
Connector, Short Point, Power Receptacle Contact, Gold

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for the TE Connectivity (TE) short point power receptacle contact and connector system. This contact is a separable electrical connection device for mating to .025 inch square posts. It can be crimped to 20 to 32 AWG wire sizes and is intended to be used with a connector housing with centerline spacing of at least .100 inch.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in 109 Series Test 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. 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 referenced documents, this specification shall take precedence.

2.1. TE Documents

- 109-1: General Requirements for Test Specifications
- 109 Series: Test Specifications as indicated in Figure 1
- 108-1472: Product Specification
- 114-25038: Application Specification
- 501-292-1: 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

- Contact: Phosphor bronze, duplex gold over nickel plating
- Housing: Polyamide, black, glass filled, UL94V-0

3.3. Ratings

- Voltage: 300 volts AC
- Current: See Figure 4 for applicable current carrying capability
- Temperature: -65 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 Test 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 114-25038.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Termination resistance.	15 milliohms maximum initial. 20 milliohms maximum final.	TE 109-6-6. Subject mated contacts assembled in housing to 20 mv maximum open circuit at 100 ma maximum. See Figure 3.
Temperature rise vs current.	30°C maximum temperature rise at specified current.	TE Spec 109-45-2. Measure temperature rise vs current. See Figure 4.
MECHANICAL		
Vibration, random.	See Note.	TE Spec 109-21-7. Subject mated samples to 5-500 Hz. 15 minutes in each of 3 mutually perpendicular planes. See Figure 5.
ENVIRONMENTAL		
Temperature life.	See Note.	TE Spec 109-43. Subject mated samples to temperature life at 105°C for 500 hours.
Mixed flowing gas.	See Note.	TE Spec 109-85-3. Subject mated samples to environmental class III for 20 days.

NOTE

Shall meet visual requirements, show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Figure 2.

Figure 1

3.6. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)
	1
	Test Sequence (b)
Examination of product	1,9
Termination resistance	2,7
Temperature rise vs current	3,8
Vibration	6(c)
Temperature life	5
Mixed flowing gas	4(d)

NOTE

- (a) See paragraph 4.1.A.
- (b) Numbers indicate sequence in which tests are performed.
- (c) Energize at 18°C temperature rise current level for 100% loading.
- (d) Precondition samples by mating and unmating for 10 cycles.

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 shall consist of a minimum of 5 connectors of maximum position size available containing at least 30 contacts total with receptacles crimped to wire and an equal amount of posts of identical plating type and thickness to mate with receptacles. All contacts shall be crimped to appropriate size tin plated stranded copper test conductors in accordance with Application Specification 114-25038.

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. When 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 quality 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.

