

Low Profile Edge Connector

1. SCOPE

1.1. This document specifies the performance requirements for the AMP* low profile edge connector. This connector is a multi-contact, edge board type assembly having contacts for solder applications.

1.2. When testing or inspecting the subject product, this document shall always be supported by the applicable Product Drawing and by 109-9000, Packaging Components Division Connector Test Methods. In case of conflict the order of document precedence is as follows:

- A. Product Drawing
- B. This Product Specification
- C. 109-9000, Packaging Components Division Connector Test Methods

2. APPLICABLE DOCUMENTS

2.1. Applicable portions of the following documents form a part of the manufacturing control of this product.

- A. MIL-G-45204: Gold Plating, Electrodeposited
- B. MIL-STD-105: Sampling Procedures and Inspection by Attributes

2.2. The following documents describe handling and use of this product.

- A. 109-9000: Packaging Components Division Connector Test Methods
- B. MIL-STD-202: Test Methods for Electronic and Electrical Component Parts

3. PERFORMANCE REQUIREMENTS

3.1. Ratings

- A. Current: 5.0 amperes maximum per contact
- B. Temperature: -55° C to 105° C

3.2. Test Requirements and Procedures Summary

Test Description	Requirements	Procedure
Examination of Product	Meet requirements of drawing.	Dimensional and visual.
Termination Resistance, Low Level	.010 ohm max.	50 mv max open circuit, 100 ma max short circuit.
Termination Resistance, Rated Current	.010 ohm max.	5 amp.

Figure 1 (cont)

Test Description	Requirements	Procedure						
Insulation Resistance	5000 megohms min.	500 vdc.						
Dielectric Withstanding Voltage - Sea Level	<table border="1"> <thead> <tr> <th>Centerline</th> <th>Test Voltage</th> </tr> </thead> <tbody> <tr> <td>.125</td> <td>1000 vrms</td> </tr> <tr> <td>.156</td> <td>1500 vrms</td> </tr> </tbody> </table> 5 ma max leakage.	Centerline	Test Voltage	.125	1000 vrms	.156	1500 vrms	Unmated connectors, test between adjacent contacts, and contacts to mounting hardware.
Centerline	Test Voltage							
.125	1000 vrms							
.156	1500 vrms							
Contact Engaging Force	16.0 oz max per contact pair.	Maximum thickness gage .070.						
Contact Separating Force	1.5 oz min per contact pair.	Size 3 times with max thickness gage .070. Check with min thickness gage .054.						
Connector Mating Force	19.0 oz max average per contact pair.	Maximum thickness gage .070.						
Durability	No evidence of physical damage. Meets termination resistance, low level and rated current and contact separation force.	Mate and unmate using maximum thickness gage .070; 250 cycles for .000030 gold plate, 100 cycles for .000015 gold plate.						
Thermal Shock	No evidence of physical damage.	-55° to 105° C.						
Vibration	No interruption of continuity greater than 1 microsecond. No physical damage.	10 G's peak, 10-500 Hz; mated with printed circuit board.						
Physical Shock	No interruption of continuity greater than 1 microsecond. No physical damage.	100 G's, 6 msec, sawtooth; mated with printed circuit board.						
Humidity, Steady State	Meet insulation resistance and dielectric withstanding voltage.	Unmated, 90-95% RH, 96 hr, 40° ± 2° C.						
Contact Retention	Contacts shall not dislodge from its normal locking position.	Axial load of 10 lb applied to contacts.						

