PRODUCT SPECIFICATION

Micro SD/TFR Reader Header

1.0 SCOPE

This specification covers the Micro SD/TFR Connector 47309-****, 105188-****, 47571-****
47579-****, 105126-****

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND NUMBER

PRODUCT NAME	*PRODUCT NUMBER*
MICRO SD/TFR HEADER	47309-****/105188-****/105126-****
2.3H MICRO SD/TFR HEADER	47571-****
2.45H MICRO SD/TFR HEADER	47579-****

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See Sales Drawing (SD-47309-***/SD-105188-***/SD-47571-***/SD-47579-***/SD-105126-***) for information on dimensions, materials, plating and markings.

2.3 This connector assembly consists of 1 plastic housing, 8 pcs signal contacts, 2 pcs detect pins and 1 metal shell. Solder components shall meet Lead-free soldering requirements.

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Please refer to the Sales Drawings SD-47309-***/SD-105188-***/SD-47571-***/SD-47579-***/SD-105126-*** and other sections of this Specification for specific references to applicable documents and specifications. In cases where the Product Specification differs from the Sales Drawings, the Sales Drawing will take precedence.

4.0 RATINGS

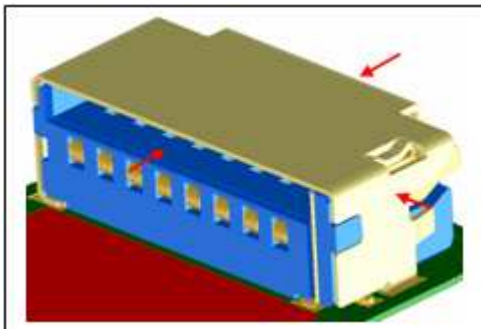
4.1	Rated Current (per contact)	0.5 Amp 30°C Max. ΔT over ambient.
4.2	Rated Voltage (per contact)	5 VDC (maximum)
4.3	Durability	10,000 mating/unmating cycles
4.4	Operating temperature range	-40°C to +85°C
4.5	Storage temperature range	-40°C to +100°C
4.6	Dielectric Withstanding Voltage	500 V DC

5.0 ELECTRICAL PERFORMANCE

Test Ref.	Item	Test Condition	Requirements
5.1	Contact resistance	Mate connectors: apply a maximum voltage of 20mV and a current of 10mA. Per EIA-364-23	40 milliohm Max.
5.2	Insulation resistance	Measurement shall be performed after 60 second from voltage application 500VDC between the contact Per EIA-364-21	100 million ohm Min.
5.3	Dielectric withstanding voltage	500Vac(RMS) for 1 minute, 50Hz. Voltage application as above indicated. Per EIA-364-20	No voltage breakdown
5.4	Temperature Rise	Mate card and measure the temperature rise of contact, when rated current is passed. Per EIA-364-70 method 1	30ºC Max.

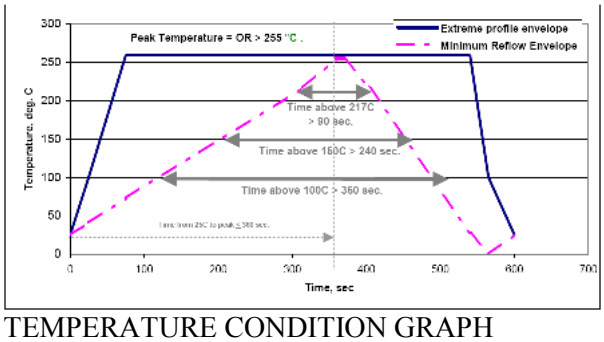
6.0 MECHANICAL PERFORMANCE

Test Ref.	Item	Test Condition	Requirements
6.1	Durability	Insertion and withdrawal are repeated 10,000 cycles with card at the speed rate of 400~600 cycles/hour. The specified measurement shall be performed the following cycles. Per EIA-364-09	Appearance: no damage Contact Resistance: Δ=10 milliohm Max
6.2	Vibration	Mate card and subjected to the following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axes, with passing DC 1Ma during the test. Amplitude : 1.52mm P-P or 19.6m/s2{2G} Frequency : 10-55-10Hz shall be traversed in 1 minute. Per EIA-364-28	Appearance: no damage <1 ms discontinuity : Δ=30 milliohm Max

