TFR Memory Card Connector Hinge Type

1.0 SCOPE

This specification defines the performance for the ***TFR Memory Card hinge type*** connector .

2.0 PRODUCT DESCRIPTION

The ***TFR Memory Card*** connector designed for TFR card reader of mobile phone.
Material checklist as following form:

Name	Material	Plating
Housing	High temperature thermoplastic (LCP)	/
Shell	Stainless steel	/
Terminal	Copper alloy	Nickel under plated Gold plated on contact area Tin plated on solder area
Fitting Nail	Copper alloy	Nickel under plated Tin plated on solder area
Hinge	Copper alloy	Nickel plated overall

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See sales drawing SD-47219-***(for 47219****) and other sections of this specification for the relevant reference documents and specifications. In cases where the specification differs from the product drawings, the product drawings take precedence.

4.0 RATINGS

	Item	Rating
4.1	Rated Current	0.5 A DC MAX.
4.2	Rated Voltage	100 V DC MAX.
4.3	Ambient temperature range	-20℃ to +85℃ (Including terminal temperature rise)
4.4	Storage temperature range	-40℃ to +85℃(Storage area is to be free of dew formation)
4.5	Ambient Humidity Range	95% R.H. MAX.

5.0 **ELECTICAL PERFORMANCE**

Test Ref.	Item	Test Condition	Requirements
5.1	Contact Resistance	Mate connector with dry circuit of 20mV, 10mA Max. (Contact resistance should remove the resistance of Memory Stick Duo) Per EIA-364-23	100 mΩ maximum
5.2	Insulation Resistance (I.R.)	Unmated connector with 500VDC between adjacent terminals or terminal and ground for 1 minute Per EIA-364-21	100 MΩ minimum
5.3	Dielectric Withstanding Voltage	Apply 500V AC for 1 minute between adjacent terminals or terminal and ground. Per EIA-364-20	No 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.

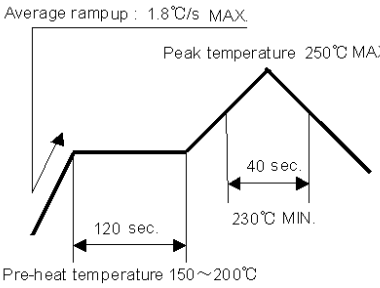
6.0 MECHANICAL PERFORMANCE

Test Ref.	Item	Test Condition	Requirements
6.1	Normal force	Measure contact pressure at terminal contact point from housing surface 0.1mm.	0.3 N Min/pin
6.2	Durability	Card press terminal and return are repeated 5,000 cycles with card at the speed rate of 400~600 cycles/hour. Per EIA-364-09	Contact Resistance: Δ=40 mΩ Maximum
6.3	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

6.4	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{50G} Duration ： 11ms Per EIA-364-27	Appearance: no damage <1ms discontinuity

7.0 ENVIRONMENTAL

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℃ @ 90~95% Humidity for 96 hours. Recovery time 1~2 hours Per EIA-364-31	Appearance: no damage Contact Resistance: Δ=40 mΩ maximum
7.2	Low Temperature Exposure	The card shall be mated and exposed to the condition of -40±3℃ for 96 hours. Recovery time 1~2 hours	Appearance: no damage Contact resistance: Δ=40 mΩ maximum
7.3	High Temperature Exposure	The card shall be mated and exposed to the condition of +85±2℃for 96 hours, less than 25% relative humidity. Recovery time 1~2 hours	Appearance: no damage Contact resistance: Δ=40 mΩ maximum
7.4	Thermal Shock	The card shall be mated and exposed to the following condition for 25 cycles. 1 cycle: a) -55±3℃ for 30 minutes b) +85±2℃ 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=40 mΩ maximum
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, after which the specified measurements shall be performed. NaCl solution: Concentration ： 5±1% Spray time ： 48 hours Temperature ： 35±2°C Per EIA-364-26 condition A	Appearance: no damage Contact resistance: Δ=40 mΩ maximum

7.6	Solderability	Dip solder tails into the molten solder (held at 250±5℃) 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 reflow condition TEMPERATURE CONDITION GRAPH (TEMPERATURE ON BOARD PATTERN SIDE)	No damage After 2 times of reflow

8.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage. No Styrofoam shall be used in any packing that comes in direct contact with the connectors.

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

Group Number	1	2	3	4	5	6	7	8
Contact Resistance	1,6	1,3,5		1,5,7	1,3,5	1,3		
Insulation Resistance	2,7			2,8				
Dielectric Withstanding Voltage	3,8			3,9				
Temperature Rise			1					
Normal Force	4,9							
Durability	5							
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