NO 108-1017

PRODUCT SPECIFICATION

1. SCOPE

1.1. Content

This specification covers the performance requirements for the AMP* multiple tap edge connectors used to provide a reliable means of connecting the printed circuit boards with circuit pads located on .375 inch center lines.

1.2. Qualification

When tests are performed on the subject product line, the procedures specified in AMP 109 series specifications shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2. APPLICABLE DOCUMENTS

2.1. AMP Specifications

A. 109-1: General Requirements for Test Specification
B. 109 Series: Test Specifications as indicated in Figure 1

2.2. Commercial Standard

E-60677: Electrical File Number, Underwriters' Laboratories Inc: Component Recognition Program

3. REQUIREMENTS

3.1. Design and Construction

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

3.2. Materials

A. Contacts: Phosphor bronze, tin or gold plated
B. Housings: Lexan 101, polycarbonate

3.3. Ratings

A. Current/Voltage: 250 vac at 5 amp maximum
B. Temperature: -55° to 85°C

3.4. Performance and Test Description

Connector assemblies shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1.

*Trademark of AMP Incorporated.

LTR	REVISION RECORD	APP	DATE
A	Change per ECN AG-472	RR	7/26/84

DR C.E. 5/21/76
CHK R.K. Swale 5-21-76
APP M. Tiffany 5/21/76

AMP INCORPORATED Harrisburg, Pa.

LOC B | NO A 108-1017 | REV A

SHEET 1 OF 6

NAME CONNECTOR, EDGE, MULTIPLE TAP

DIST 14

AMP 1250-13 REV 10-73

3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Examination of Product	Meets requirement of product drawing.	Visual, dimensional and functional per applicable inspection plan.
Dielectric Withstanding Voltage	2.2 kvac dielectric withstanding voltage.	Test between adjacent circuits of unmated connector assembly; AMP Spec 109-29.
Insulation Resistance	1000 megohms minimum.	Test between adjacent circuits of unmated connector assembly; AMP Spec 109-28.
Electrical Stability	Temperature rise, see Figure 2.	T-rise at rated current (see Para 3.5.B.); AMP Spec 109-45
Thermal Shock	Dielectric withstanding voltage; 7.00 milliohms maximum contact resistance; see Para 3.5.A.	Subject mated connectors to 5 cycles between -55° and 85°C; AMP Spec 109-22.
Humidity	Insulation resistance; 8.00 milliohms maximum contact resistance.	Subject mated connectors to temperature-humidity; AMP Spec 109-23, method II, cond A.
Vibration	No discontinuities greater than 10 microseconds; see Para 3.5.A.; 5.00 milliohms maximum contact resistance.	10-55-10 cps traversed in one min at .06 in total excursion; 2 hr in each of 3 mutually perpendicular directions; AMP Spec 109-21, cond A.
Physical Shock	No discontinuities greater than 10 microseconds; see Para 3.5.A.; 6.00 milliohms maximum contact resistance.	50 G's sawtooth at 10 milliseconds; 3 shocks in each direction applied along the 3 mutually perpendicular directions, total 18 shocks; AMP Spec 109-26, cond G.
Mating - Unmating	Force: Mating — Initial, lb max 1.50; Final, lb min —. Unmating — Initial, lb max —; Final, lb min 0.4	Measure force necessary to mate and unmate connector assembly and printed circuit board; AMP Spec 109-42, calculate force per contact.
Durability	Mating-unmating; 6.00 milliohms maximum contact resistance.	Mate and unmate connector and printed circuit board for 25 cycles; mount connector in panel and manually mate; AMP Spec 109-27.

Figure 1 (cont)

Test Description	Requirement	Procedure
Contact Resistance, Dry Circuit	4.00 milliohms maximum initial.	Subject contacts mated to printed circuit board in housing to 50 mv open circuit at 100 ma maximum, see Figure 4; AMP Spec 109-6, cond A.
Current Cycling	8.00 milliohms maximum contact resistance.	50 cycles, 30 minutes ON, 15 minutes OFF at 125% rated current; AMP Spec 109-51.

