

NUMBER: 108-5393

Customer Release

SECURITY CLASSIFICATION:

Product Specification

108-5393

BNC Vertical Panel Jack

1. Scope

1.1 Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of BNC Vertical Panel Jack.

Applicable product descriptions and part numbers are as shown in Appendix 1.

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 Specifications

A. 109-5000 Test Specification, General Requirements for Test Methods

B. 501-5089 Test Report:

2.2 Commercial Standards and Specifications

A. MIL-STD-202

B. MIL-STD-1344

C. JIS C 5402

DR. 1/19 '93

H. Takasu

CHK. 1/19 '93

A. Kawaguchi

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OF
7**AMP**AMP (Japan), Ltd.
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APP. 1/21 '93

T. Itoh

NAME

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DST.

A	Revise FJ00-0925-94	HT	AK	1/19 '93
0	J-1818	HT	AK	1/19 '93
LTR	REVISION RECORD	DR	CHK	DATE

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3. Requirements

3.1 Design and Construction

Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.

3.2 Materials

A. Contact: Phosphor Bronze

B. Housing: Zinc Die-cast

C. Others: Dielectric-POLYOLEFIN
Grounding Pin-Brass

3.3 Ratings

A. Voltage Rating: 500 VAC

B. Temperature Rating: -40°C to $+85^{\circ}\text{C}$

3.4 Performance and Test Descriptions

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig. 1. All tests shall be performed in the room temperature, unless otherwise specified.

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3.5 Test Requirements and Procedures Summary

Para.	Test Items	Requirements			Procedures
3.5.1	Confirmation of Product	Product shall be conforming to the requirements of applicable product drawing and Application Specification .			Visually, dimensionally and functionally inspected per applicable quality inspection plan.
Electrical Requirements					
3.5.2	Termination Resistance (Specified Current)	Wire Size mm ² (AWG)	Test (A) Current	Resistance mΩ (Max.)	Measure initial millivolt drop of contact test circuit in mated connectors, Fig. 2. AMP Spec. 109-5311-2
		Signal	1 (A) DC	3 mΩ (Initial)	
		Ground	1 (A) DC	3 mΩ (Initial)	
3.5.3	Dielectric Strength	No creeping discharge nor flashover shall occur.			1.5 kVAC for 1 minute. Test between adjacent circuits of unmated connectors. AMP Spec. 109-5301
3.5.4	Insulation Resistance	500 MΩ Min. (Initial) 500 MΩ Min. (Final)			Impressed voltage 500 V DC. Test between adjacent circuits of unmated connectors. AMP Spec. 109-5302
3.5.5	Voltage Standing Wave Ratio (V S W R)	DC. ~2,000 MHz VSWR : 1.2 Max. Fig. 3			JIS C. 5402, 5.6
Physical Requirements					
3.5.6	Vibration (Frequency)	No electrical discontinuity grater than __ μsec. shall occur. 3 mΩ Max. (Final) Fig. 4 See Note (a)			Subject mated connectors to 10-55-10 Hz traversed in 1 minute at 1.52 mm amplitude 2 hours each of 3 mutually perpendicular planes. ____ mA applied. Condition : Amplitude : 1.5 mm AMP Spec. : 109-5201

Fig. 1 Continue

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Para.	Test Items	Requirements	Procedures
3.5.8	Physical Shock	No electrical discontinuity greater than $\frac{1}{\mu\text{sec}}$ shall occur. After testing, no evidence of damage, cracks and tipping shall occur. Termination Resistance (Specified Current): 3 m Ω max.	Accelerated Velocity: $\frac{1}{2}$ m/s ² ($\frac{1}{2}$ G) Waveform: Sawtooth (50 G Peak) Duration: 11 m sec. Velocity of Change: 9.7 m/s Number of Drops: 9 Drops AMP Spec. 109-5208 (MIL-STD-202, 202D)
3.5.9	Contact Retention Force	0.98 N (0.1 kgf) Min.	Apply an axial pull-off load to Pin Gage (Fig. 5) Operation Speed: $\frac{1}{2}$ mm/min. AMP Spec. 109-5212 Condition, 3rd Cycle
3.5.10	Durability (Repeated Mate / Unmating)	10 m Ω Max. (Final)	Operation Speed: 600 Cycle / Hour No. of Cycles: 5000 cycles. AMP Spec. 109-5213
Environmental Requirements			
3.5.11	Resistance to Soldering Heat	No physical damage shall occur.	Test connector on PCB. Solder Temperature: $260 \pm 5^\circ\text{C}$ Immersion Duration: 15 ± 3 sec. AMP Spec. 109-5204
3.5.12	Thermal Shock	3 m Ω Max. (Final) After the test, no evidence of damage, cracks and loose of parts shall occur.	$-55^\circ\text{C} / 30$ min. $+85^\circ\text{C} / 30$ min. Making this a cycle, repeat 5 cycles. AMP Spec. 109-5103
3.5.13	Humidity, Steady State	Insulation resistance (Final) 500 M Ω Min. Termination Resistance (Final) $\frac{1}{2}$ M Ω max. Dielectric Strength: 1500 V AC (RMS) min.	Mated / unmated Connector 90~95 % R.H. 40°C 96 hours AMP Spec. 109-5105
3.5.14	Salt Spray	50 m Ω Max. (Final) After the test, no remarkable corrosion shall be evident. Dielectric Strength: 1500 V AC (RMS) min.	Subject mated / unmated connectors to 5 % salt concentration for 48 hours: MIL-STD-202, Method 101 AMP Spec. 109-5101 Condition

Fig. 1 End

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3.6 Product Qualification Test Sequence

Test or Examination	Test Group (a)				
	1	2	3	4	5
	Test Sequence (c)				
Examination of Product	1	1	1	1	1
Termination Resistance (Specified Current)	3, 6	2, 6	2, 5	2, 4	2, 4, 6
Dielectric Withstanding Voltage		3, 7	3, 6		
Insulation Resistance		4, 8			
Voltage Standing Wave Ratio	4				
Vibration (Low Frequency)					3
Physical Shock					5
Contact Retention Force	2				
Durability (Repeated Mate / Unmating)	5				
Resistance to Soldering Heat		9			
Thermal Shock				3	
Humidity, Steady State		5			
Salt Spray			4		

- (a) See Para 4.1.A.
- (b) Discontinuities shall not take place in this test group, during tests.
- (c) Numbers indicate sequence in which tests are performed.

