SD CONNECTOR, SMT TYPE.

1. SCOPE

This specification covers performance, tests and quality requirements for the SD CONNECTOR, SMT TYPE.

2. APPLICABLE DOCUMENT

The following documents form a part of this specification to the extent specified herein. 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.

Test report: 501-57089

3. REQUIREMENTS

3.1. DESIGN AND CONSTRUCTION

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

3.2. MATERIALS

A. Housing: High Temperature Thermoplastic, UL94V-0, Black Color.

B. Contact: Phosphor Bronze, Gold plating on contact area, Tin-lead or Tin plated on soldertails, Nickel underplated all over.

C. Shield: Gold plating on contact area, Nickel underplated all over.

3.3. RATINGS

A. Current Rating: 0.5 A Max

B. Voltage Rating: 5 VAC (rms) Max.

C. Operating temperature: -25°C to +90°C

3.4. TEST CONDITION

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1.

DR	DATE	APVD	DATE
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This specification is a controlled document.

3.5. TEST REQUIREMENTS AND PROCEDURES SUMMARY

TEST DESCRIPTION	REQUIREMENT	PROCEDURED
Examination of product	Meets requirements of product Drawing and Tyco Specification	Visual inspection No physical damage
	ELECTRICAL	
Contact Resistance	100mΩ Max. Write protect contact:150mΩ Max Card detect contact: 150mΩ Max	Maximum test current and 20mV maximum open circuit voltage. IEC 512 part 2, test 2a, except 100mA
Insulation Resistance	1000MΩ Min (initial) 100MΩ Min (finial)	500V DC between adjacent contacts of mated connectors. IEC 512 part 2, test 3a, method C
Dielectric Withstanding Voltage Resistance	No creeping discharge or flashes occur.	500V AC rms.1 minute, test between adjacent contacts of unmated samples. EIA-364-20
	MECHANICAL	
Pulling and Insertion Force	Pulling Force: 2N Min. Insertion Force: 40N Max.	Test rate of 25 mm/minute. IEC 512 part 7
Vibration	No physical damage	With cards applying DC 100mA,cards mated connectors to 10 to 2000Hz of vibration for 4 hour in each of 3 mutually perpendicular planes IEC 512 part 4, test 6d.
Physical Shock	No physical damage	With cards applying DC 100mA,cards mated connectors to 5G's peak acceleration, half sine wave pulses of 11 milliseconds, 3 shocks applied along 3 mutually perpendicular planes, total 9 shocks IEC 512 part 4, test 6c. Acceleration is 5G
Contact Force	2N～20N	IEC 512 Part 8
Connector Intensity	No physical damage	Applied Force 10N to main body of connector at no card for Up/ Down/ Forward/ Backward directions
Wrestling (Flapping) Strength	No physical damage	Applied Force 10N to SD card for UP/ Down/ Right/ Left directions (The card shall be inserted 15mm into the connector from the head of the card)
Durability	No physical damage	Operation Cycles: 10000 cycles time (push-in push-out), mate and unmated connectors for 500 cycles per hour EIA 364-09
	ENVIRONMENTAL	
Humidity	Contact resistance:120 mΩ Max. Insulation resistance: 100 MΩ Max No physical damage	Temperature: 40℃±2℃ Humidity: 90～95%(RH) Period: 96 hours. MIL-STD-202F, method 103B,Test condition B
Salt Spray	No harmful corrosion	Temperature:35℃±2℃ Concentration: 5% Period: 48 hours. MIL-STD-202F, method 101D.

Thermal Shock	No physical damage	MIL-STD-202, Method 107G Subject mated Connectors to 100 cycles between -20℃ and 65℃. MIL-STD-202F, METHOD 107G, Test condition A, -55 to +85℃, 5 cycles.
Moisture Resistance	No physical damage	Subject mated connectors to 10 cycles Between -10℃ and 65℃ at 80~98% relative Humidity. MIL-STD-202, Method106, test condition B
Temperature Life	No physical damage	Subject mated connectors to 85℃ for 250 hours. MIL-STD-202, Method108
	PHYSICAL	
Solderability	The test area shall be covered more than 95% of immersed area with flash solder.	Solder temperature: 245℃±5℃ Period : 30±0.5sec. MIL-STD-202F, method 208.
Resistance to Reflow Soldering Heat	No physical abnormalities such as crack and deformation of housing shall be present after the test.	Solder temperature: Pre-Heat 150~200℃ for 60 sec max. Heat Peak: 265℃ for 5 sec max. MIL-STD-202F method 210A.

3.6. PRODUCT QUALIFICATION AND REQUALIFICATION TEST SEQUENCE

Test or Examination	Test Group									
	A	B	C	D	E	F	G	H	I	J
	Test Sequence (a)									
Examination of Product	1,9	1,8	1,5	1,7	1,6	1,5	1,5	1,9	1,9	1,9
Contact Resistance	2,6	2,7	2,4	2,5	2	2,4	2,4	2,6	2,6	2,6
Insulation Resistance	3,7			3,6				3,7	3,7	3,7
DWV	4,8							4,8	4,8	4,8
Pulling and Insertion Force		3,6								
Vibration			3							
Physical Shock Shock				4						
Contact Force					3					
Connector Intensity		4								
Wrestling Strength					4					
Durability Cycling		5								
Humidity	5									
Salt Spray						3				
Solderability					5					
Thermal Shock							3			
Moisture Resistance								5		
Temperature Life									5	
Resistance to Reflow Soldering Heat										5

NOTE: (a) Numbers indicate sequence in which tests are performed.