

P R O D U C T S P E C I F I C A T I O N

1. SCOPE

1.1. Content

This specification covers the performance, tests and quality requirements for the AMP* N Series 50 ohm Terminator.

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 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)
- C. Corporate Bulletin 76: Cross reference between AMP Test Specifications and Military and Commercial Documents.

3. REQUIREMENTS

3.1. Design and Construction

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

3.2. Materials

The materials utilized in the construction of the assemblies and the finish or plating shall be as specified on the applicable product drawing.

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3.3. Ratings

- A. Operating Temperature: -40 to +80°C
- B. Operating Relative Humidity: 10% to 90%

3.4. Performance and Test Description


Terminators 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		
Load Resistance	49.5 to 50.5 ohms	Measure load resistance between tip of inner contact and body of terminator using 100 milliamperes DC
Magnetic Permeability	2 mu maximum.	Measure magnetic permeability per AMP Spec 109-88.
MECHANICAL		
Vibration (a)	No discontinuities greater than 10 microseconds.	Subjected mated connectors 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. Mount connector by normal means with cable clamped 8 inches from connector.
Physical Shock (a)	No discontinuities greater than 10 microseconds.	Subject mated connector mounted as for vibration to 100 G's sawtooth in 5 milliseconds; 3 shocks in each direction applied along the 3 mutually perpendicular planes total 18 shocks; AMP Spec 109-26-9.

Figure 1 (cont)

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Test Description	Requirement	Procedure		
Mating Characteristics	Plugs: Mating of .316" ID ring 25 pounds maximum .324" ID ring shall contact all slotted spring members within .031" of their tip ends.	Plugs Only: Measure force to insert into a .316" maximum ID test ring to .093" depth then measure depth from tip ends of spring members to contact a .324" ID minimum test ring.		
	Jacks: Insertion of .066 gage 2 pounds max. Withdraw of .063 gage 2 ounces min.	Jacks Only: Insert .074" gage pin in center contact one time. Insert max. pin (.066") and measure insertion force, then insert min. pin (.063") and measure withdraw force. Insert all pins to .125" excluding lead-in lengths.		
Durability (a)	No physical damage.	Mate and unmate connector assemblies for 500 cycles; AMP Spec 109-27.		
Coupling Nut Retention (Plug terminator only)	Coupling nut shall not loosen or dislodge from plug body.	Apply a tensile load of 100 pounds between coupling nut and plug body for 1 minute.		
ENVIRONMENTAL				
Thermal Shock (a)	No physical damage.	Subject mated connectors to 5 cycles between -40°C and +80°C; AMP Spec 109-22.		
Humidity, Steady State (a)	No physical damage.	Subject mated connectors to steady state humidity at 40°C and 90-95% RH; AMP Spec 109-23, method II, cond A.		
<p>(a) Shall show no evidence of damage, cracking or chipping.</p> <p style="text-align: center;">Figure 1 (end)</p>				
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3.6. Connector Tests and Sequences

Test or Examination	Test Sequence (a)
Examination of Product	1
Load Resistance	4-6-8-12
Magnetic Permeability	3
Vibration	9
Physical Shock	10
Mating Characteristics	2
Durability	7
Coupling Nut Retention	13
Thermal Shock	5
Humidity, Steady State	11

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

Figure 2

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

A. Sample Selection

Terminators shall be selected at random from current production. Testing shall be conducted on 10 plug and 10 jack terminators. When terminators are required to be mated, they shall be mated to AMP commercial N series connectors crimped to appropriate size coaxial cable.

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.

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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