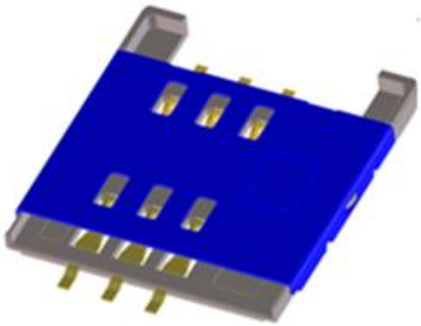
PRODUCT SPECIFICATION

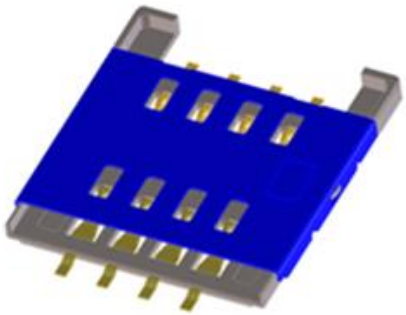
SIM CARD CONNECTOR,

1.45mm LOW PROFILE SIM WITH GUIDE RAIL

INDEX



1050480001, 1050480011



1050488001

1.0 SCOPE

This Product Specification covers the 1.45mm low profile with guide rail, 6 or 8 circuits; 2.54mm pitch SIM card connector 1050480001, 1050480011 and1050488001 with extended metal shell

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

PRODUCT NAME	PRODUCT NUMBER
SIM CARD CONNECTOR, 1.45MM HEIGHT; 6 CIRCUITS	1050480001 (15U" GOLD)
SIM CARD CONNECTOR, 1.45MM HEIGHT; 6 CIRCUITS	1050480011 (20U" GOLD)
SIM CARD CONNECTOR, 1.45MM HEIGHT; 8 CIRCUITS WITH EXTENDED METAL SHELL	1050488001

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See sales drawing **SD-105048-001, SD-105048-011, SD-105048-801 & SD-105048-101** for information on dimensions, materials, plating and markings.

2.3 COMPONENTS

This connector consists of 1 plastic-housing, 6 or 8 contacts and 1 shell.
Solder components shall meet lead-free requirements

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

The following documents form a part of this specification to the extend specified herewith. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In addition, in event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence. GSM 11.11 Specification for Internal SIM card interface

4.0 RATINGS

4.1 Voltage: 5V DC

4.2 Current: 0.5A MAX

4.3 Operating temperature: -40°C to +85°C

4.4 Storage temperature: -40°C to +100°C

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5.1.1	**Contact Resistance (Low Level)**	Mated connectors and measure by dry circuit, **20**mV MAX. Open circuit, **100mA** MAX Except wire conductor resistance (EIA - 364 -23)	**100** mΩ MAX
5.1.2	**Insulation Resistance**	Unmated connectors and apply a voltage **500**V DC for **1** min between adjacent terminals or ground (EIA -364-21)	**100**MΩ MIN
5.1.3	**Dielectric Withstanding Voltage**	Unmated connectors and apply a voltage **500**V AC, 60Hz for **1** min between adjacent terminals or ground (EIA -364-20)	No breakdown
5.1.4	**Temperature Rise**	Mated connectors and measure temperature rise of contact when apply the rated current 0.5A (EIA-364-70)	30ºC MAX

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5.2.1	**Normal Force**	Measure normal force (Contact point is compressed to 0.10mm from housing surface as per Appendix) Read loading data, At a MAX rate of 12.5 mm per min (EIA-364-04)	0.45N MIN Initial 0.35N MIN Final
5.2.2	**Durability**	Mated and un-mated connectors up to **5000** cycles at a MAX rate of **10** cycles per min (EIA-364-09)	Meet mechanical & electrical characteristics
5.2.3	**Card insertion force**	Insert SIM card in mating direction at MAX rate of **12.5** mm per min	5N MAX

5.2.4	**Card withdrawal force**	Withdraw SIM card in un-mating direction at rate of **12.5** mm per min	1N MIN
5.2.5	**Mechanical Shock**	Mated connectors and subject to the shock following conditions: 3 mutually perpendicular axis (±X, ±Y, ±Z), 3 shocks in each direction, total 18 shocks Test pulse: half sine Peak value: 50g's Duration: 11ms (EIA-364-27)	Contact resistance: Δ=40 mΩ MAX Discontinuity < **1** µs
5.2.6	**Vibration (Random)**	Mated connectors and subject to the following vibration conditions: Random Vibration 3 mutually perpendicularly 50~2000Hz, 0.02g2/Hz; 15 min per plane (EIA-364-28)	Contact resistance: Δ=40 mΩ MAX Discontinuity < **1** µs