Figure 1 (end)

3.3. Connector Tests and Sequence

Test	MIL-STD-202 Method	109-9000 Requirement Paragraph	Test Sequence (a)	
			1	2
Examination of Product		5.1.	X	X
Connector Mating Force		5.8.		X
Termination Resistance, Low Level (b)		5.2.	X	X
Termination Resistance, Rated Current (b)	307	5.3.	X	X
Insulation Resistance	302, Cond B	5.4.	X	X
Dielectric Withstanding Voltage	301	5.5.	X	X
Contact Engaging Force		5.6.		X
Contact Separation Force		5.7.		X
Thermal Shock (d)	107, Cond A	5.11.	X	
Durability		5.10.	X	X
Contact Separation Force				
Termination Resistance, Low Level				
Termination Resistance, Rated Current				
Vibration (e)	204, Cond A	5.12.		X
Physical Shock (e)	213, Cond I	5.13.		X
Humidity, Steady State	103, Cond B	5.14.	X	
Insulation Resistance				
Dielectric Withstanding Voltage				
Termination Resistance, Low Level (b)		5.2.	X	X
Terminating Resistance, Rated Current (b)		5.3.	X	X
Contact Retention (c)			X	X

(a) Test Sequences 1 and 2 are connectors with contacts and hardware.

(b) See Figure 3.

(c) Contact Retention, Solder Eyelet Contacts Only - The connector shall be mounted in an appropriate fixture and a straight axial pull as specified in Figure 1 shall be applied to the contact post. The contact shall be capable of withstanding the applied force for a minimum of five seconds without dislodging from the connector.

(d) Upper temperature limit 105°C.

(e) See Figure 4.

Figure 2

3.4. Selection of Test Samples

- A. Test samples shall consist of 6 connectors of the greatest number of positions of each connector type offered, 3 each Test Sequence 1 and Test Sequence 2. Two additional specimens shall be selected from the least number of positions offered and tested to Sequence 2.

