$ for $3 \pm 0.5$ second.		95% of immersed area must show no voids of pin holes.
Resistance to Reflow Soldering Heat.	Mount connector, place in reflow oven and expose to the temperature profile shown in fig 1.0		No evidence of physical damage or abnormalities adversely affecting performance.
Moisture Resistance	Subject connector to 10 cycles of humidity profile shown in fig.2 in accordance with MIL-STD-202F, Method 107E.		No evidence of physical damage, discharge, flashes or corrosion in contact areas.  Contact Resistance $\geq 30 \text{ m}\Omega$ Insulation Resistance $\geq 1000 \text{ M}\Omega$
Ageing Test	Mate connector and expose to the following environment. Temperature : $93^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Duration : 8 hours Humidity : 95%RH		

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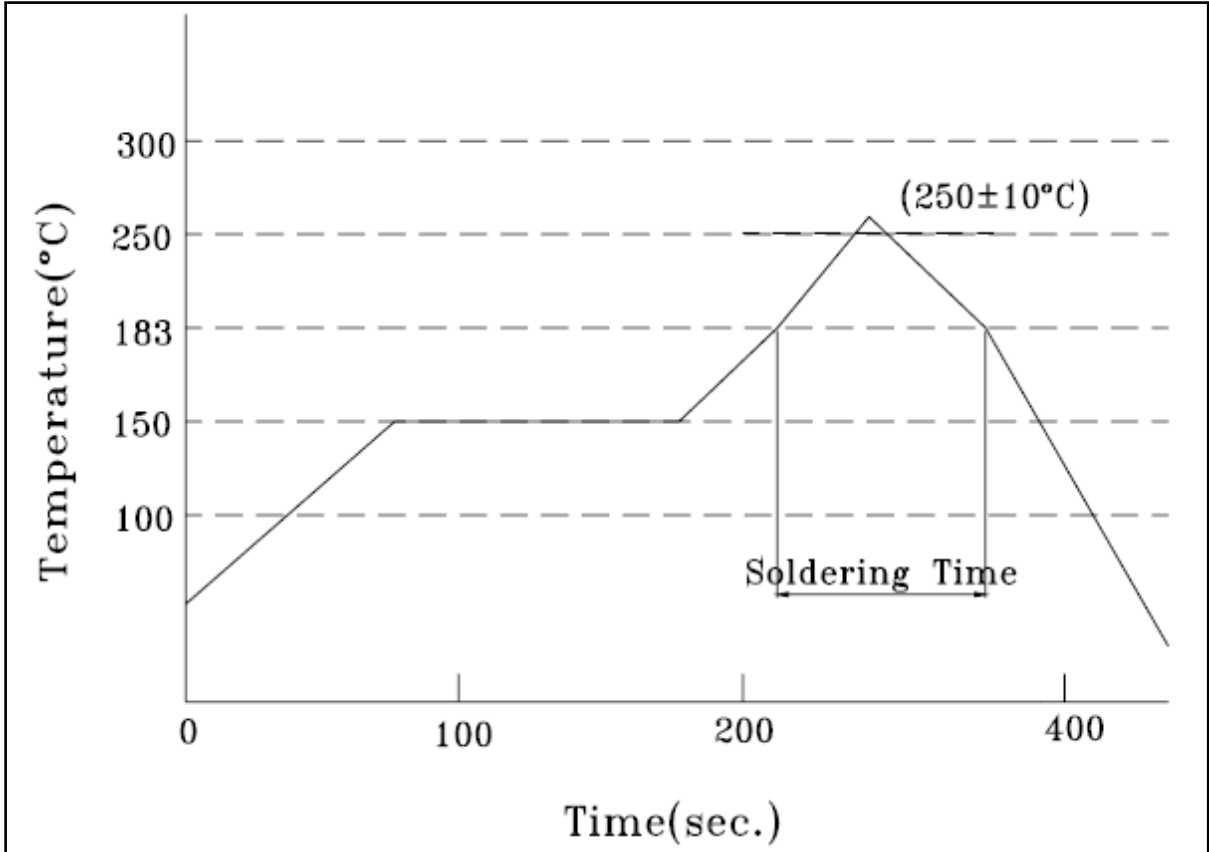
**Fig.1 Thermal Shock Profile – 1 Cycle**



**Fig.2 Moisture Resistance Profile – 1 Cycle**

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**Condition of IR Reflow**  
**Reflow Part:** 260 ± 5°C Peak  
 217°C Min., 60 sec Max.  
**Pre-Heat Part:** 150°C, 90~120sec

**Fig.3 Recommended Reflow Temp. Profile**

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## 7.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test Item	Group															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	p
Examination of Product																
Contact Resistance		1,5		1,7	1,7		1,3	1,3	1,3	1,7	1,3	1,7	1,3	1,3		
Insulation Resistance		2,6		2,6	2,6					2,6		2,6				
Dielectric Strength		3,7		3,5	3,5					3,5		3,5				
Contact Normal Force	1															
Durability		4														
Vibration																
Mechanical Shock					4											
Thermal Shock											2					
Humidity (Steady)									3							
Humidity (Cycling)										4						
Salt Water Spray													2			
Temperature Life (High)							2									
Temperature Life (Low)								2								
Solderability															1	
Resistance to Reflow Soldering																1
Moisture Resistance												4				
Aging Test															2	
Sample QTY.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
<b>The Number of Group is Test Sequence (Drop Test Sample QTY 1 Carton)</b>																

**Notes:**

Numbers indicate sequence in which tests are performed.  
Precondition samples with 10 cycle's durability.

**SAMPLE SELECTION**

Samples shall be prepared in accordance with applicable manufactures' instructions and shall be randomly selected from current production. Test groups A,B,C,D,E,F, etc shall consist of a minimum of five connectors. A minimum of 30 contacts shall be selected and identified.

Unless otherwise specified, these contacts shall be used for all measurements.

## Contact details

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