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Appendix 1

Prod. P / N	Description
177719-1	BNC Vertical Panel Jack
917069-1	BNC Vertical Panel Jack

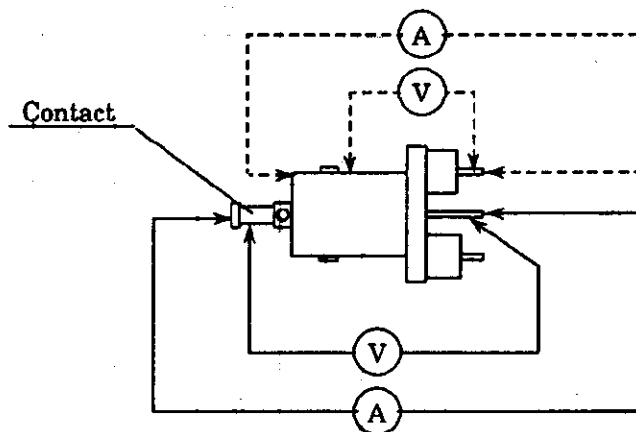


Fig. 2 Termination Resistance

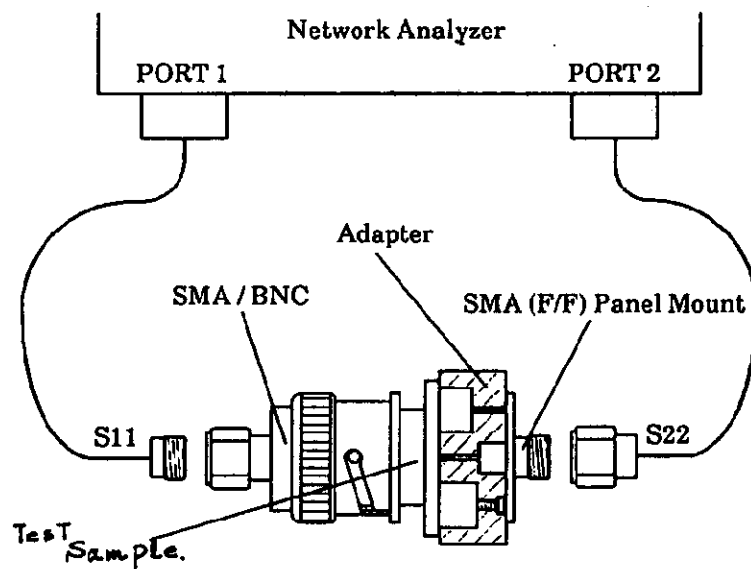


Fig. 3 Voltage Standing Wave Ratio

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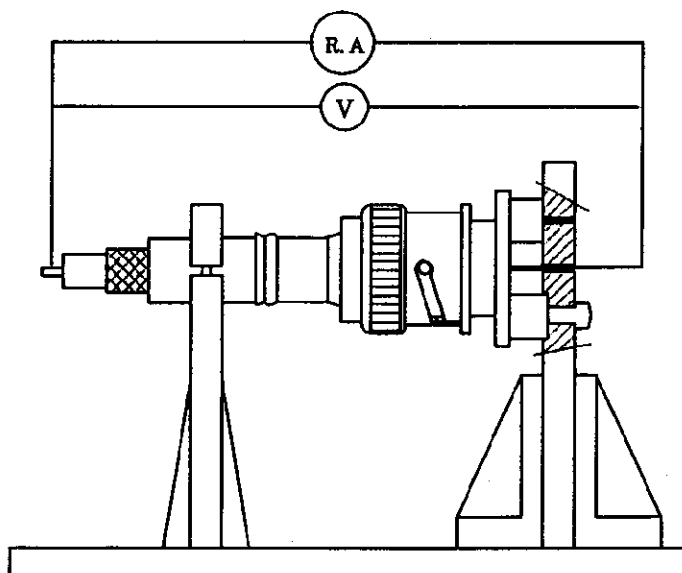
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Fig. 4 Vibration & Physical Shock

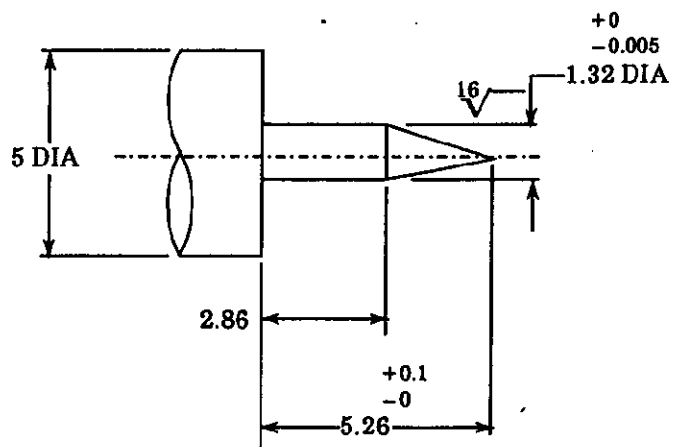


Fig. 5 Pin Gage

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