

PRODUCT SPECIFICATION

1. SCOPE

1.1. Content

This specification covers the performance, tests and quality requirements for the AMP* solid and formed uninsulated taper pin contacts.

1.2. Qualification

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

2. APPLICABLE DOCUMENTS

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.

2.1. AMP Specifications

- A. 109-1: General Requirements for Test Specifications
- B. 109 Series: Test Specifications as indicated in Figure 1. (Comply with MIL-STD-202, MIL-STD-1344 and EIA RS-364)

2.2. Military Specifications

- A. MIL-G-45204: Gold Plating, Electrodeposited
- B. MIL-T-10727: Tin Plating, Electrodeposited
- C. MIL-W-16878: Wire, Electrical, 600 Volt Copper, Type E

2.3. Federal Specifications

- A. QQ-N-290: Nickel Plating, Electrodeposited
- B. QQ-S-365: Silver Plating, Electrodeposited

3. REQUIREMENTS

3.1. Design and Construction

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

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DIST	0 Was 108-9101 and		SHEET 1 OF 5	NAME CONTACTS, TAPER PIN, UNINSULATED SOLID AND FORMED	
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3.2. Material

Taper pins: Brass, tin, silver or gold over nickel plating

3.3. Ratings

- A. Current: 22 amperes maximum
- B. Operating temperature: -65° to 125°C

3.4. Performance and Test Description

Taper pins shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1.

3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Examination of Product	Meets requirements of product drawing.	Visual, dimensional and functional per applicable inspection plan.
ELECTRICAL		
Termination Resistance, Rated Current	Resistance, Wire Test milliohms Size, Current, maximum <u>AWG amperes initial</u> 16 22 2	Measure potential drop of mated contacts, see Figure 3; AMP Spec 109-25, calculate resistance.
Current Cycling	2 milliohms final maximum termination resistance, rated current.	Subject mated contacts to 50 cycles at 125% rated current for 30 minutes "ON" - 15 minutes "OFF"; AMP Spec 109-51, cond B, test method 3.
MECHANICAL		
Vibration	2 milliohms final maximum termination resistance, rated current.	Subject unmated taper pins to 10-55-10 Hz traversed in 1 minute at .06 inches total excursion; 2 hours in each of 3 mutually perpendicular planes; AMP Spec 109-21-1, cond A.
Crimp Tensile	Wire Crimp Tensile, Size pounds <u>AWG minimum</u> 16 50	Determine crimp tensile at a rate of 1 inch/minute; AMP Spec 109-16.

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Figure 1 (cont)

Test Description	Requirement	Procedure
ENVIRONMENTAL		
Thermal Shock	2 milliohms final maximum termination resistance, rated current.	Subject taper pin contacts to 5 cycles between -65° and 125°C; AMP Spec 109-22.
Corrosion, Salt Spray	2 milliohms final maximum termination resistance, rated current.	Subject unmated taper pins to 5% salt concentration for 96 hours; AMP Spec 109-24, cond A.

Figure 1 (end)

3.6. Taper Pin Tests and Sequences

Test or Examination	Test Group (a)			
	1	2	3	4
	Test Sequence (b)			
Examination of Product	1	1	1	1
Termination Resistance, Rated Current	2,4	2,4	2,4	2,4
Current Cycling	3			
Vibration		3		
Crimp Tensile (c)	5	5	5	5
Thermal Shock				3
Corrosion, Salt Spray			3	

(a) See Para 4.1.A.

(b) Numbers indicate sequence in which tests are performed.

(c) Only test 50% of contacts.

Figure 2

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4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

A. Sample Selection

Taper pin assemblies shall be prepared in accordance with applicable Instruction Sheets. They shall be selected at random from current production. Each group shall consist of 2 ten position, 1 each of the 20, 30 and 60 position receptacles and 60 taper pins per type per group offered for testing shall be crimped on number 16 gage AWG wire.

B. Test Sequence

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

C. Acceptance

- (1) All samples tested in accordance with this specification shall meet the stated tolerance limit.
- (2) Failures attributed to equipment, test setup, or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken and samples resubmitted for qualification.

4.2. Quality Conformance Inspection

The applicable AMP inspection plan will 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.

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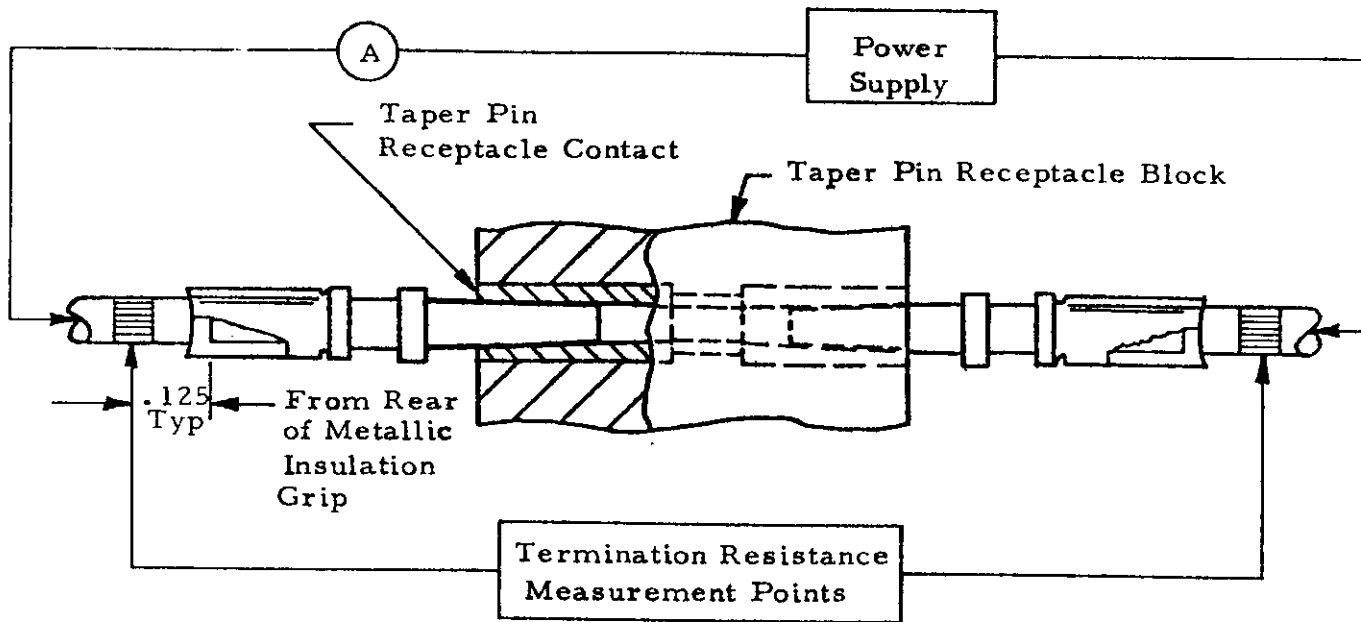


Figure 3
Termination Resistance Measurement Points

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