Figure 1 (end)

A. Connector assemblies shall remain mated and shall show no evidence of cracking or chipping.

B. Maximum rated current that can be carried by this product is limited by maximum operating temperature of housings, which is 105°C, and temperature rise of contacts, which is 30°C. Variables which shall be considered for each application are: wire size, connector size, contact material, and ambient temperature.

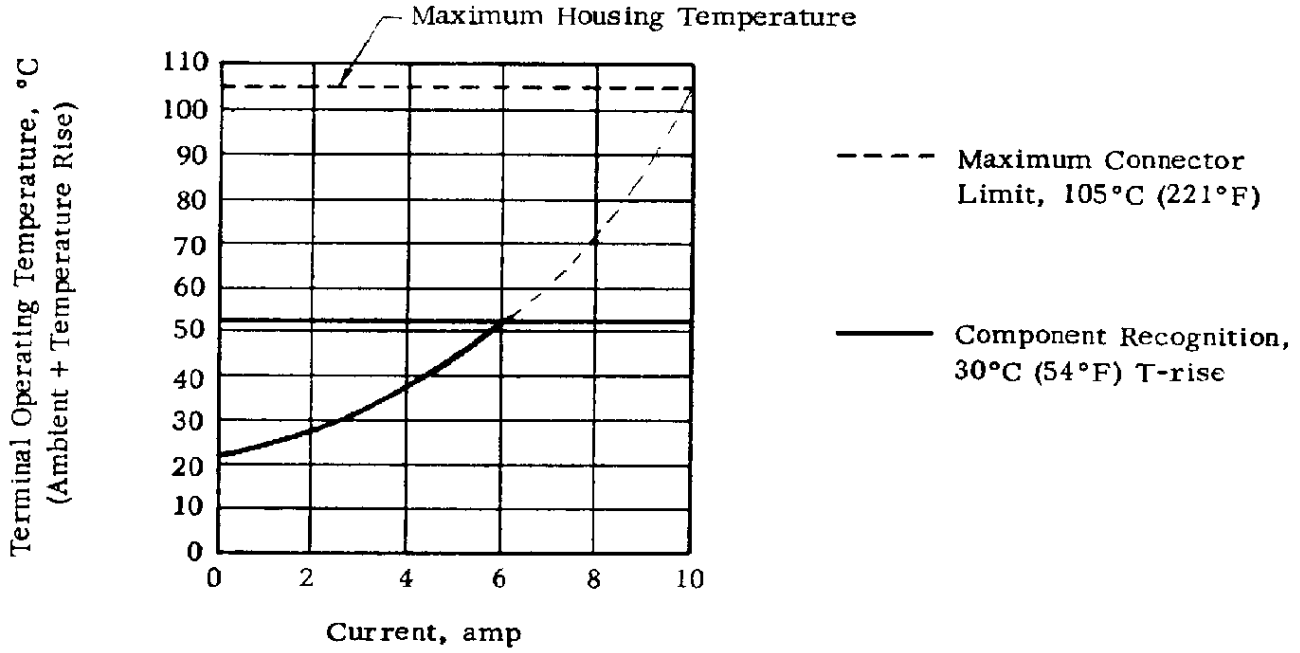


Figure 2
Terminal Temperature vs Current/Circuit
14 Circuit Housing

AMP INCORPORATED Harrisburg, Pa.

LOC B | A | NO 108-1017 | REV A

NAME
CONNECTOR, EDGE, MULTIPLE TAP

3.6. Connector Tests and Sequences

Test or Examination	Test Group (a)					
	1	2	3	4	5	6
	Test Sequence (b)					
Examination of Product	1					
Dielectric Withstanding Voltage		8				
Insulation Resistance				2, 4		
Electrical Stability						1
Thermal Shock		6				
Humidity				3		
Vibration		2				
Physical Shock		4				
Mating - Unmating					2, 4	
Durability					3	
Current Cycling			2			
Contact Resistance		1, 3, 5, 7	1, 3	1, 5	1, 5	

(a) See Para 4.1.A.
(b) Numbers indicate sequence in which tests are performed.

Figure 3

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualfication Testing

A. Sample Selection

Connector housings and contacts shall be selected at random from current production. Test group 1 shall consist of one connector of each size representative of the entire lot being tested. Test groups 2 through 6 shall consist of 2 connector assemblies per group. The housings and wire sizes shall be chosen randomly to cover the range of the product line. Printed circuit boards shall be fabricated as indicated in Figure 5.

