

108-19078

NUMBER

AMP SECURITY CLASSIFICATION

DC

I

PRODUCT SPECIFICATION

1. SCOPE:

1.1. Content.

This specification covers the performance, tests and quality requirements for AMP POWER LINKING TERMINALS suitable for FASTON* or POSITIVE LOCK receptacles. Available in 7 versions; these 7 versions are available with Ni plated ACTION PIN* legs or with SnPb 93/7 over Ni.

1.2. Definitions.

For the purpose of this specification, the following definitions shall apply:

- A. .250" series Tab : A printed circuit board mounted device intended as an interface between the printed circuit board and power leads.
- B. ACTION PIN* legs : The pins used on the power distribution tab for distributing current to the printed circuit board.

1.3. Qualification.

When tests are performed on the subject product line, the procedures specified in IEC 512 shall be used unless otherwise indicated. 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 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:

R 041-1694 Qualification Test Report

2.2. Drawings:

167890 167891
 167892 215511
 215512 215268
 215269

DOC. CENTRE

13 SEP, 1994

2.3. Other documents:

IEC 512 Test Specification Series

*Trademarks

product code: 0279

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| | | | | | | | | |
|-----|-------------|-----|-----------|------------------|----------------|---------------|--|--------|
| | | | | DR. R. y. Lokven | DATE 29 jan 92 | AMP | AMP-HOLLAND B.V. s-Hertogenbosch, The Netherlands. | |
| B | EH-0449-94 | RVL | 01 JUL 94 | CHK. W. de Cock | DATE 29 jan 92 | | NAME POWER LINKING TERMINAL | |
| A | EH-0353-93 | RVL | 26 MAY 93 | APP. M. Spoor | DATE 29 jan 92 | NO. 108-19078 | SHEET 1 OF 5 | REV. B |
| LTR | REV. RECORD | DR. | DATE | | | | | |

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3. REQUIREMENTS:

3.1. Design and Construction:

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

3.2. Materials:

Base Material: Phos. Bronze
Plating: Tin-Lead over Nickel

3.3. Ratings:

- A. Current 40 amperes, 8 positions; 30 amperes, 6 positions.
- B. Operating temperature -55°C to 85°C including heating effects of the tab.

3.4. Performance and Test Description:

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in 3.5. as tested per test sequence in 3.6.
All tests are performed at ambient environmental conditions per IEC specification 512-1 unless otherwise specified.

3.5. Test Requirements and Procedures Summary.

| Para | Test Description | Requirements | Procedure |
|-------------------|-----------------------------|--|---|
| 3.5.1. | Examination of Product | Meets requirements of product drawing and application specification. | Visual, dimensional and functional per applicable quality inspection plan. |
| ELECTRICAL | | | |
| 3.5.2. | Contact Resistance | Max. rise 5 mΩ after tests | Measure between body of terminal and connecting printed circuit pad. Max voltage 20 mV Max. current 100 mA IEC 512-2 test 2a |
| 3.5.3. | Temperature rise vs current | Max. 30°C temperature rise at rated current. | Apply rated current. Measure temperature after stabilization. See fig. 2 IEC 512-3 test 5a. |
| 3.5.4. | Current cycling | | Subject tabs to 250 cycles at 125 % of rated current for 15 minutes "on", 15 min. "off". |

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3.5. Test Requirements and Procedures Summary (cont'd).

| Para | Test Description | Requirements | Procedure |
|----------------------|---------------------------------|--|---|
| MECHANICAL | | | |
| 3.5.5. | Insertion Force ACTION PINS | 1500 N maximum for 8 position 1125 N maximum for 6 position | Measure force necessary to mount Power Linking Terminal onto test board illustrated in Fig. 1 using proper insertion tooling. |
| 3.5.6. | Extraction Force ACTION PINS | 240 N min. for 8 position 180 N min. for 6 position. | Measure force necessary to remove Power Linking Terminal from printed circuit board. |
| ENVIRONMENTAL | | | |
| 3.5.7. | Thermal Shock | | Subject p.c.b. mounted terminals to 5 cycles of 30 min. at -55°C and 30 min. at +85°C IEC 512-6 test 11d. |
| 3.5.8. | Dry Heat | | Subject p.c.b. mounted terminals to 85°C for 56 days IEC 512-6 test 11i. |

3.6. Test Sequence for Qualification.

| Test Group | Test | Paragraph |
|------------|-----------------------------|-----------|
| 1 | Contact Resistance | 3.5.2. |
| | Temperature rise / current | 3.5.3. |
| | Current cycling | 3.5.4. |
| | Contact resistance | 3.5.2. |
| 2 | Insertion force | 3.5.5. |
| | Extraction force (half lot) | 3.5.6. |
| | Thermal Shock | 3.5.7. |
| | Dry Heat | 3.5.8. |
| | Extraction force (half lot) | 3.5.6. |

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4. QUALITY ASSURANCE PROVISIONS.

