Power Hardware, Guide Pin & Mating Receptacle

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for the AMP* power guide pin and mating receptacle hardware which attaches to the end and center mounts of 3 and 4 row HDI/TBC connector assemblies. The hardware also mounts to right angle receptacles and vertical or right angle pin headers.

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 21Apr99. The Qualification Test Report number for this testing is 501-472. 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. 501-472: 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: 250 Vac
B. Current: See Figure 3 for applicable current carrying capability
C. Temperature: -65 to 125°C

* Trademark
I Indicates change

LOC B

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.	3 milliohms maximum.	AMP Spec 109-6-6. Subject mated contacts assembled in housing to 20 mV maximum open circuit at 100 ma maximum.
Temperature rise vs current.	30°C maximum temperature rise at specified current.	AMP Spec 109-45-1. Measure temperature rise vs current. See Figure 3.
MECHANICAL		
Vibration, random.	See Note.	AMP Spec 109-21-7. Subject mated samples to 3.13 G's rms. 15 minutes in each of 3 mutually perpendicular planes.
Durability.	See Note.	AMP Spec 109-27. Mate and unmate samples for 250 cycles at a maximum rate of 600 cycles per hour.
Mating force.	8 ounces maximum.	AMP Spec 109-42, Condition A. Measure force necessary to mate samples at a maximum rate of .5 inch per minute.
Unmating force.	1 ounce minimum.	AMP Spec 109-42, Condition A. Measure force necessary to unmate samples at a maximum rate of .5 inch per minute.
ENVIRONMENTAL		
Temperature life.	See Note.	AMP Spec 109-43. Subject mated samples to temperature life at 125°C for 1000 hours.

Figure 1 (cont)

Test Description	Requirement	Procedure
Mixed flowing gas.	See Note.	AMP Spec 109-85-2. Subject mated samples to environmental class II for 14 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 (end)

3.6. Product Qualification and Requalification Test Sequence

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

NOTE
(a) See Para 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 10 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. Test group 1 shall consist of 5 samples. Test group 2 shall consist of 15 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. 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 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.

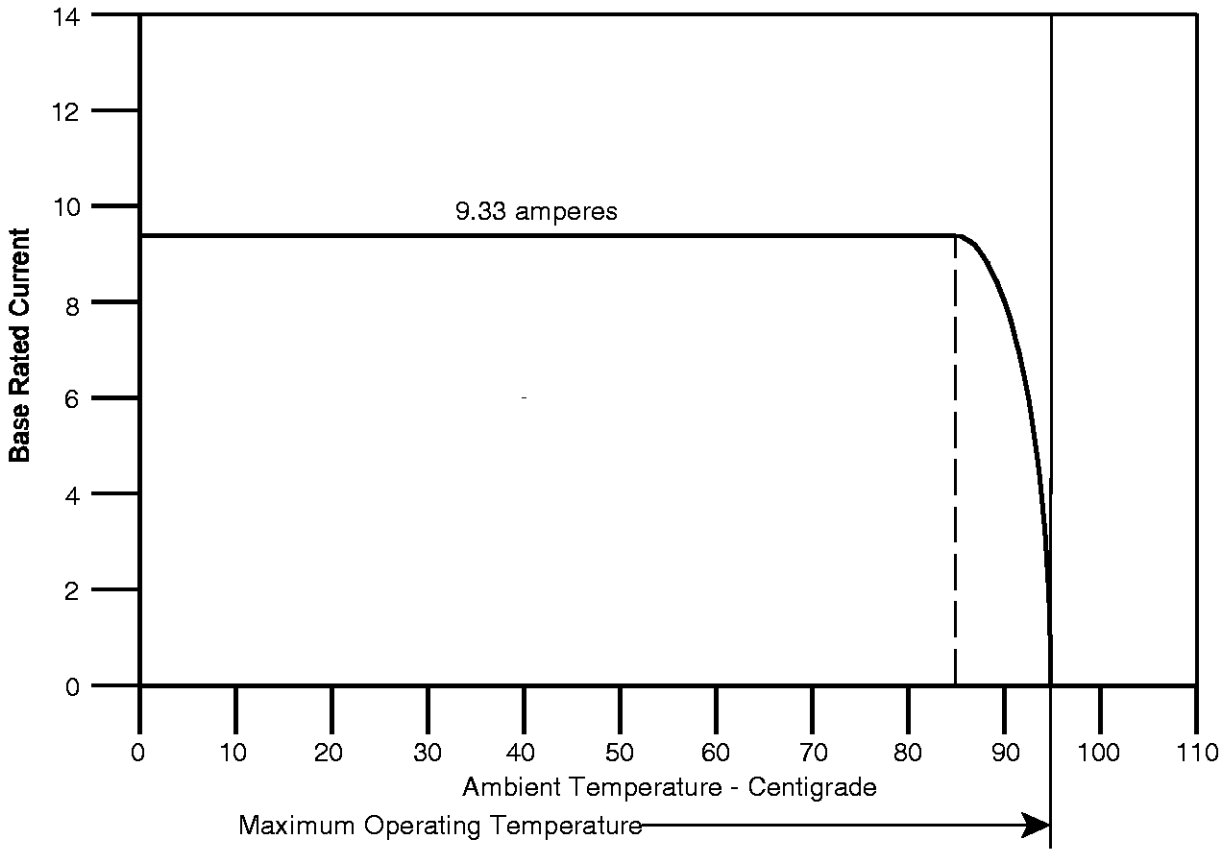

Figure 3
Current Carrying Capability