

NUMBER: 108-5403

Customer Release

SECURITY CLASSIFICATION:

Product Specification

108-5403

AMP-M^{III} Socket (Mini Memory Module Socket)

1. Scope :

1.1 Contents :

This specification covers the requirements for product performance, test methods and quality assurance provisions of AMP-M^{III} Socket.

Applicable product description 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. 501-5107 Test Report : 72P Horizontal Type
- 501-5153 Test Report : 72P Horizontal Low Height Type
- 501-5173 Test Report : 88P Horizontal Low Height Type
- 501-5218 Test Report : 88P Horizontal High Profile Type

2.2 Commercial Standards and Specifications :

- A. MIL-STD-202 Military Specification : on : Test Methods for Electronic and Electric Parts

3. Requirements :

3.1 Design and Construction :

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

PRINT DST.	G	FJ00-1056-97	ZF	ZY	10/1/97	DR. 19 Nov. '92	SHEET 1 OF 7	AMP AMP (Japan), Ltd. Kawasaki, Japan			LOC	LOC	NO.	REV.
	F	FJ00-4126-96	T. F	T. Y	12.3.96	T. Yamada					J	A	108-5403	G
	E	FJ00-2156-95	T. F	T. Y	4.4 '95									
	D	FJ00-0886-94	T. Y	Y. F	11.7'94	CHK. 19 Nov. '92	Y. Fujiura							
	C	FJ00-0550-94	T. Y	Y. F	14.5'94									
	B	FJ00-0482-94	T. Y	Y. F	26.4'94									
	A	FJ00-1070-93	T. Y	Y. F	2011'93	APP. 19 Nov. '92	Y. Fujiura	NAME AMP-M ^{III} Socket (Mini Memory Module Socket)						
	O	FJ00-0485-93	T. Y	Y. F	17.1.'93									
	LTR	REVISION RECORD		DR	CHK	DATE								

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3.2 Materials :

A. Contact :

Copper Alloy Finish

Gold Plating Virsion

Contact area : Gold Plated

Tine area : Tin-Lead Plated

Underplate : Nickel-plated

Tin-Lead Plating Virsion

Tin-Lead Plated over Nickel-plated

B. Housing :

Thermoplastic UL 94 V-0

C. Latch : Copper Alloy, Tin-Lead Plated or Stainless Steel, Tin-Lead Plated

3.3 Raitings :

A. Voltage Rating : 25 VAC

B. Current Rating : 0.3 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 shall be performed in the room temperature, unless otherwise specified.

3.5 Test Requirements and Procedures Summary :

Para.	Test Items	Requirements	Procedures
3.5.1	Examination of Product	Meets the requirements of product drawing	Visual inspection No phisical damage

Fig. 1 (to be continued)

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Para.	Test Items	Requirements	Procedures
Electrical Requirements			
3.5.2	Termination Resistance (Low Level)	30 mΩ Max. (Initial) ΔR = 20 mΩ Max. (Final)	Subject mated contacts assembled in housing to closed circuit current of 10 mA Max. at open circuit voltage of 20 mV Max. Obtain resistance value by dividing the measured reading into two. Fig. 2. AMP Spec. 109-5311-1
3.5.3	Dielectric Strength	No creeping discharge nor flashover shall occur. Current leakage : 0.5 mA Max.	0.25 kVAC for 1 minute. Test between adjacent circuits of unmated connectors. AMP Spec. 109-5301
3.5.4	Insulation Resistance	250 MΩ Min. (Initial) 50 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 °C Max. under loaded specified current. (0.3 A)	Measure temperature rising by energized current. AMP Spec. 109-5310
Physical Requirements			
3.5.6	Vibration (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 planes. 100 mA applied. AMP Spec. 109-5201
3.5.7	Shock	No electrical discontinuity greater than 0.1 μsec. shall occur.	Accelerated Velocity : 490 m/s ² (50 G) Waveform : Halfsine Duration : 11 msec. Number of Drops : X, Y, Z, Axis each 6 Drops, Totally 18 Drops AMP Spec. 109-5208 Condition A

Fig. 1 (to be continued)