4.1. Qualification Testing.

A. Sample selection.

Terminals shall be selected at random from current production.
Group 1 shall be inserted in p.c. boards in accordance with figure 1, having copper pads of sufficient size for the relevant test current.
Tabs linked with Faston (Bronze, tinplated) receptacles and wire 4 mm², length 25 cm min.
10 Terminals with 8 Action Pins and 10 terminals with 6 Action Pins.

Group 2 shall consist of 10 terminals with 8 Action Pins and 10 terminals with 6 Action Pins and testboards in accordance with figure 1. (Insertion during test).

B. Test Sequence.

Qualification inspection shall be verified by testing samples as specified in Paragraph 3.6.

4.2. Requalification Testing.

If changes significantly affecting form, fit or function are made to the product or to the 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 products meet the requirements of paragraph 3.5. Failures attributed to equipment, test set-up 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 samples acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with applicable product drawing and this specification.

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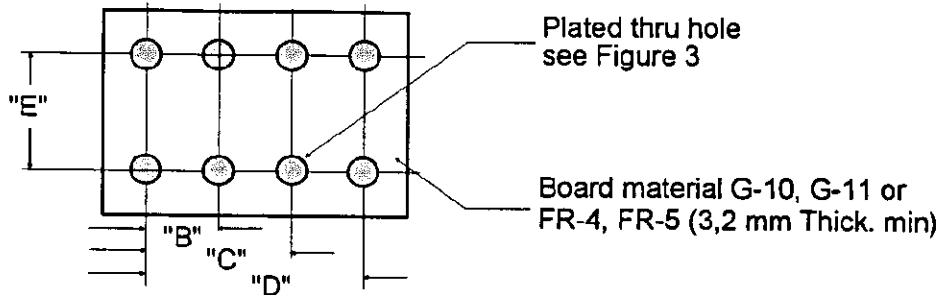
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| Tab Contact | "B" | "C" | "D" | "E" |
|-------------|------|------|------|------|
| 6 A.P. | 2,54 | 5,08 | — | 7,62 |
| 8 A.P. | 2,54 | 5,08 | 7,62 | 7,62 |

| Rec'd Drill Size | Drilled Hole Dia | Plating Thickness | | Hole Diameter | |
|------------------|------------------|-------------------|----------|---------------|--------------|
| | | Copper | Tin/Lead | After Plating | After Reflow |
| 1,60 mm | ± 0,025 | 0,025 | 0,004 | 1,39 | 1,36 |
| | | 0,075 | 0,010 | 1,54 | 1,54 |

Figure 1

Printed Circuit Test Board

Temperature measuring points.

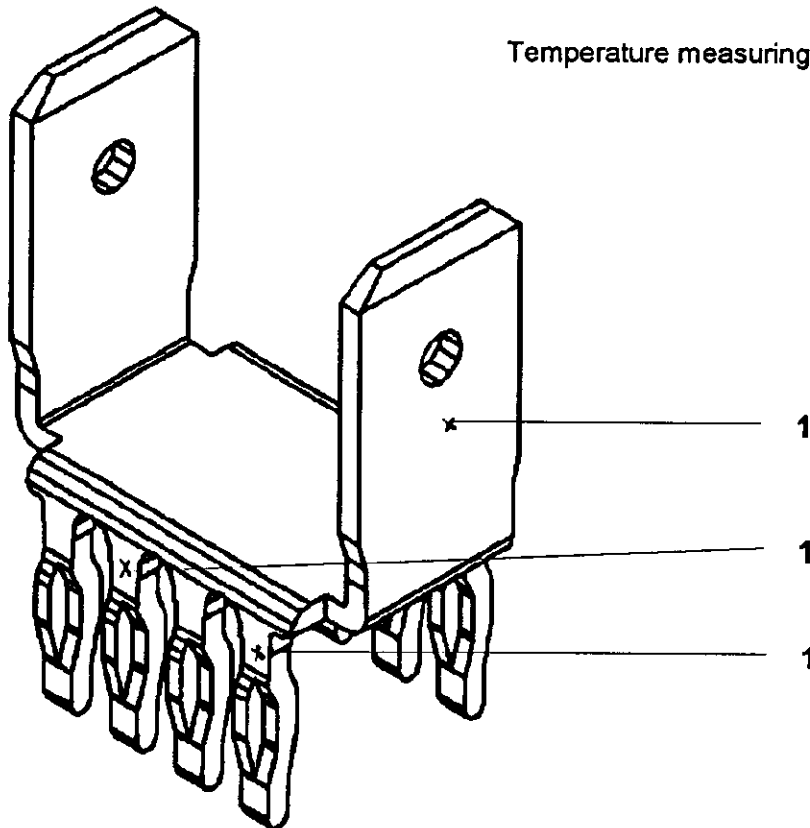


Figure 2

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