

1.1H Lower Profile Spring Finger

1.0 Scope:

1.1 Contents

This specification covers the requirements for product performance test methods and quality assurance provisions of spring finger.

Applicable product descriptions and part numbers are as shown in Fig 3.

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. 501-115115: Test Report

2.2 Commercial Standards and Specifications:

- A. MIL-STD-202: Test Methods for Electronic and Electrical Component Parts.
- B. Electronic Industries' Association STD.

3. Requirements

3.1 Design and Construction

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

3.2 Materials:

Contact: Stainless steel, Nickel $2\mu\text{m}$ min. under plating all over,
Gold plating $0.25\mu\text{m}$ at contact area, $0.075\sim 0.2\mu\text{m}$ at soldering area.

3.3 Ratings:

- A. Temperature Rating; $-40\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$
- B. Voltage Rating; 10VDC
- C. Current Rating; 1.5A

3.4 Performance Requirements 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 Applicable

This specification applies to two times reflow.

3.6 Test Requirements and Procedures Summary

Fig. 1			
Para.	Test Items	Requirements	Procedures
3.6.1	Examination of Product	Meets requirements of product drawing.	Visual inspection No physical damage
Electrical Requirements			
3.6.2	Termination Resistance (Low Level)	Initial $50\text{m}\Omega$ max. and changed resistance $10\text{m}\Omega$ max. at 0.6mm Contact height	Subject matted contacts at set position to 20mV max open circuit at 100mA . EIA-364-23B
3.6.3	Temperature Rising	30°C max. under loaded rating current. No physical damage.	Measure temperature rising by current 1.5A . EIA-364-70 Method 1

Fig. 1 (Continued)

Para.	Test Items	Requirements	Procedures
Mechanical Requirements			
3.6.4	Normal Force	Normal force at 0.75mm spring height: 0.7N Min.	Stroke the spring top to 0.4 mm product height.
3.6.5	Durability	Normal force at 0.75mm Spring height: 0.7N Min (Final)	No. of Cycles: 1500 cycles. Stroke the spring top to 0.4mm product height.
3.6.6	Vibration	No electrical discontinuity greater than 1 μ sec. shall occur. Changed resistance: 10 m Ω max.	Sinusoidal Vibration Vibrates mated connectors Frequency range: 10-55-10 Hz Amplitude: 1.52 mm Time: 2 hours each of 3 direction (XYZ) IEC 60068-2-64
3.6.7	Physical Shock	No electrical discontinuity greater than 1 μ sec. shall occur. Changed resistance: 10 m Ω max.	Accelerated Velocity : 50 G Waveform: Halfsine shock pluses Duration: 11msec. Velocity Change: 3.44 m/s Number of Drops: 3 drops each both directions (XYZ) totally 18 drops. EIA-364-27, Condition A
3.6.8	Peeling Force	40N min.	Operation speed: 5mm/min. Operation method, refer fig.4

Fig. 1 (Continued)

Environmental Requirements			
3.6.9	Solderability	Wet Solder Coverage : 95 % Min.	Solder Temperature: 245 ± 5 °C Immersion Duration: 5 ± 0.5 seconds EIA-364-52A
3.6.10	Temperature Life	Changed Resistance : 10mΩ Max.	Mated connector at 0.6mm height, 85°C, 250Hrs. Changed Resistance : 10mΩ Max. EIA-364-17, Method A, condition 3
3.6.11	Salt Spray	Changed Resistance : 10mΩ Max. No cracking and delamination of components or finishes, or both.	Mated connector at 0.6mm height, Changed Resistance : 10mΩ Max. solution concentration 5%, temp. 35°C ±2°C, Time: 48Hours EIA-364-26B, test condition B.
3.6.12	Thermal Shock	Changed Resistance : 10mΩ Max.	Mated connector at 0.6mm height, -55°C ~85°C/30min., 10cycles, Changed Resistance : 10mΩ Max. EIA-364-32C, test condition I
3.6.13	Temperature-Humidity Cycling	Changed Resistance : 10mΩ Max.	Mated connector at 0.6mm height, make 25~65°C, 90%~95% R. H. 24 hours a cycle, repeat 7 cycles. Change Resistance : 10mΩ Max. EIA-364-31B, Method IV
3.6.14	Resistance to Soldering Heat	No physical damage shall occur.	Peak Temp.: 260°C±5°C, 30second; EIA-364-56B

Fig. 1 (End.)

3.7 Product Qualification Test Sequence

	Test Examination	Test Group										
		1	2	3	4	5	6	7	8	9	10	11
		Test Sequence(a)										
1.	Examination of Product	1,7	1,3	1,5	1,5	1	1,3	1,5	1,5	1,5	1,5	1,3
2.	Terminal Resistance	2,6		2,4	2,4			2,4	2,4	2,4	2,4	
3.	Temperature Rising		2									
4.	Normal Force	3,5										
5.	Durability	4										
6.	Vibration			3								
7.	Physical Shock				3							
8.	Peeling Force					2						
9.	Solderability						2					
10.	Temperature Life							3				
11.	Salt Spray								3			
12.	Thermal Shock									3		
13.	Temperature-Humidity										3	
14.	Resistance to Soldering Heat											2

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

Fig. 2

4. Quality Assurance Provisions

4.1 Qualification Testing

A. Sample Selection

Connector and contact shall be prepared in accordance with applicable Instruction Sheets. They shall be selected at random from current production.

Product Part No.	Product Description
2292838-3	1.1H Lower Profile Spring Finger

Fig. 3 Part No.

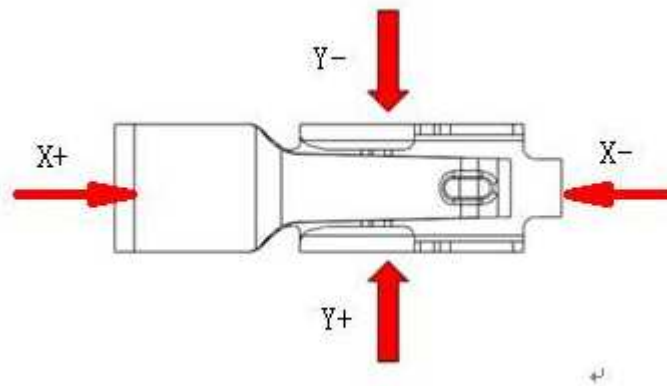


Fig. 4

Peeling Force Sketch Map

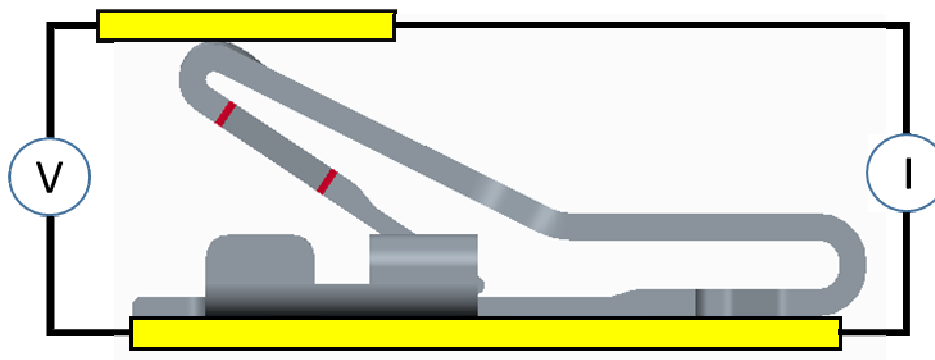


Fig. 5

Method of Terminal Resistance Measurement