3.5. Acceptance Quality Level

MIL-STD-305, Inspection Level II, Normal Inspection, AQL 1.5%

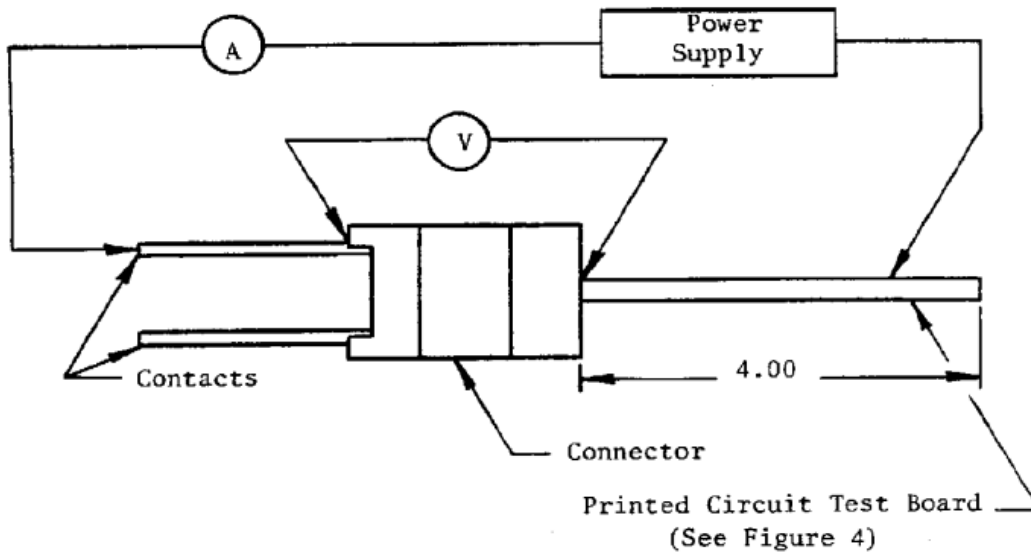
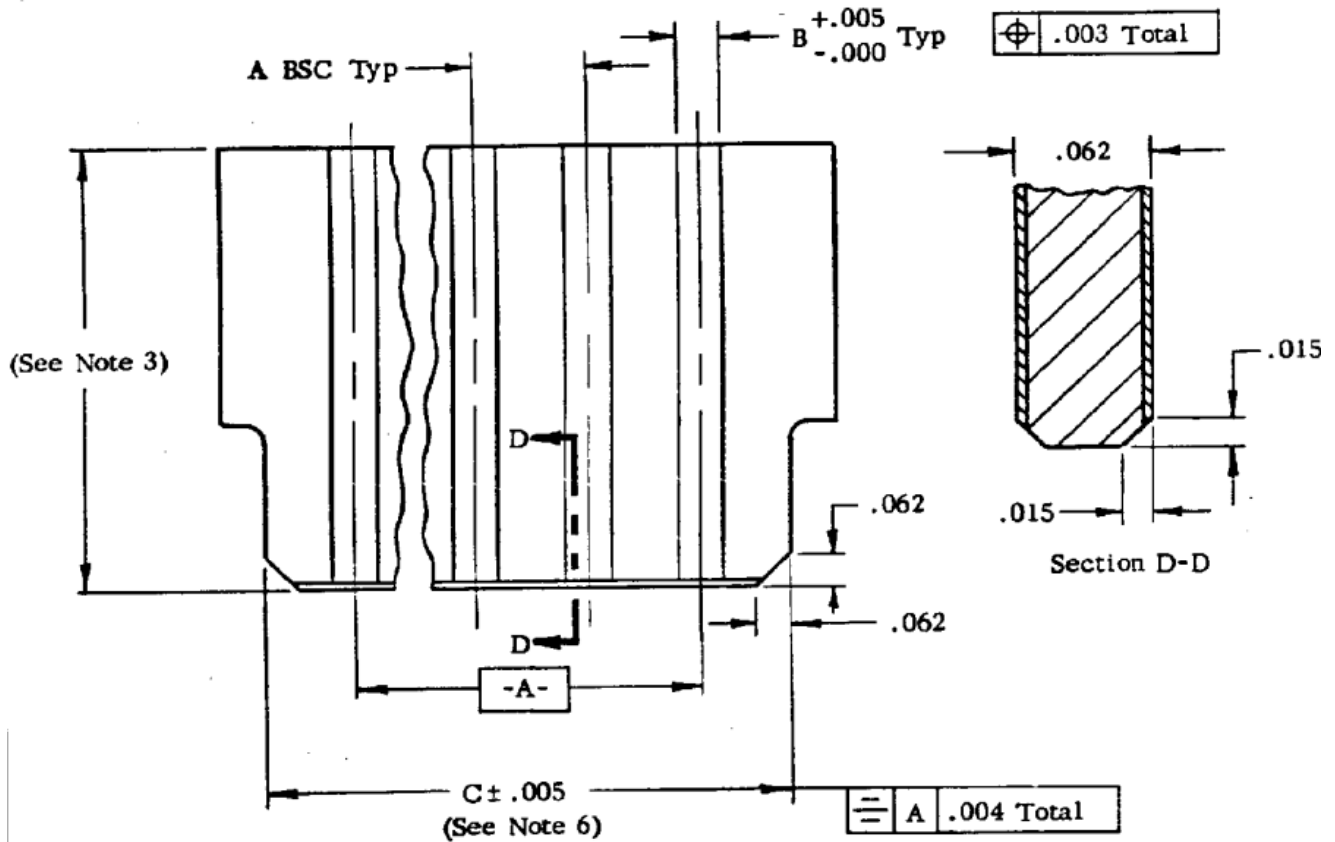


Figure 3
Termination Resistance Test Circuit



Connector Contact Spacing	A BSC	B
.125	.125	.078
.156	.156	.094

Notes:

1. Dimensions are in inches.
2. Unless otherwise specified, tolerance is $\pm .005$.
3. The test card shall extend $4.00 \pm .02$ from the receptacle after insertion.
4. Number of contacts shall be the same as on the corresponding printed wiring connector.
5. Printed circuit test board shall be 2 oz copper and gold over nickel plated per MIL-STD-275.
6. This dimension shall be the minimum connector card slot length minus .008.
7. Conductor configuration optional beyond card slot depth.
8. Printed wiring shall be identical on both sides.

Figure 4
Printed Circuit Board