SHEET 3 OF 7	AMP AMP (Japan), Ltd. Kawasaki, Japan			REV. G
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Para.	Test Items	Requirements	Procedures
3.5.8	PCB Mating Force	72 Pos. 49 N (5 kgf) Max. (Initial) 88 Pos. 60 N (6.1 kgf) Max. (Initial)	Operation Speed : 100 mm / min. Measure the force required to mate connectors. (In this test, the force required to turn PCB before it engages on locking, is excluded.) AMP Spec. 109-5206 Condition B
3.5.9	Durability (Repeated Mate / Unmating)	$\Delta R = 20 \text{ m}\Omega$ Max. (Final)	Repeat insertion and extraction of PCB to and from the connector with the turns to lock it and then unlock it for 25 cycles.
3.5.10	Solderability	Wet Solder Coverage : 95 % Min.	Solder Temperature : $230 \pm 5^\circ\text{C}$ Immersion Duration : 3 ± 0.5 seconds Flux : Alpha 100AMP Spec. 109-5203
3.5.11	Resistance to Reflow Soldering Heat	No physical damage shall occur.	Test connector on P.C. Board Pre-Heat $100 \sim 150^\circ\text{C}$: 60 sec. Min. Heat 210°C Min : 30 sec. Max. Heat Peak : 240°C Max.
Environmental Requirements			
3.5.12	Thermal Shock	$\Delta R = 20 \text{ m}\Omega$ Max. (Final)	$-55^\circ\text{C} / 30 \text{ min.}, 85^\circ\text{C} / 30 \text{ min.}$ Making this a cycle, repeat 5 cycles. AMP Spec. 109-5103 Condition A
3.5.13	Humidity-Temperature Cycling	Insulation resistance 50 M Ω Min. Termination resistance $\Delta R = 20 \text{ m}\Omega$ Max. (Final)	Mated connector, $25 \sim 65^\circ\text{C}$ 95% R. H. 10 cycles AMP Spec. 109-5106
3.5.14	Salt Spray	$\Delta R = 20 \text{ m}\Omega$ Max. (Final)	Subject mated connectors to 5% salt concentration for 24 hours ; AMP Spec. 109-5101 Condition A
3.5.15	Industrial Gas (SO ₂)	$\Delta R = 20 \text{ m}\Omega$ Max. (Final)	SO ₂ Gas : 10 ppm, 95% R. H. 25°C , 48 hours AMP Spec. 109-5107 Condition A
3.5.16	Temperature Life (Heat Aging)	$\Delta R = 20 \text{ m}\Omega$ Max. (Final)	85°C , Duration : 4 days AMP Spec. 109-5104-2 Condition A

Fig. 1 (End)

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2. Product Qualification Test Sequence

Test Items	Test Group												
	1	2	(b) 3	(b) 4	5	6	7	8	9	10	11	12	13
	Test Sequence												
Confirmation 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 (Low Frequency)			3										
Shock				3									
PCB Mating Force					2								
Durability (Repeated Mate / Unmating)						3							
Solderability							2						
Resistance to Reflow Soldering Heat								2					
Thermal Shock									3				
Temperature Humidity Cycling	4												3
Saly Spray										3			
Industrial Gas (SO ₂)											3		
Temperature Life (Heat Aging)												3	

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

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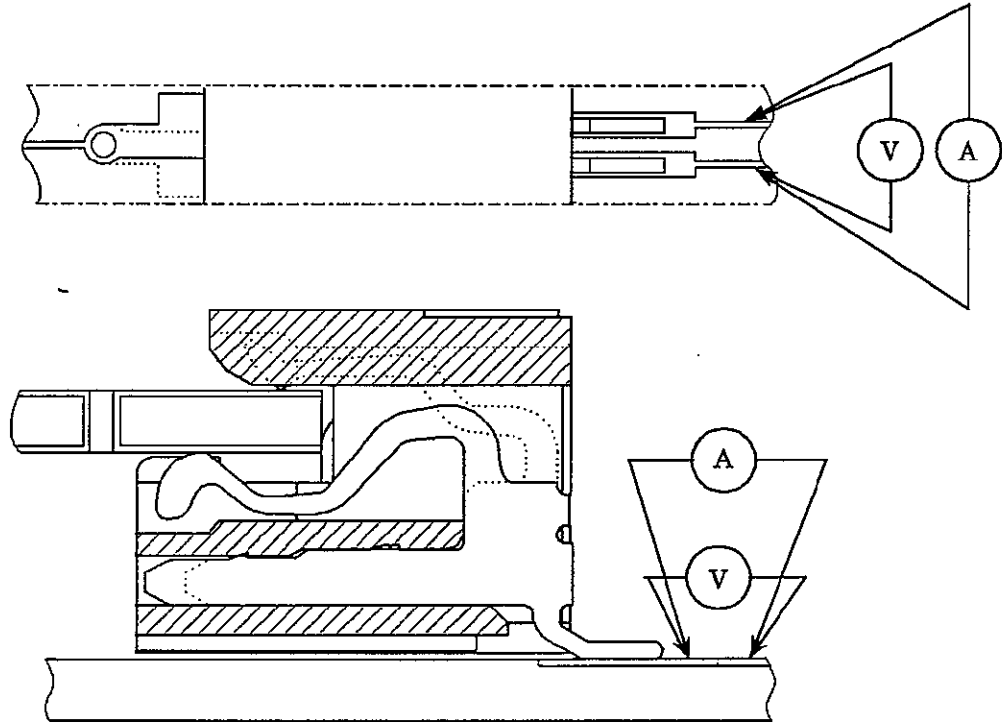


