
SPRING FINGER

1. 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 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 TE Specifications:

- A. 108-115165: Test Specification, General Requirements for Test Methods
- B. 501-115180: Test Report for spring finger

2.2 Commercial Standards and Specifications:

- A. EIA-364 ELECTRONIC INDUSTRIES ALLIANCE

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: Copper Alloy

Contact area: Gold plating

Solder area: Tin plating

3.3 Ratings:

Operating temperature: $-40\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$

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 later.

3.5 Test Requirements and Procedures Summary

Fig. 1			
Para.	Test Items	Requirements	Procedures
3.5.1	Examination of Product	Meets requirements of product drawing.	Visual inspection No physical damage
Electrical			
3.5.2	Contact Resistance (Low Level)	30mΩ Max. (Initial) 50mΩ Max. (Final)	spring height 4.2 mm solder the finger to a printed circuit board, with a test current of 100 mA maximum and 20 mV MAX open circuit EIA-364-68B.
3.5.3	Temperature rising	30 °C MAX. under loaded specified current.	Measure temperature rising by energized current 2.0 A. (measurement of time) EIA-364-70B
Mechanical Requirements			
3.5.4	Normal Force	Normal force: 50 gf Min. Spring height: 4.2 mm (compressed height) Normal force: 100gf MIN. Spring height: 2.5mm (compressed height)	0.8mm press. Operation speed: 2mm/min. Measure the spring force 2.5mm press. Operation speed: 2mm/min. Measure the spring force 2.5 H 500cycle/h durability NG
3.5.5	Durability	See note	Operation speed: 300cycles/hour Durability cycles: 5000 cycles EIA-364-9C
Environmental Requirements			
3.5.6	Solderability	Wet Solder Coverage: 95 % Min.	Solder Temperature: 260 ± 5 °C Immersion Duration: 5 ± 0.5 seconds
3.5.7	Temperature Life	Final: 50mΩ Max.	Mated finger at 4.2mm height 115°C, 1000Hrs. Termination Resistance : 50mΩ Max. EIA-364-17, method A
3.5.8	Temperature Life (preconditioning)	Final: 50mΩ Max.	Mated finger at 4.2mm height 115°C, 500Hrs. Termination Resistance : 50mΩ Max. EIA-364-17, method A
3.5.9	Humidity	Final: 50mΩ Max.	Mated finger at 4.2mm height 60°C, 95%R.H., 500Hrs. Termination Resistance : 50mΩ Max.



3.5.10	Thermal Shock	Final: 50mΩ Max.	Mated finger at 4.2mm height, -55°C~85°/30min., 10cycles EIA-364-32, method A, test condition I, test duration A-4
3.5.11	Thermal cycling	Final: 50mΩ Max.	Cycle the connector or socket between 15 °C ± 3 °C. and 85 °C ± 3 °C, as measured on the part. Ramps should be a minimum of 2 °C per minute, and dwell times should insure that the contacts reach the temperature extremes (a minimum of 5 minutes). Humidity is not controlled. Perform 500 such cycles.
3.5.12	Temperature-Humidity Cycling	Final: 50mΩ Max.	Mated finger at 4.2mm height make 25~65°C, 95% R. H. 24 hours a cycle, repeat 24 cycles EIA-364-31 method III
3.5.13	Temperature rising	30 °C MAX. under loaded specified current.	Measure temperature rising by energized current. (measurement of time) EIA-364-70B

Note: shall meet visual requirement, show no physical damage, and meet requirement of additional tests as specified in the test sequence in figures 2.

3.6 Product Qualification Test Sequence

Fig. 2						
Test or Examination	Test Group					
	A	B	C	D	E	F
	Test Sequence (a)					
Examination of Product	1,3	1,7	1,3	1,7	1,7	1,7
Contact resistance		2,5		2,4,6	2,5	2,4,6
Temperature rising	2					
Durability		4				
Solderability			2			
Thermal Shock				3		
Temperature-Humidity Cycling				5		
Thermal cycling						5
Temperature Life(preconditioning)						3
Temperature Life					4	
Normal Force		3,6			3,6	
No.of test samples	5	5	5	5	5	5

Note Numbers indicate sequence in which the tests are performed.

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

Product Part No.	Description	Test Report
440423-1	Spring Finger	501-115180

Appendix. 1

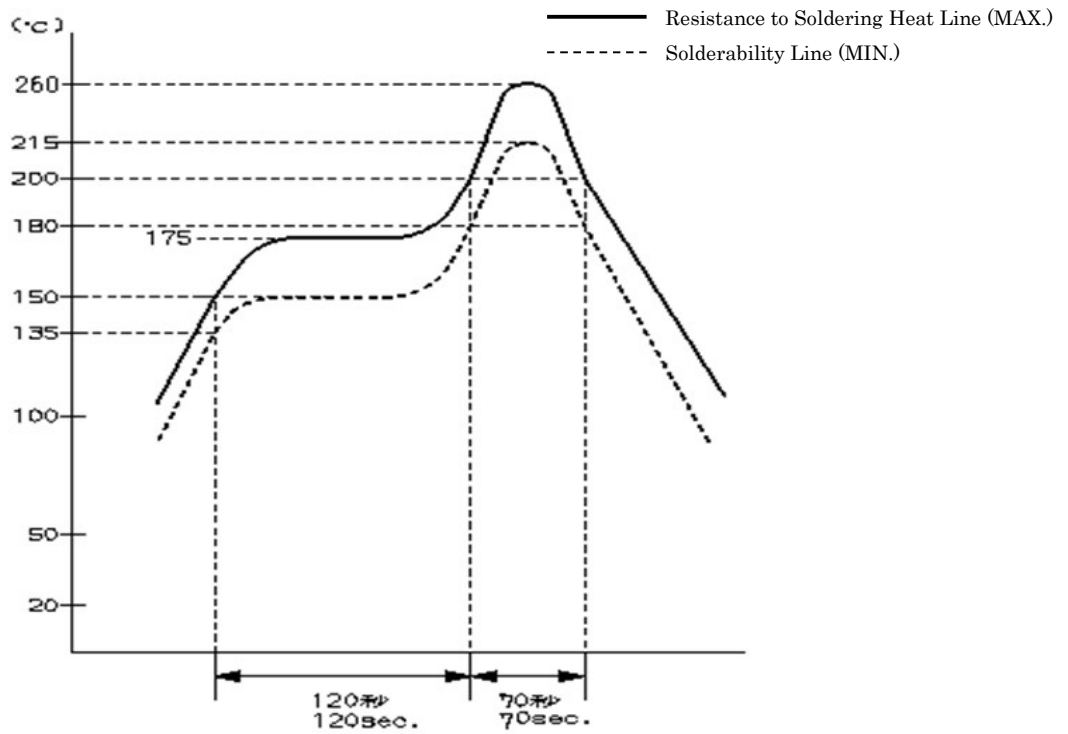


Fig. 3 Reflow Condition