NUMBER: 108-5467

SECURITY CLASSIFICATION: Customer Release

Product Specification

108-5467

AMP Vertical MIII Socket

1. Scope :

1.1 Contents :

This specification covers the requirements for product performance, test methods and quality assurance provisions of AMP Vertical MIII Socket.
The applicable product descriptions and part number 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. 109-1 Test Specification, General Requirements for Test Methods.

B. 501-5139 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.

LTR	REVISION RECORD	DR	CHK	DATE
0	Released FJ00-2016-95	K K		24-5-95

DR. 24-MAY-'95 H. Kobayashi
CHK. 24-MAY-'95 I. Enomoto
APP. 24 MAY '95 G. Goshima

SHEET 1 OF 8

AMP
AMP (Japan), Ltd.
Kawasaki, Japan

LOC	LOC	NO.	REV.
J	A	108-5467	0

NAME AMP Vertical MIII Socket

PRINT DIST.

05/24/95

3.2 Materials :

A. Contact :

Copper Alloy Finish	Gold Plated Contact	Tin-Lead Plated Contact
	Contact area : Gold Plated	Nickel Underplated
	Soldering area : Tin-Lead	Tin-Lead Plated All over
	Foundation : Nickel Plated	

B. Housing : Thermoplastic Resin, UL 94 V-0

C. Push Bar : Thermoplastic Resin, UL 94 V-0

D. Arm : Thermoplastic Resin, UL 94 V-0

E. Retention Leg : Copper Alloy Tin-lead Plated

3.3 Raitings :

A. Voltage Rating : 50 VAC

B. Current Rating : 0.5 A

C. Temperature Rating : −55 °C to 85 °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 are performed at ambient temperature unless otherwise specified.

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 inspection plan.
		Electrical Performance	
3.5.2	Termination Resistance (Low Level)	30 mΩ Max. (Initial)/Pos. ΔR= 20 mΩ Max. (Final)/Pos.	Subject mated contacts assembled in housing to closed circuit current of 10 mA Max. at open circuit voltage of 20 mV Max. Fig. 2. AMP Spec. 109-5311-1
3.5.3	Dielectric Strength	No creeping discharger nor flashover shall occur. Current leakage : 0.5 mA Max.	0.25 k VAC for 1 minute. Test between adjacent circuits of unmated connectors. AMP Spec. 109-5301
3.5.4	Insulation Resistance	500 MΩ Min. (Initial) 100 MΩ Min. (Final)	Impressed voltage 100 V DC. Test between adjacent circuits of unmated connectors. AMP Spec. 109-5302
3.5.5	Temperature Rising	30 deg, max. under loaded specified current	Measure temperature rising by energized current. AMP Spec. 109-5310

Fig. 1 (to be continued)

Para.	Test Items	Requirements	Procedures
		Physical Performance	
3.5.6	Vibration Sinusoidal (Low Frequency)	No electrical discontinuity greater than 0.1 μsec. shall occur.	Subject mated connectors to 10-55 -10 Hz traversed in 1 minute at 1.52 mm amplitude 2 hours each of 3 mutually perpendicular planed. 100 mA applied AMP Spec. 109-5201
3.5.7	Physical Shock	No electrical discontinuity greater than 0.1 μsec. shall occur.	Accelerated Velocity : 490 m/s^2 (50 G) Waveform : Halfsine wave Duration : 11 msec. Number of Drops : 18 Drops (X, Y, Z Total) AMP Spec. 109-5208
3.5.8	PCB Insertion Force	49 N (5 kgf) Max. (Initial) 0.78 N (80 gf) Max. Per contact (Initial)	Operation Speed : 100 mm/min. Measure the force required to mate PCB with connector. AMP Spec. 109-5206 Condition B
3.5.9	Durability (Repeated Mate / Unmating)	Termination Resistance (Low Level) (Final) $\triangle R = 20$ mΩ max.	Repeat mating and unmating of the connector for 25 cycles by using the PCB test board.
3.5.10	Solderability	Wet solder Coverage : 95 % Min.	Solder Temperature : 230 $\pm$ 5 °C Immersion Duration: 3 $\pm$ 0.5 seconds Flux : Alpha 100 AMP Spec. 109-5203
3.5.11	Resistance to Reflow Soldering Heat	No physical damage .	Test connector on P.C.B. Board Pre-Heat 100~150 °C : 60 sec. Min. Heat 210 °C Min. : 30 sec. Max. Heat Peak : 240 °C Max.
3.5.12	Thermal Shock	$\triangle R = 20$ mΩ Max. (Final)	Mated connector – 40 °C/30 min. 85 °C/30 min. Making this a cycle, repeat 5 cycles. AMP Spec. 109-5103 Condition A

Fig. 1 (to be continued)