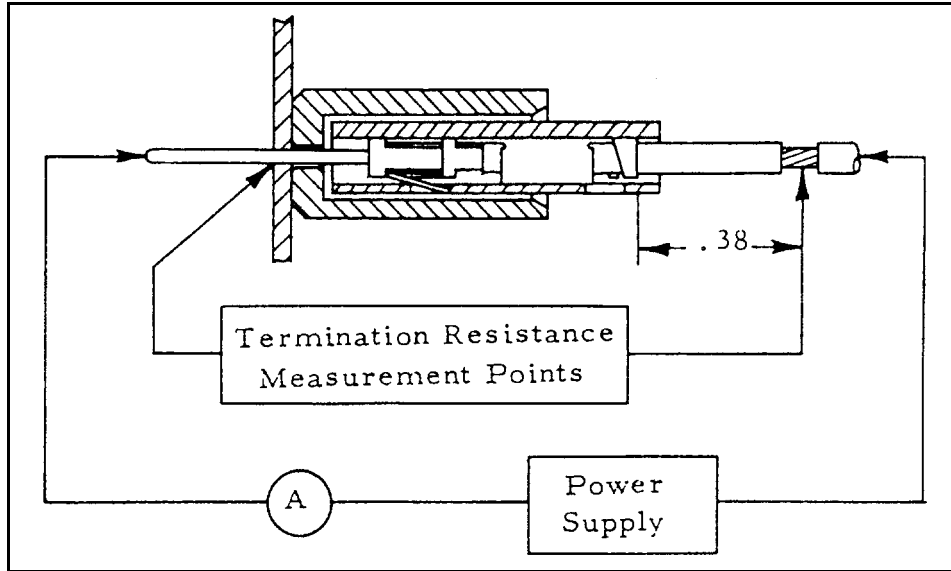


Figure 3
Termination Resistance Measurement Points

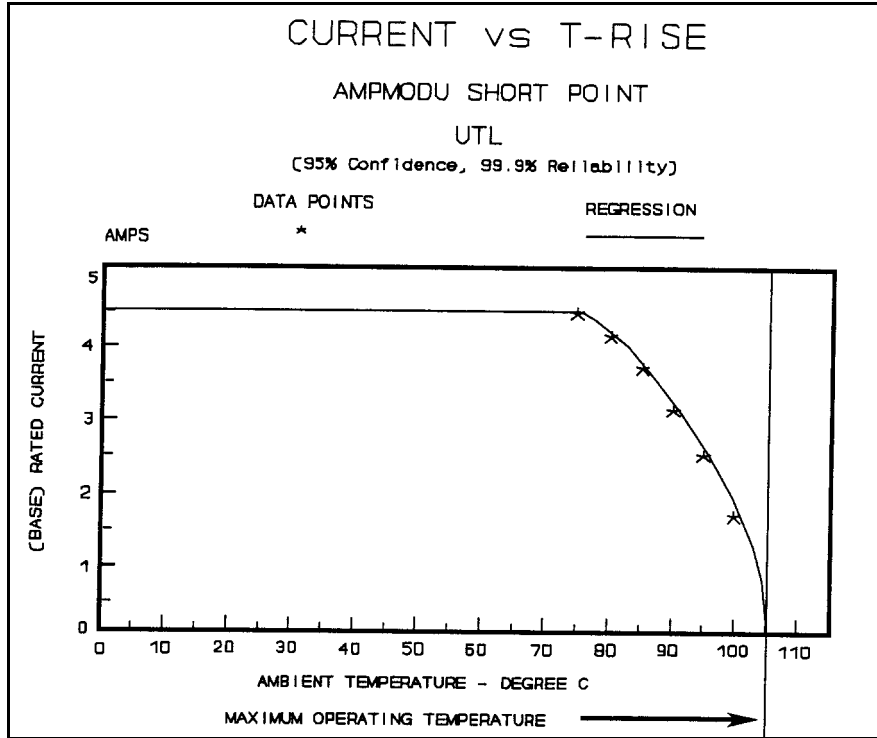


Figure 4A
 Current Carrying Capability

Percent Connector Loading	Wire Size AWG			
	26	24	22	20
Single Contact	.84	.91	1	1
50	.50	.55	.60	.60
100	.39	.42	.47	.47

NOTE

To determine acceptable current carrying capacity for percentage connector loading and wire gage indicated, use Multiplication Factor (F) from above chart and multiply it times Base Rated Current for a single circuit at maximum ambient operating temperature as shown in Figure 4A.

Figure 4B
 Current Rating

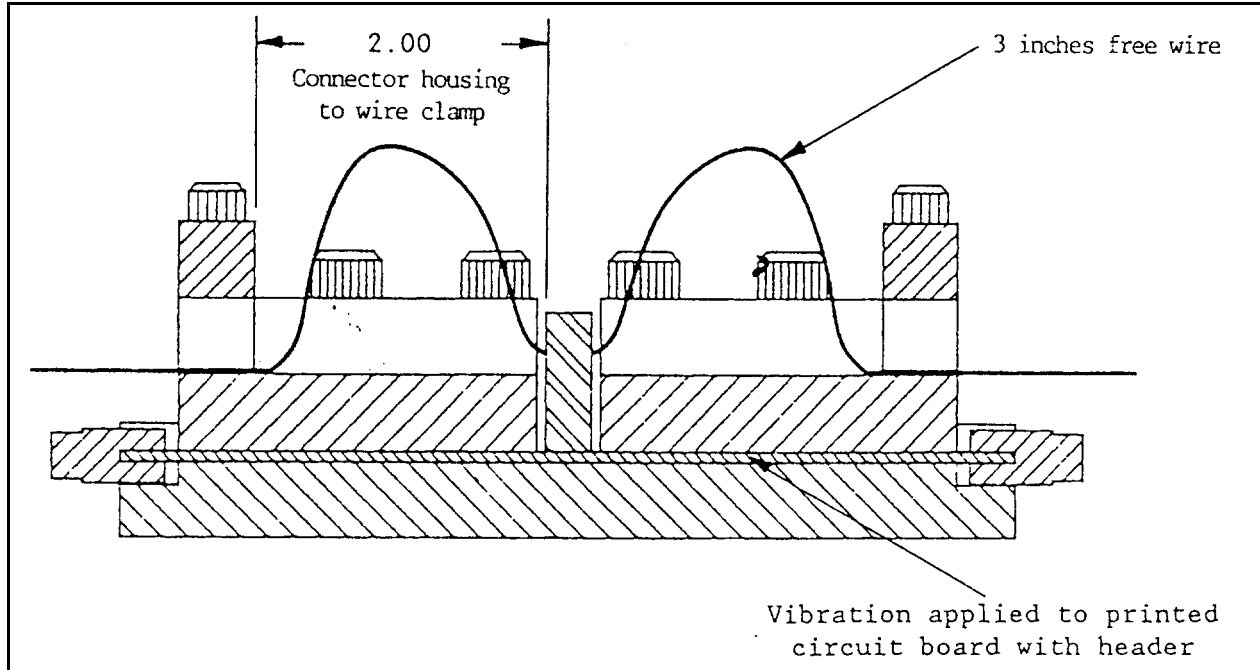


Figure 5
Vibration & Physical Shock Mounting Fixture