



The product described in this document has not been fully tested to ensure conformance to the requirements outlined below. Therefore, TE Connectivity (TE) makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, TE may change these requirements based on the results of additional testing and evaluation. Contact TE Engineering for further details.

Multigig Rigid Flex Connector

1. SCOPE

1.1. Content

This specification defines the performance, tests, and quality requirements for the TE Connectivity (TE) Multigig Rigid Flex Connector. The Multigig Rigid Flex Connector is a stacking connector with 2 sets of opposed compliant pin interface areas. The footprint is compatible with the current Multigig RT2 daughtercard or backplane, which allows the connector to connect a rigid flex cable to a daughtercard or backplane. The daughtercard connector comes with a 4mm stack height and a 7 row, 8 column configuration. A 16 column configuration of the daughtercard connector can be supplied if requested. The backplane connector comes with a 4.4mm stack height and an 8 row, 9 column configuration.

1.2. Qualification

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

1.3. Qualification Test Results

Successful qualification testing on the subject product line was completed on July 05, 2016 and October 8, 2020. The Qualification Test Report number for this testing is 501-134058. This documentation is on file and available from Engineering Practices and Standards (EPS).

2. APPLICABLE DOCUMENTS AND FORMS

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 Documents

- 102-950: Quality Specification (Qualification of Separable Interface Connectors)
- 114-32055: Application Specification
- 501-134058: Qualification Test Report

2.2. Industry Documents

- EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications
- IEC 60352-5: Solderless Connections – Part 5: Press-in Connections – General Requirements, Test Methods and Practical Guidance – Edition 3.0

2.3. Reference Document

- [109-197](#) Test Specification (TE Test Specification 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: 150 volts AC
- Current: 1.0 amperes Signal application
- Temperature: -55 to 125°C
- Characteristic Impedance: 100 ohms diff pair, 50 ohms single ended
- Frequency Range: 0 to 10 GHz

3.3. Test Requirements and Procedures Summary

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

Table 1

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Initial examination of product	Meets requirements of product drawing and Application Specification 114-32055.	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).	10 milliohms maximum initial. ΔR 2 milliohms max/min.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage.
Insulation resistance.	1000 megohms minimum	EIA-364-21. 500 \pm 10% volts DC, 2 minute hold. Test between adjacent contacts.
Withstanding voltage.	One minute hold with no breakdown or flashover.	EIA-364-20, Condition I. 500 volts AC at sea level. Test between adjacent contacts.
Temperature rise vs current.	30°C maximum temperature rise.	EIA-364-70, Method 2 Make Current vs T-Rise curve up to 30°C.

MECHANICAL

Compliant Pin Insertion Force	31.1 N [7lbf] maximum per pin average.	IEC 60352-5, Paragraph 5.2.2.2. Measure force necessary to insert connectors into PCB at a maximum rate of 12.7 mm per minute.
Compliant Pin Retention Force.	4.45 N [1lbf] minimum per pin average.	IEC 60352-5, Paragraph 5.2.2.2. Measure force necessary to remove connectors from PCB at a maximum rate of 12.7 mm per minute.

ENVIRONMENTAL

Thermal shock.	See Note.	EIA-364-32, Method A, Test Condition VII, Test Duration A. Subject specimens to 5 cycles between -55 and 125°C with 30 minute dwells at temperature extremes and 1 minute maximum transition between temperatures.
Humidity/temperature cycling.	See Note.	EIA-364-31, Method IV. Subject specimens to 10 cycles (10 days) between 25 and 65°C at 80 to 100% RH with -10°C cold shock.
Temperature life.	See Note.	EIA-364-17, Method A, Test Condition 5, Test Time Condition D. Subject mated specimens to 125°C for 1000 hours.


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 Table 2.

3.4. Product Qualification and Requalification Test Sequence

Table 2

TEST OR EXAMINATION	TEST GROUP			
	1	2A	2B (a)	3
	TEST SEQUENCE (b)			
Initial examination of product	1	1	1	1
LLCR	3,5	2,4,6		
Insulation Resistance			2,6	
Dielectric Withstanding Voltage			3,7	
Compliant Pin Insertion Force	2			
Compliant Pin Retention Force	6			
Thermal Shock		3	4	
Humidity/temperature cycling		5	5	
Temperature life	4			
Temperature rise vs. current				2
Final examination of product	7	7	8	3


NOTE

- (a) Performed without test boards
- (b) Numbers indicate sequence in which tests are performed.