
FASTON* Receptacle, Printed Circuit Board Mounted

1. SCOPE

1.1. Content

This specification covers the performance, tests and quality requirements for the printed circuit board mounted FASTON* receptacle which accepts a .205 and .250 X .032 inch thick tab.

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 28Apr99. The Qualification Test Report number for this testing is 501-486. 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. 501-486: 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

Terminal: Brass with tin over copper plating

3.3. Ratings

- A. Voltage: 600 volts AC
- B. Current: See Figure 4 for applicable current carrying capability
- C. Temperature: -40 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.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Termination resistance.	1 milliohm maximum.	AMP Spec 109-6-6. Subject mated contacts assembled in housing to 100 milliamperes maximum with 20 millivolt maximum open circuit voltage. See Figure 3.
Temperature rise vs current.	30°C maximum temperature rise at specified current.	AMP Spec 109-45-1. Measure temperature rise vs current. See Figure 4.
MECHANICAL		
Solderability.	Solderable area shall have minimum of 95% solder coverage.	AMP Spec 109-11-2. Subject contacts to solderability.
Vibration, sinusoidal.	No discontinuities of 1 microsecond or longer duration. See Note.	AMP Spec 109-21-1. Subject mated samples to 10-55-10 Hz traversed in 1 minute with 0.06 inch maximum excursion. 2 hours in each of 3 mutually perpendicular planes.
Mechanical shock, specified pulse.	No discontinuities of 1 microsecond or longer duration. See Note.	AMP Spec 109-26-1. Subject mated samples to 50 G's half-sine shock pulses of 11 milliseconds duration. 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.
Durability.	See Note.	AMP Spec 109-27. Mate and unmate samples for 6 cycles at a maximum rate of 600 cycles per hour.
Mating force.	12.25 pounds maximum.	AMP Spec 109-42, Condition A. Measure force necessary to mate samples at a maximum rate of 0.5 inch per minute.

Figure 1 (cont)

Test Description	Requirement	Procedure
Unmating force.	4 pounds minimum.	AMP Spec 109-42, Condition A. Measure force necessary to unmate samples at a maximum rate of 0.5 inch per minute.
ENVIRONMENTAL		
Humidity-temperature cycling.	See Note.	AMP Spec 109-23-3, Condition B. Subject mated samples to 10 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
	Test Sequence (b)		
Examination of product	1,9	1,9	1,3
Termination resistance	3,7	2,7	
Temperature rise vs current		3,8	
Solderability			2
Vibration	5	6(c)	
Mechanical shock	6		
Durability	4		
Mating force	2		
Unmating force	8		
Humidity-temperature cycling		4(d)	
Temperature life		5	

NOTE

- (a) See paragraph 4.1.A.
 (b) Numbers indicate sequence in which tests are performed.
 (c) Discontinuities shall not be measured. Energize at 18 °C level for 100% loadings per AMP Specification 109-151.
 (d) Precondition samples with 3 cycles durability.

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. All test groups shall each consist of 30 printed circuit board mounted receptacles.

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 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.

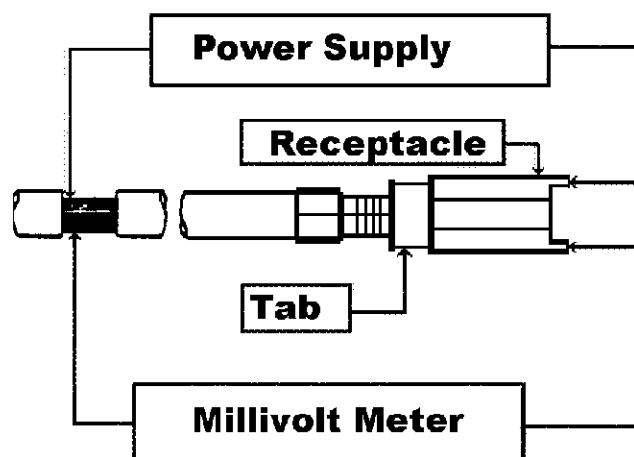


Figure 3
Termination Resistance Measurement Points

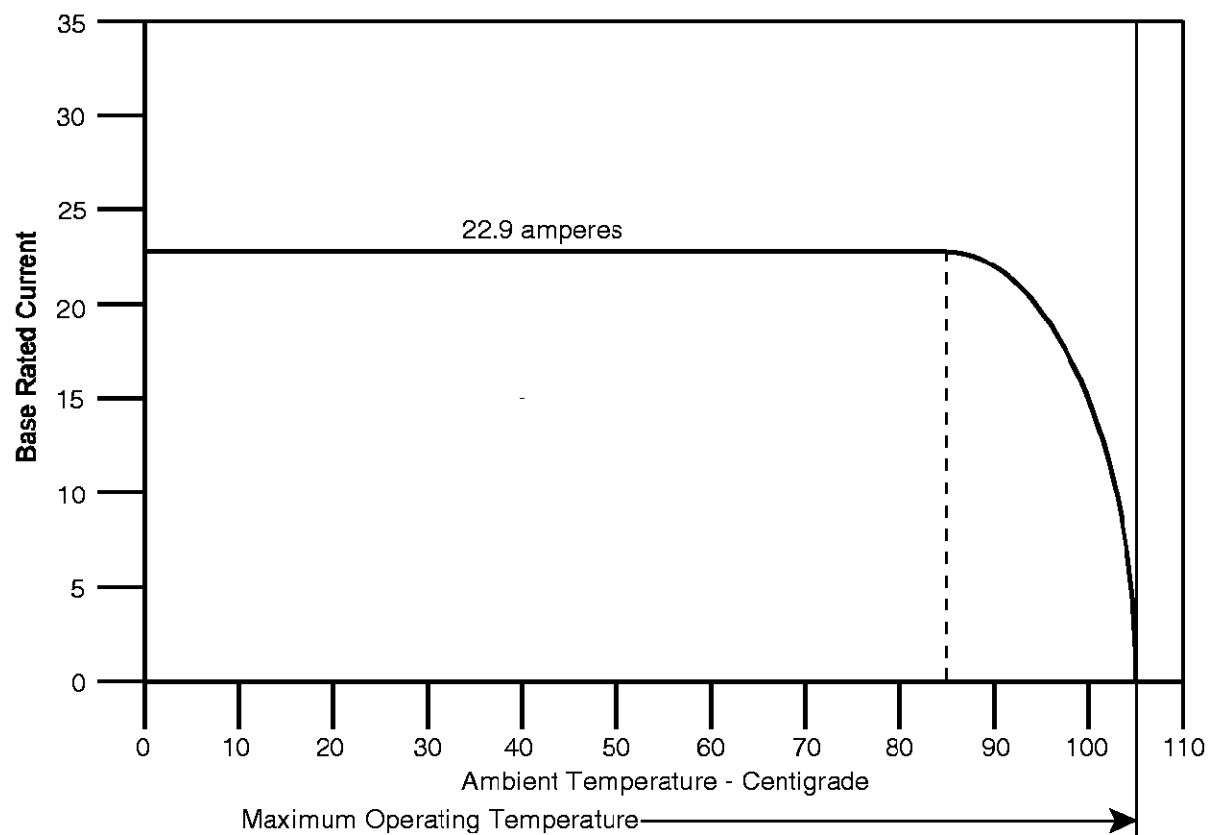


Figure 4
Current Carrying Capability