Fig. 2-1 Standard Type, High Profile Type Termination Resistance Measuring Points

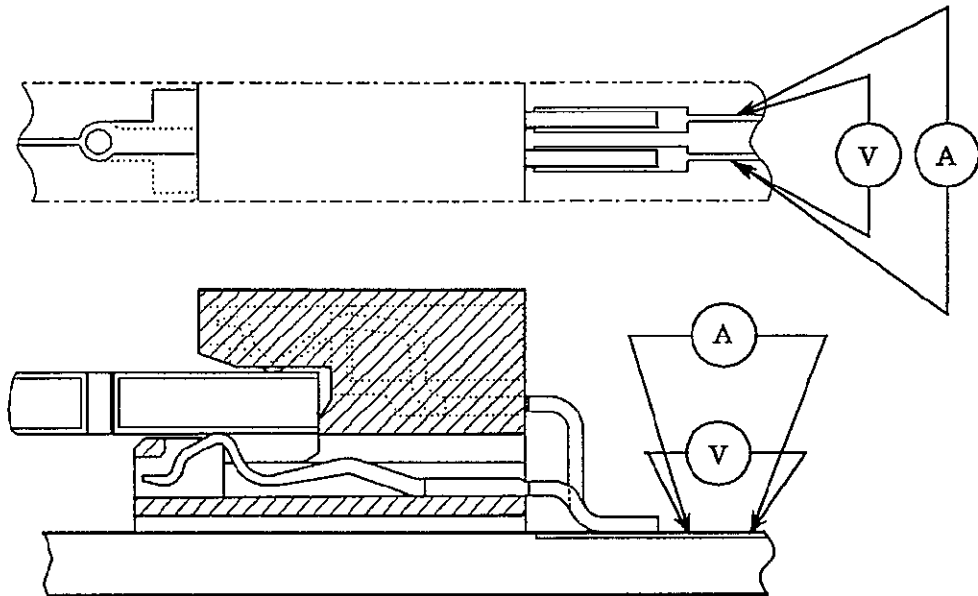


Fig. 2-2 Low High Type Termination Resistance Measuring Points

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

Appendix 1

Prod. P/N	Description
<input type="checkbox"/> -177827-1	AMP MIII Socket 72 P Horizontal Type for 3.3 V (Gold Plating Version)
<input type="checkbox"/> -177827-2	AMP MIII Socket 72 P Horizontal Type for 3.3 V (Tin-Lead Plating Version)
<input type="checkbox"/> -177827-3	AMP MIII Socket 72 P Horizontal Type for 5 V (Gold Plating Version)
<input type="checkbox"/> -177827-4	AMP MIII Socket 72 P Horizontal Type for 5 V (Tin-Lead Plating Version)
<input type="checkbox"/> -179601-1	AMP MIII Socket 72 P Horizontal High Profile Type for 3.3 V (Gold Plating Version)
<input type="checkbox"/> -179601-2	AMP MIII Socket 72 P Horizontal High Profile Type for 3.3 V (Tin-Lead Plating Version)
<input type="checkbox"/> -179601-3	AMP MIII Socket 72 P Horizontal High Profile Type for 5 V (Gold Plating Version)
<input type="checkbox"/> -179601-4	AMP MIII Socket 72 P Horizontal High Profile Type for 5 V (Tin-Lead Plating Version)
<input type="checkbox"/> -179882-1	AMP MIII Socket 72 P Horizontal Type for 3.3 V (Gold Plating Version)
<input type="checkbox"/> -179882-2	AMP MIII Socket 72 P Horizontal Type for 3.3 V (Tin-Lead Plating Version)
<input type="checkbox"/> -179882-3	AMP MIII Socket 72 P Horizontal Type for 5 V (Gold Plating Version)
<input type="checkbox"/> -179882-4	AMP MIII Socket 72 P Horizontal Type for 5 V (Tin-Lead Plating Version)
<input type="checkbox"/> -179919-1	AMP MIII Socket 72 P Horizontal Low Height Type for 3.3 V (Gold Plating Version)
<input type="checkbox"/> -179919-3	AMP MIII Socket 72 P Horizontal Low Height Type for 5 V (Gold Plating Version)
<input type="checkbox"/> -917596-1	AMP MIII Socket 88 P Horizontal Low Height Type for 3.3 V (Gold Plating Version)
<input type="checkbox"/> -917596-2	AMP MIII Socket 88 P Horizontal Low Height Type for 5 V (Gold Plating Version)
<input type="checkbox"/> -316437-1	AMP MIII Socket 88 P Horizontal High Profile Type for 3.3 V (Gold Plating Version)
<input type="checkbox"/> -316437-2	AMP MIII Socket 88 P Horizontal High Profile Type for 5 V (Gold Plating Version)

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