6.3	Mechanical Shock	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/s2 Duration : 11ms Per EIA-364-27	Appearance: no damage <1ms discontinuity : Δ=30 milliohm Max
6.4	Terminal retention force	Pull out the terminal in un-mating direction.	2 N Min
6.5	Card Insertion force	After reflow, insert the card in mating direction.	30N Max
6.6	Card withdraw force	Pulling out the card in un-mating direction	1N Min, 30 N Max
6.7	Contact normal force per contact	Press the contact to the housing 0.1mm	0.4N Min
6.8	Card reverse insert	Insert TFR/Micro SD card inversely into the connector and push with a force of 19.6N.	Appearance: no damage
6.9	Peeling force	Test peeling force in three direction including front/ back/side direction 	30 N Min

7.0 ENVIRONMENTAL PERFORMANCE

Test Ref.	Item	Test Condition	Requirements
7.1	High Relative Humidity Exposure	The card shall be mated and exposed to the condition of +60±2°C @ 90~95% Humidity for 96 hours. Recovery time 1~2 hours Per EIA-364-31	Appearance: no damage Contact Resistance: Δ=30 milliohm Max

7.2	Low Temperature Exposure	The card shall be mated and exposed to the condition of -40±3°C for 96 hours. Recovery time 1~2 hours	Appearance: no damage Contact resistance: Δ=30 milliohm Max
7.3	High Temperature Exposure	The card shall be mated and exposed to the condition of +85±2°C for 96 hours, less than 25% relative humidity. Recovery time 1~2 hours	Appearance: no damage Contact resistance: Δ=30 milliohm Max
7.4	Thermal Shock	The card shall be mated and exposed to the following condition for 25 cycles. 1 cycle: a) -40±3°C for 30 minutes b) +85±2°C for 30 minutes Transit time shall be within 3 minutes, Recovery time 1~2 hours Per EIA-364-32	Appearance: no damage Contact resistance: Δ=30 milliohm Max
7.5	Salt Spray Test	The card shall be mated and exposed to the following salt mist conditions. At the completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water. NaCl solution: Concentration : 5±1% Spray time : 48h Temperature : 35±2°C Per EIA-364-26 condition A	Appearance: no damage Contact resistance: Δ=30 milliohm Max
7.6	Solderability	Dip solder tails into the molten solder (held at 250±5°C) up to 0.5mm from the tip of tails for 3±0.5 seconds.	Contact solder Pad shall have a Min. 95% solder coverage
7.7	Resistance to Soldering reflow Heat	Infrared re flow condition  TEMPERATURE CONDITION GRAPH (TEMPERATURE ON BOARD PATTERN SIDE)	No damage After 2 times of reflow

8.0 PACKAGING

See packaging specification and package assembly drawing. Parts shall be packaged to protect against damage during handing, transit and storage.

9.0 Test Sequences : (Sample Group Size: 5pcs)

Group Number	1	2	3	4	5	6	7	8	9	10	11
Contact resistance	2,8	2,7		2,4	2,9						
Insulation resistance		3	3								
Dielectric withstanding voltage		4	2								
Temperature Rise								1			
Durability	5									3	
Vibration		6									
Mechanical Shock		5									
Terminal retention force									1		
Card Insertion force	3,6	8			3,7						
Card withdraw force	4,7	9			4,8						
Contact normal force										2,4	
Card reverse insert						2					
Peeling force							2				
High Relative Humidity Exposure			5								
Low Temperature Exposure					5						
High Temperature Exposure					6						
Thermal Shock			4								
Salt Spray Test				3							
Solderability											1
Resistance to Soldering reflow Heat	1	1	1	1	1	1	1			1	

10.0 Others:

There is a possibility that the card may become stuck in the connector due to the card finish being rough or due to the card become worn after consecutive cycling. When this occurs, if the changing of the position of the card, and/or the pushing of the card in again dislodges the card, it will be judged that the connector has no problem.