Para.	Test Items	Requirements	Procedures
3.5.13	Humidity-Temperature Cycling	Insulation resistance 500 MΩ Min. Termination resistance △R=20 mΩ Max. (Final)	Mated connector 25~65 °C, 95 % R.H. 10 cycles AMP Spec. 109-5106
3.5.14	Salt Spray	△R=20 mΩ Max. (Final)	Mated connector Subject mated connectors to 5 % salt concentration for 24 hours ; AMP Spec. 109-5101 Condition A
3.5.15	Industrial Gas (SO_2)	△R=20 mΩ Max. (Final)	Mated connector SO_2 Gas : 10 ppm, 95 % R.H. Room Temperature. 48 hours AMP Spec. 109-5107 Condition A
3.5.16	Temperature Life (Heat Aging)	△R=20 mΩ Max. (Final)	Mated connector 85 °C, Duration : 4 days AMP Spec. 109-5104-2 Condition A

Fig. 1 (End)

3.6 Product Qualification and Requalification Tests

Test or Examination	Test Group												
	1	2	3 (b)	4 (b)	5	6	7	8	9	10	11	12	13
	Test Sequence (a)												
Examination of Product	1, 7	1, 3	1, 5	1, 5	1, 3	1, 5	1, 3	1, 3	1, 5	1, 5	1, 5	1, 5	1, 5
Termination Resistance (Low Level)			2, 4	2, 4		2, 4			2, 4	2, 4	2, 4	2, 4	2, 4
Dielectric Strength	3, 6												
Insulation Resistance	2, 5												
Temperature Rising		2											
Vibration (Frequency)			3										
Physical Shock				3									
PCB Insertion Force					2								
Durability (Repeated Mate/Unmated)						3							
Solderability							2						
Resistance to Reflow Soldering Heat								2					
Thermal Shock									3				
Humidity-Temperature Cycling	4												3
Salt Spray										3			
Industrial Gas (SO_2)											3		
Temperature Life (Heat Aging)												3	

(a) Numbers indicate sequence in which tests are performed.

(b) Under examination, no electrical discontinuity in this test group.

Fig. 2

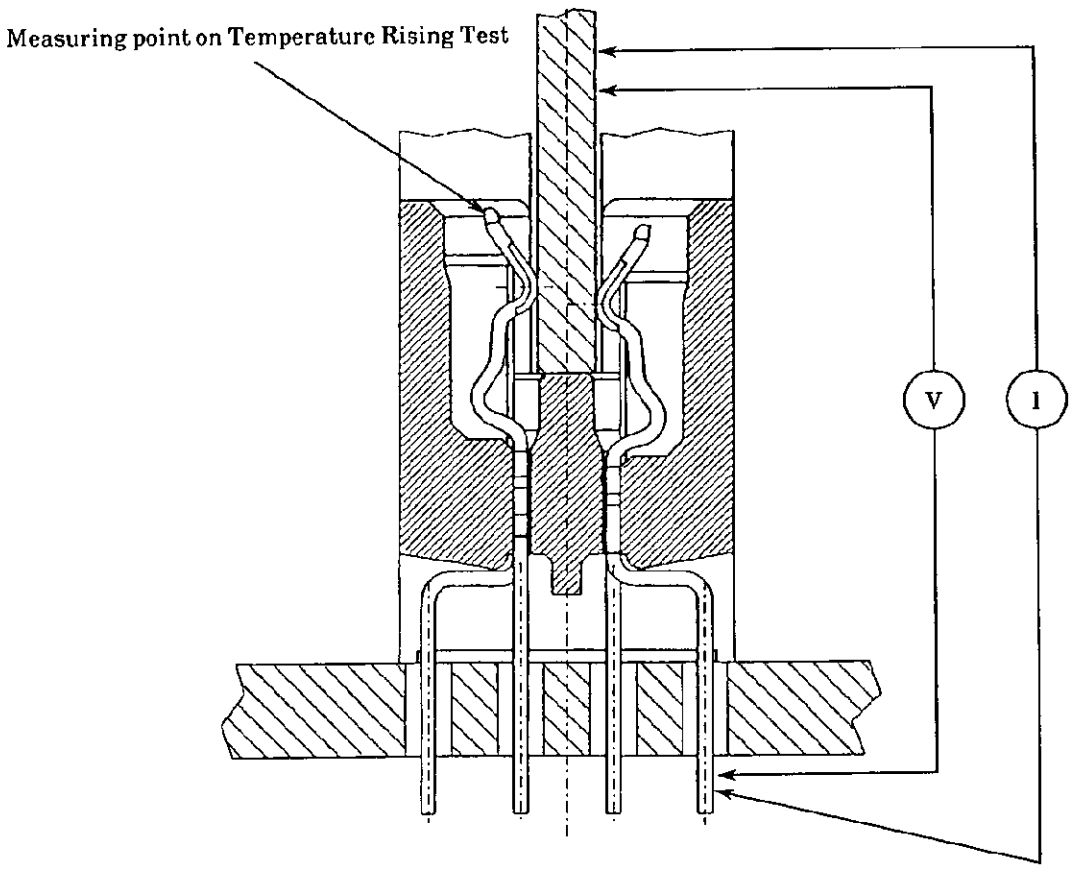

Fig. 3 Method of Termination Resistance Measuring

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

Product Part No.	Descriptions
179759-1	AMP Vertical M III Socket 72 Position For 3.3 V RAM Board
179759-2	AMP Vertical M III Socket 72 Position For 5 V RAM Board

Appendix 1