B. Test Sequence

Qualification inspection shall be verified by testing samples as specified in Figure 3.

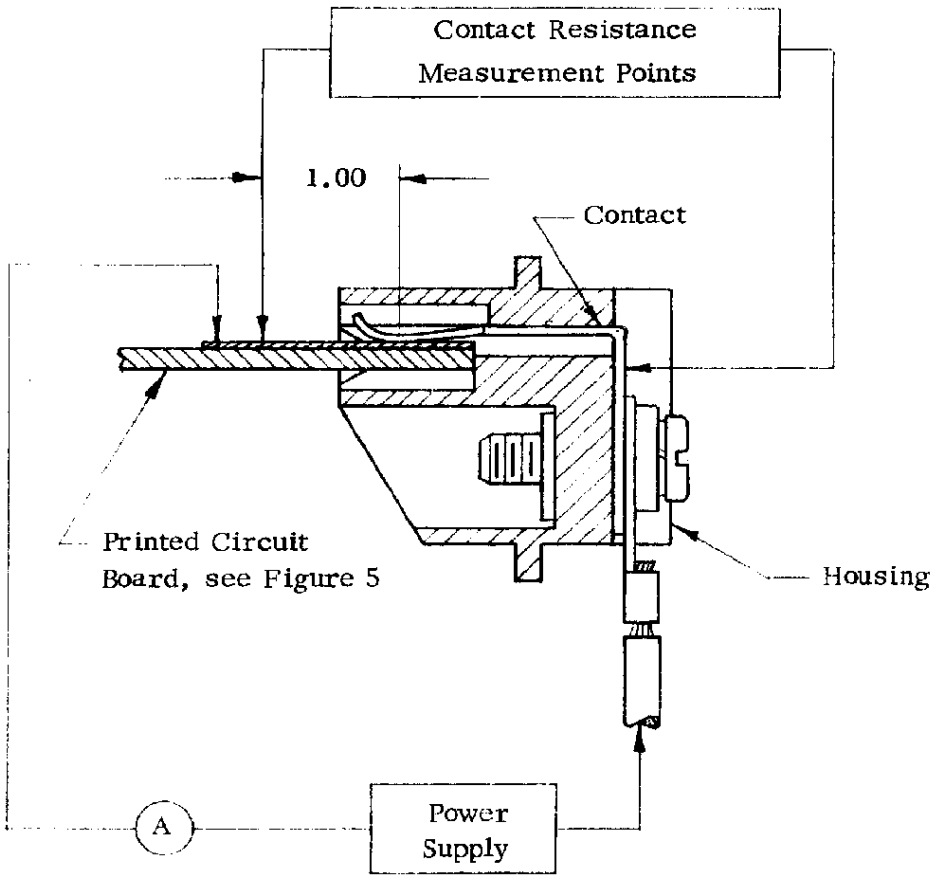
C. Acceptance

(1) Confidence

When testing samples of the product using the procedures specified in Figure 1, at least 99 percent are expected to meet the specification requirements with a confidence of 95 percent.

(2) Failure

Requirements put on test samples, as indicated in requirement portion of Figure 1, exist as either the upper or lower tolerance limit. 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.



Notes:
1. A 1 foot minimum length of continuous lead for heat dissipation.
2. Contact resistance equals millivolts divided by test current less resistance of 1 inch of printed circuit board.

