
MEZALOK* Stacking Connector System

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for the MEZALOK* Stacking Connector System consisting of a 320 position pin and socket, Printed Circuit Board (PCB) surface mount BGA connectors. The product is available in 10 and 18mm stack heights.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3. Successful qualification testing for the 320 position portion of the product line was completed on Nov 27, 2013. The Qualification Test Report number for this testing is 501-736-1.

2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. 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 Connectivity (TE) Documents

- [114-13279](#): Application Specification (MEZALOK Stacking PC Board Connectors)
- [501-736-1](#): Qualification Test Report (MEZALOK* Stacking Connector System)

2.2. Industry Document

EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications

2.3. Reference Document

[109-197](#): Test Specification (TE Test Specifications vs EIA and IEC Test Methods)

3. REQUIREMENTS

3.1. Design and Construction

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

3.2. Ratings

- Voltage: 250 volts AC
- Current: 1.5 amperes maximum
- Temperature: -55 to 125°C
- Characteristic Impedance: 100 ± 5 ohms
- Frequency Range: DC to 5 GHz

3.3. Test Requirements and Procedures Summary

Unless otherwise specified, all tests shall be performed at ambient environmental conditions.

Test Description	Requirement	Procedure
Initial examination of product	Meets requirements of product drawing and Application Specification 114- 13279.	EIA-364-18. Visual examination and dimensional (C of C) inspection per product drawing.
Final examination of product	Meets visual requirements	EIA-364-18. Visual examination
ELECTRICAL		
Low Level Contact Resistance (LLCR)	30 milliohms maximum initial. ΔR 15 milliohms maximum.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage. See Figure 3.
Contact resistance, rated current	30 milliohms maximum initial. ΔR 15 milliohms maximum.	EIA-364-6. Subject specimens to 1.5 amperes. See Figure 4.
MECHANICAL		
Random vibration	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-28, with the exception that frequency and amplitude shall be as follows: 5 to 100 Hz, PSD increasing at 3 dB/octave; 100 to 1000 Hz, PSD = 0.1 g ² /Hz; 1000 to 2000 Hz; PSD decreasing at 6 dB/octave. One hour in each of 3 mutually perpendicular planes.
Mechanical shock	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-27, Test Condition G. Subject mated specimens to 100 Gs sawtooth shock pulses of 6 milliseconds duration. Three shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.
Durability	See Note.	EIA-364-9. Mate and unmate specimens for 500 cycles at a maximum rate of 475 cycles per hour.
Mating force	136 grams times the number of contacts maximum. Average connector mating force of 260N.	EIA-364-13, Method A. Measure force necessary to mate specimens at a maximum rate of 12.7 mm per minute. Calculate force per specimen.
ENVIRONMENTAL		
Thermal shock	See Note.	EIA-364-32. Subject specimens to the specified number of cycles (see Figure 2) between -55 and 125°C with 30 minute dwells at temperature extremes and 1 minute maximum transition between temperatures.



NOTE

Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 2

Figure 1 end

3.4. Product Qualification and Requalification Test Sequence

Test Or Examination	Test Groups (a)	
	1	2
	Test Sequence (b)	
Initial examination of product	1	1
LLCR	3,8	2,5
Contact resistance, rated current	4	3,6
Random vibration	6	
Mechanical shock	7	
Durability	5	
Mating force	2	
Thermal shock		4(c)
Final examination of product	9	7



NOTE

- a) Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. Test groups 1 and 2 shall consist of a minimum of 4 specimens each.
- b) Numbers indicate sequence in which tests are performed
- c) 1500 cycles

Figure 2

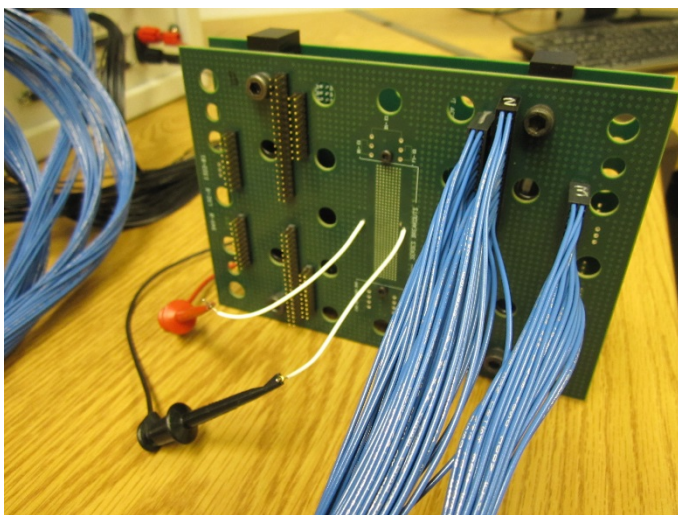


Figure 3
LLCR Measurement Points

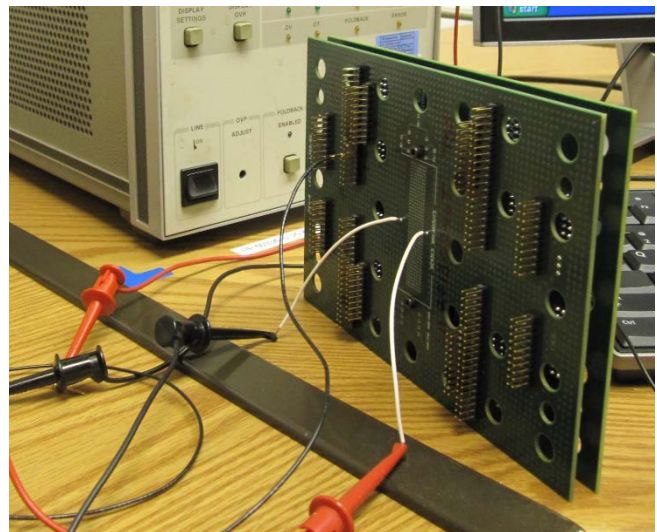


Figure 4
Contact Resistance, Rated Current Measurement Points