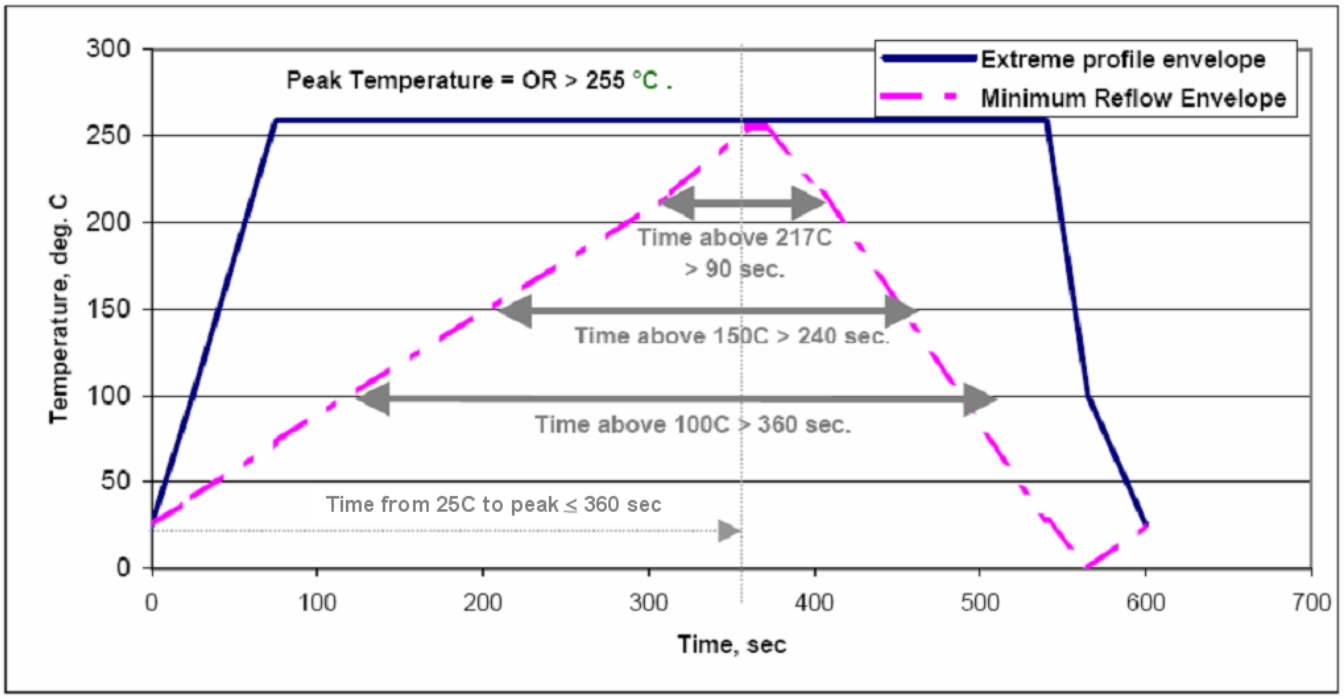
5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5.3.1	**Thermal Shock**	Mated connectors and expose to **5** cycles of: Temperature °C — Duration (Minutes) -55 +0/-3 — 30 Dwell +25 +10/-5 — 5 MAX +85 +3/-0 — 30 Dwell +25 +10/-5 — 5 MAX (EIA-364-32)	Meet additional test requirements specified in Section 7 Appearance: No damage
5.3.2	**Temperature life**	Mated connectors and expose to **85 ± 2**°C for **96** hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed (EIA - 364 -17)	Meet additional test requirements specified in Section 7 Appearance: No damage
5.3.3	**Steady State Humidity**	Mated connectors at precondition 50℃ for 24 hrs & subject to the condition of 40℃±2℃ , 90%~95% RH for 96 hours (EIA-364-31)	Meet additional test requirements specified in Section 7 Appearance: No damage
5.3.4	**Salt Spray**	Mated connector and expose to the following salt mist condition. 48 hours spray, at temp 35+/-2°C, R/H 90-95%, Salt NaCl mist 5%. After test wash parts and return to room ambient for 1-2hrs (EIA-364-26)	Contact resistance: Δ=40 mΩ MAX Appearance: No damage

5.3.5	**Solderability**	Dip solder tails into the molten solder (held at **250±5°**C) up to 0.5mm from the tip of tails for 3 **±**0.5s (EIA-364-52)	Solder coverage: **95**% Min
5.3.6	**Resistance to soldering reflow heat**	Twice through IR Profile*	Appearance: No damage to insulator material

***IR reflow requirements**:

Condition	**Exposure**
Average ramp-up rate (30~217°C)	Less than 3°C/s
>100°C	Between 360~600 s
>150°C	At least 240 s
>217°C	At least 90 s
Peak temperature	Greater than or equal to 255°C
Cool-down rate (peak to 50°C)	Less than 6°C/s
Time from 30°C to 255°C	No greater than 360 s



6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.
Refer to **PK-105048-001** for packaging details

7.0 TEST SEQUENCES

Test Item	Test Group →	A	B	C	D	E	F	G	H	I	J
5.1.1	Resistance to Soldering Reflow Heat	1	1	1		1	1		1	1	1
5.1.2	Contact Resistance (LLCR)	2,5	4,8 10,12		1,3	4,6					
5.1.3	Insulation Resistance			3,6							
5.1.4	Dielectric Withstanding Voltage			2,7							
5.2.1	Temperature Rise						2				
5.2.2	Normal Force								3	3	2
5.2.3	Durability		5						2		
5.2.4	Card Insertion Force		2,6			2,7					
5.2.5	Card Withdrawal Force		3,7			3,8					
5.2.6	Mechanical Shock	3									
5.3.1	Vibration (Random)	4									
5.3.2	Thermal Shock		9	4							
5.3.3	Temperature Life					5				2	
5.3.4	Humidity (Steady state)		11	5							
5.3.5	Salt Spray				2						
5.3.6	Solderability							1			
Sample size		5pcs	5pcs	5pcs	5pcs	5pcs	5pcs	5pcs	5pcs	5pcs	5pcs

PRODUCT SCREEN TEST SEQUENCES

Test Description	Test Group	
	1	2
Sample Size	5	5
Appearance	1	1
Resistance to Soldering Reflow Heat	2	2
Normal Force	10	3
Card Insertion Force	3, 7	
Card Withdrawal Force	4, 8	
Contact Resistance (LLCR)	5, 9	
Durability	6	

APPENDIX

NORMAL FORCE MEASUREMENT

Force measurement to be taken when the contact point is compressed to 0.10 from housing surface as shown