Figure 4

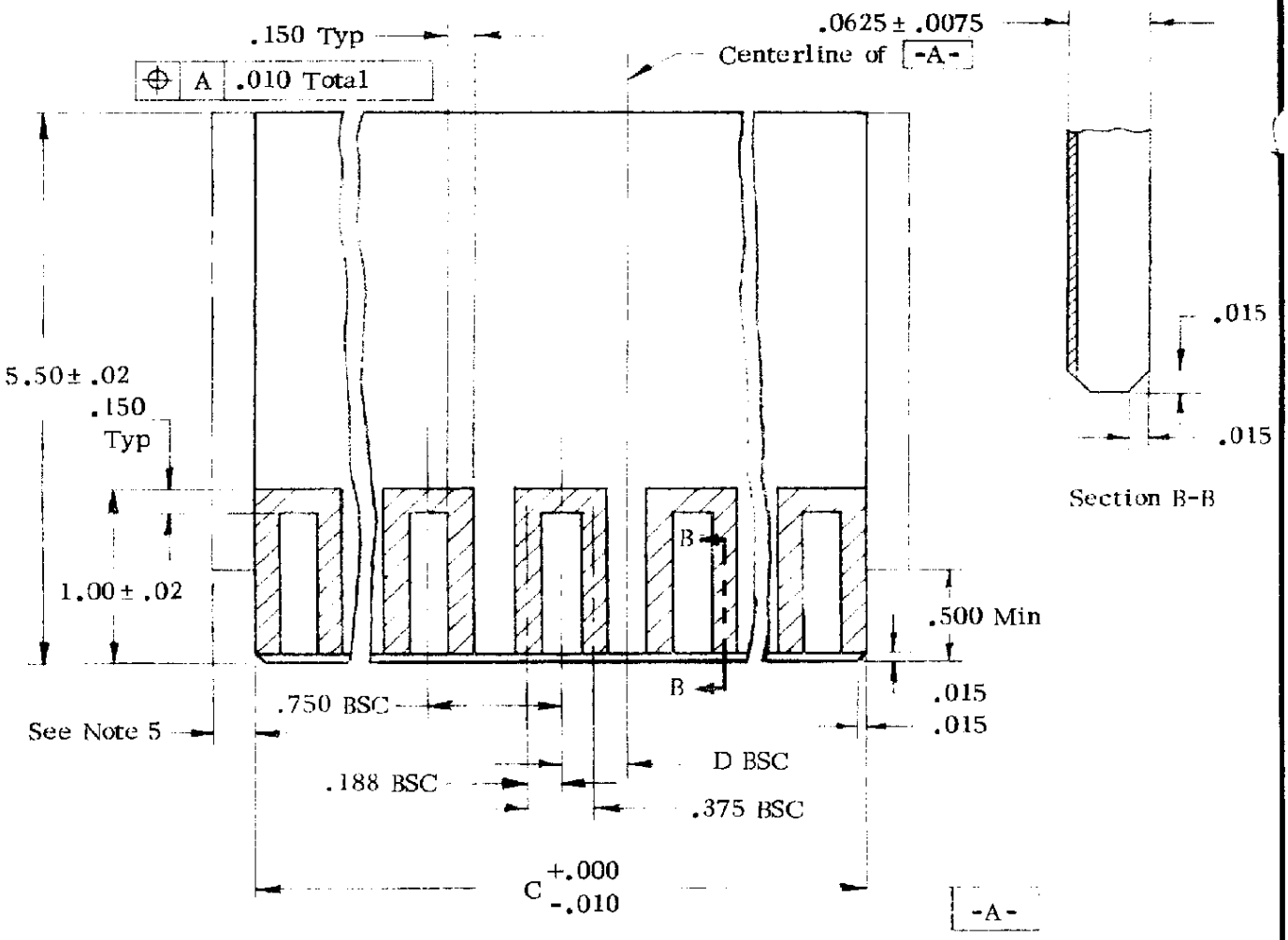
Contact Resistance Measurement Points

AMP INCORPORATED Harrisburg, Pa.

LOC B | A | NO 108-1017 | REV A

NAME

CONNECTOR, EDGE, MULTIPLE TAP



Positions	C	D
8	2.750	.375
10	3.500	0
12	4.250	.375
14	5.000	0
16	5.750	.375

Notes:
1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is ±.005.
3. Number of contacts shall be the same as on the corresponding printed wiring connector.
4. Printed circuit test board, type G10 or equivalent, shall be 5 oz copper with tin lead or gold plating.
5. Optional configuration when required for use with card guides or test fixtures. Dimension to be determined to meet fixture design.

Figure 5
Printed Circuit Board

AMP INCORPORATED Harrisburg, Pa.

SHEET 6 OF 6

LOC B | A | NO 108-1017 | REV A

NAME

CONNECTOR, EDGE, MULTIPLE TAP