

SD MEMORY CARD Connector**1. SCOPE****1.1. CONTENTS**

This specification covers the performance, tests and quality requirements for the SD MEMORY CARD Connector.

1.2. QUALIFICATION

When tests are performed on the subject product line, the procedures specified in Tyco 109 series specifications shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2. APPLICABLE DOCUMENT

The following Tyco documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. 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.

2.1. TYCO SPECIFICATIONS

- A. 109-1: General Requirements for Test Specifications
- B. 109-197 : Tyco Specification vs EIA and IEC Test Methods
- C. 501-57578 : Test Report

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 : Thermoplastic, UL94V-0
- B. Contact : Copper Alloy, Gold plating on contact area, Tin Plating on soldertail over Nickel underplating overall.
- C. Shield : Stainless steel

3.3. RATINGS

- A. Voltage : 100 VAC rms.
- B. Current : 0.5 A Max
- C. Temperature : - 25 °C to +90°C

| | | | |
|--------------|-------------|------------|-------------|
| DR | DATE | APVD | DATE |
| Samuel Hou | 18-NOV-2004 | Wei-Jer Ke | 18-NOV-2004 |
| FZ00-0216-04 | | | |

3.4. PERFORMANCE REQUIREMENT AND TEST DESCRIPTION

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. All tests shall be performed at ambient environmental conditions per AMP Specification 109-1 TEST REQUIREMENTS AND PROCEDURES SUMMARY.

3.5. TEST REQUIREMENTS AND PROCEDURES SUMMARY

| TEST ITEM | | REQUIREMENT | PROCEDURE |
|-------------------------------|---------------------------------|--|---|
| 1 | Examination of Product | Meets requirements of product drawing. No physical damage. | Visual inspection. |
| ELECTRICAL REQUIREMENT | | | |
| 2 | Contact Resistance | 80 m Ω Max (Initial) 100 m Ω Max (Final) | Subject mated contacts assembled in housing to 20mV Max open circuit at 10mA Max. EIA-364-6B. |
| 3 | Dielectric withstanding Voltage | No creeping discharge or flashover shall occur. Current leakage: 0.5 mA MAX | 500 VAC for 1minute Test between adjacent circuits of unmated connector. EIA-364-20B |
| 4 | Insulation Resistance | 1000 M Ω Min. | Impressed voltage 500 VDC. Test between adjacent circuits of unmated connector. EIA-364-21C. |
| MECHANICAL REQUIREMENT | | | |
| 6 | Connector Mating Force | 4.2 kgf Max. | Operation Speed : 25+/-3 mm/min. Measure the force required to mate connector. EIA-364-13B |
| 7 | Connector Unmating Force | 0.21kgf Min. | Operation Speed : 25+/-3 mm/min. Measure the force required to unmate connector. EIA-364-13B |
| 8 | Durability | See Note | Operation Speed : 25+/-3 mm/min. Durability Cycles : 10,000 Cycles EIA-364-9C |
| 9 | Contact Retention Force | 0.25 Kgf Min. | Measure the contact retention force with Tensile strength tester. |
| 10 | Solder ability | Wet solder coverage : 95% Min. | Solder Temperature : 240+/-5 $^{\circ}$ C Duration : 5+/-0.5 sec, J-STD-002B |

Figure 1 (Cont.)

| TEST ITEM | | REQUIREMENT | PROCEDURE |
|----------------------------|-------------------------------------|--|---|
| ENVIRONMENTAL REQUIREMENTS | | | |
| 11 | Resistance to Reflow Soldering Heat | No physical damage shall occur. | Pre-soak condition, 85°C/85% RH for 168 hours. Pre Heat : 150~180°C, 90±30sec. Heat : 230°C Min., 30±10sec. Peak Temp. : 260+0/-5°C, 20~40sec. Duration : 3 cycles Tyco spec. 109-201, Condition B |
| 12 | Temperature Life (Heat Aging) | See Note | Mated Connector 85°C , 250 hours, EIA-364-17B. |
| 13 | Salt Spray | No detrimental corrosion allowed in contact area and base metal exposed. | Subject mated connectors to 35+/-2°C and 5+/-1% salt condition for 48hours. After test, rinse the sample with water and recondition the room temperature for 1 hour. EIA-364-26B. |

Figure 1 (End)

NOTE : Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2

3.6. PRODUCT QUALIFICATION AND REQUALIFICATION TEST

| Test or Examination | Test Group | | | | | |
|-------------------------------------|---------------------|------|------|------|---|------|
| | A | B | C | D | E | F |
| | Test Sequence (a) | | | | | |
| Examination of Product | 1, 7 | 1, 6 | 1, 5 | 1, 5 | 1 | 1, 3 |
| Contact Resistance | 2, 6 | 2, 5 | 2, 4 | 2, 4 | | |
| Dielectric Withstanding Voltage | 4 | | | | | |
| Insulation Resistance | 3 | | | | | |
| Mating Force | | 3 | | | | |
| Unmating Force | | 4 | | | | |
| Durability | 5 | | | | | |
| Contact Retention Force | | | | | 3 | |
| Solderability | | | | | | 2 |
| Resistance to Reflow Soldering Heat | | | | | 2 | |
| Temperature Life | | | | 3 | | |
| Salt Spray | | | 3 | | | |

Figure 2

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

(b) Discontinuities shall not take place in this test group, during tests.