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**Metric MICRO-PITCH\* Solder Tail Style Connector**

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**1. SCOPE**

## 1.1. Content

This specification covers performance, tests and quality requirements for the metric MICRO-PITCH\* solder tail style connector.

## 1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

## 1.3. Qualification Test Results

Successful qualification testing on the subject product line was completed on 09Apr98. The Qualification Test Report number for this testing is 501-90-2. This documentation is on file at and available from Engineering Practices and Standards (EPS).

**2. APPLICABLE DOCUMENTS**

The following AMP 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.

- A. 109-1: General Requirements for Test Specifications
- B. 109 Series: Test Specifications as indicated in Figure 1
- C. Corporate Bulletin 401-76: Cross-reference between AMP Test Specifications and Government or Commercial Documents
- D. 108-1223: Product Specification
- E. 501-90-2: Qualification 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

Materials used in the construction of this product shall be as specified on the applicable product drawing.

## 3.3. Ratings

- A. Voltage: 250 Vac
- B. Current: Signal application only
- C. Temperature: -55 to 105°C

3.4. Performance and Test Description

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per AMP Specification 109-1.

3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Examination of product.	Meets requirements of product drawing.	AMP Spec 109-1. Visual, dimensional and functional per applicable quality inspection plan.
<b>ELECTRICAL</b>		
Dry circuit resistance.	$\Delta R$ 10 milliohms maximum increase or decrease.	AMP Spec 109-6-6. Subject samples to 20 millivolt maximum open circuit voltage at 100 milliamperes maximum. See Figure 3.
Insulation resistance.	5000 megohms minimum.	AMP Spec 109-28-4. Test between adjacent contacts of unmated samples.
Dielectric withstanding voltage.	750 Vac at sea level. 1 minute hold with no breakdown or flashover.	AMP Spec 109-29-1. Test between adjacent contacts of unmated samples.
<b>MECHANICAL</b>		
Vibration, sinusoidal.	No discontinuities of 1 microsecond or longer duration. See Note.	AMP Spec 109-21-3. Subject mated samples to 15 G's between 10-2000-10 Hz traversed in 10 minutes with 0.06 inch maximum total excursion. 4 hours in each of 3 mutually perpendicular planes.
Mechanical shock, specified pulse.	No discontinuities of 1 microsecond or longer duration. See Note.	AMP Spec 109-26-7. Subject mated samples to 50 G's sawtooth shock pulses of 11 milliseconds duration. 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.
Durability.	Latching shall remain sufficient to retain cover. See Note.	AMP Spec 109-27. Mate and unmate samples for 15 cycles at a maximum rate of 600 cycles per hour.
Contact retention.	Contact shall not dislodge.	AMP Spec 109-30. Apply an axial load of 12 ounces to the contact.

Figure 1 (cont)

Test Description	Requirement	Procedure
Mating force.	0.5 pound maximum.	AMP Spec 109-42, Condition A. Measure force necessary to mate samples at a maximum rate of 0.5 inch per minute.
ENVIRONMENTAL		
Thermal shock.	See Note.	AMP Spec 109-22. Subject mated samples to 25 cycles between -55 and 105°C.
Humidity-temperature cycling.	See Note.	AMP Spec 109-23-3, Condition B. Subject mated samples to 10, 24 hour cycles between 25 and 65°C at 95% RH.
Temperature life.	See Note.	AMP Spec 109-43. Subject mated samples to temperature life at 105°C for 500 hours.

**NOTE**

*Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 2.*

Figure 1 (end)

3.6. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)				
	1	2	3	4	5
	Test Sequence (b)				
Examination of product	1,8	1,6	1,6	1,9	1,5
Dry circuit resistance	3,7	2,5	2,5		2,4
Insulation resistance				2,6	
Dielectric withstanding voltage				3,7	
Vibration	5				
Mechanical shock	6				
Durability	4	3	3		
Contact retention				8	
Mating force	2				
Thermal shock				4	3
Humidity-temperature cycling			4	5	
Temperature life		4			

**NOTE** (a) See Para 4.1.A.  
 (b) Numbers indicate sequence in which tests are performed.

Figure 2

**4. QUALITY ASSURANCE PROVISIONS**

4.1. Qualification Testing

A. Sample Selection

Samples shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. Test group 1 shall consist of 4 sockets. Test groups 2, 3, 4 and 5 shall each consist of 2 sockets.

B. Test Sequence

Qualification inspection shall be verified by testing samples as specified in Figure 2.

4.2. Requalification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

#### 4.4. Quality Conformance Inspection

The applicable AMP quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

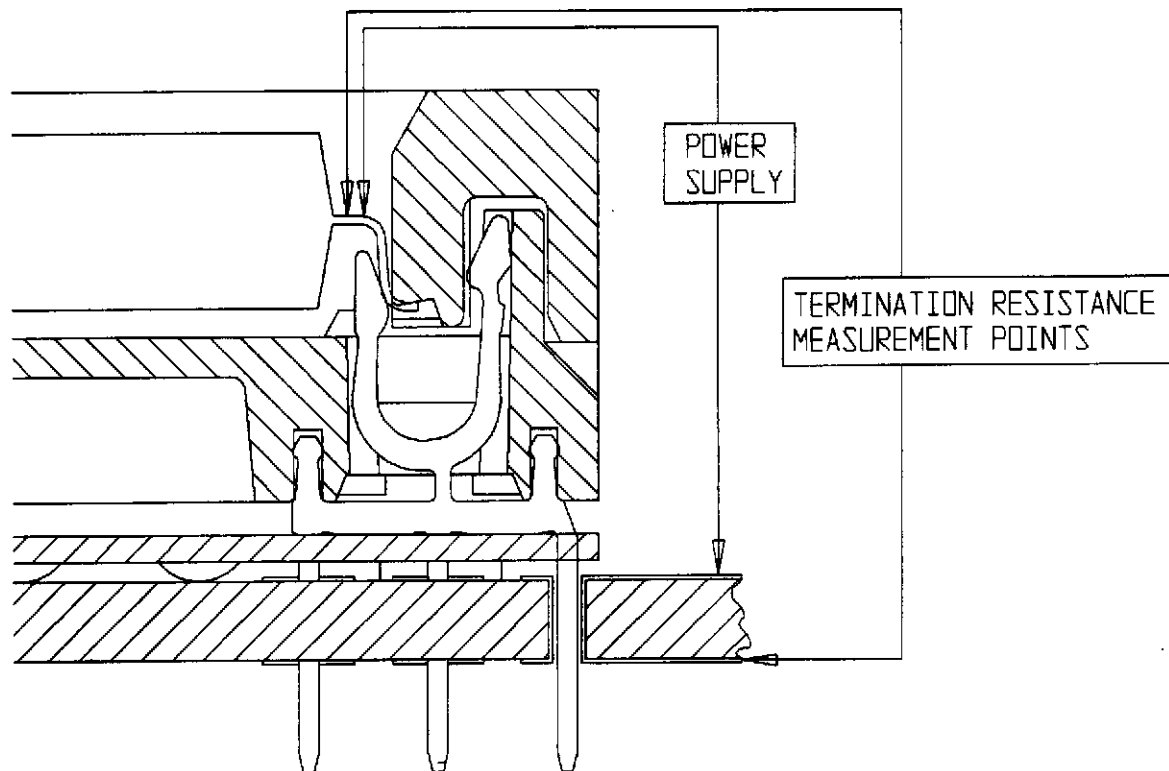


Figure 3  
Dry Circuit Resistance Measurement Points