

Single Position 240 Series LGH* Micro-Miniature Connector**DESIGN OBJECTIVES**

The product described in this document has not been fully tested to ensure conformance to the requirements outlined below. Therefore AMP* Incorporated makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, AMP Incorporated may change these requirements based on the results of additional testing and evaluation. Contact AMP Engineering for further details.

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for the single position 240 series LGH* micro-miniature connector used to connect high voltage power supplies to high voltage loads.

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.

2. APPLICABLE DOCUMENTS

The following 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. AMP Documents

- 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. 114- : Application Specification
- E. 501- : 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: 12 kvdc
- B. Current: Signal application only
- C. Temperature: -55 to 125°C
- D. Altitude: Sea level to 70000 feet

DESIGN OBJECTIVES 19Aug98

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 and AMP Spec 114-_____.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Dry circuit resistance.	ΔR 10 milliohms maximum.	AMP Spec 109-6-6. Subject samples to 20 mv maximum open circuit at 100 ma maximum. See Figure 3.
Insulation resistance.	5000 megohms minimum.	AMP Spec 109-28-4. Test between adjacent contacts.
Dielectric withstanding voltage.	18 kvdc at sea level. 18 kvdc at 70000 feet at -55 and 125°C. 1 minute hold with no breakdown or flashover.	AMP Spec 109-29-1. Test between adjacent contacts.
MECHANICAL		
Vibration, random.	No discontinuities of 1 microsecond or longer duration. See Note.	AMP Spec 109-21-5. Subject mated samples to 7.56 G's rms between 50-2000 Hz. 1 hour in each of 3 mutually perpendicular planes. See Figure 4.
Mechanical shock, specified pulse.	No discontinuities of 1 microsecond or longer duration. See Note.	AMP Spec 109-26-9. Subject mated samples to 100 G's sawtooth shock pulses of 6 milliseconds duration. 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks. See Figure 4.
Durability.	See Note.	AMP Spec 109-27. Mate and unmate samples for 50 cycles at a maximum rate of 600 cycles per hour.
ENVIRONMENTAL		
Thermal shock.	See Note.	AMP Spec 109-22. Subject samples to 5 cycles between -55 and 125°C.

Figure 1 (cont)

DESIGN OBJECTIVES 19Aug98

Test Description	Requirement	Procedure
Humidity-temperature cycling.	See Note.	AMP Spec 109-23-3, Condition B. Subject 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 125°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
	Test Sequence (b)		
Examination of product	1,7	1,5	1,8
Dry circuit resistance	2,6	2,4	
Insulation resistance			2,6
Dielectric withstanding voltage (c)			3,7
Vibration	4		
Mechanical shock	5		
Durability	3		
Thermal shock			4
Humidity-temperature cycling			5
Temperature life		3(d)	
Mixed flowing gas			

NOTE

- (a) *See Para 4.1.A.*
- (b) *Numbers indicate sequence in which tests are performed.*
- (c) *Dielectric withstanding voltage shall be performed as follows: at sea level and at 70000 feet at ambient conditions; at sea level and at 70000 feet at -55°C; and at sea level and at 70000 feet at 125°C.*
- (d) *Precondition samples with 10 cycles durability.*

Figure 2

DESIGN OBJECTIVES 19Aug98

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. All test groups shall each consist of a minimum of 5 samples.

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.

DESIGN OBJECTIVES 19Aug98

Figure 3
Dry Circuit Resistance Measurement Points

Figure 4
Vibration & Mechanical Shock Mounting Fixture

DESIGN OBJECTIVES 19Aug98