



NOTE

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.

1P and 2P FASTON Connector Flag Housing

1. SCOPE

1.1. Content

This specification covers performance, tests, and quality requirements for the 1P and 2P FASTON connector housing series.

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. Qualification Test Results

Successful qualification testing on the subject product line has not been completed. The Qualification Test Report number will be issued upon successful qualification testing.

1.4. Revision Summary

Revisions to this specification include:

- Initial release of specification.

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 Connectivity Specifications

501-160418 Qualification Test Report

2.2. Commercial Standards and Specifications

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

2.3. Reference Documents

109-1 General Requirements for Testing

102-950 Qualification of Separable Interface Connectors

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. Materials

Materials used in the construction of this product shall be as specified on the applicable TE drawing.

3.3. Ratings

- A. Voltage Rating: 250 VAC
B. Current Rating: 3 – 15 Amps

Wire Size (AWG)	Current Rating Maximum (A)
AWG 22	3
AWG 20	5
AWG 18	7
AWG 16	10
AWG 14	15

- C. Temperature Rating: –40°C to 130°C

3.4. Performance Requirements and Test Description

The product should meet the electrical, mechanical and environmental performance requirements specified in Figure 1. All tests shall be performed at ambient environmental conditions otherwise specified.

3.5. Test Requirements and Procedure Summary

Test Description	Requirement	Procedure
Examination of Product	Meet requirements of product drawing. After testing, there shall be no corrosive influence on the performance and no physical damage.	EIA-364-18 Visual and dimensional (C of C) inspection per the product drawing.
Electrical		
Insulation Resistance	Initial: 1000 MΩ (minimum) Final: 100 MΩ minimum (Housing fully loaded with applicable terminal terminated to largest wire size [UL 1015 wire] defined for terminal.)	EIA-364-21 Apply 500 VDC and hold for 2 minutes. Test between contacts in adjacent circuits and between housing and contacts in an unmated connector.
Dielectric Withstanding Voltage	1 minute hold without a creep discharge or flashover. Current leakage: 5 mA maximum (Housing fully loaded with applicable terminal terminated to largest wire size [UL 1015 wire] defined for terminal.)	EIA-364-20, Method A, Condition I 2.2 kilovolts AC at sea level (for 250 V rated housings) Hold at specified voltage for 1 minute. Test between contacts in adjacent circuits and between housing and all contacts in an unmated connector.
Mechanical		
Mating Force	76 N (maximum) per pos.	EIA-364-13B Operation Speed: 25.4 mm/min Fasten contact-loaded housing or tab contact on tensile testing machine, and apply an axial push-in to mate a set of tab and receptacle contacts by operating the head to travel with the speed at a rate of 25.4mm a minute.

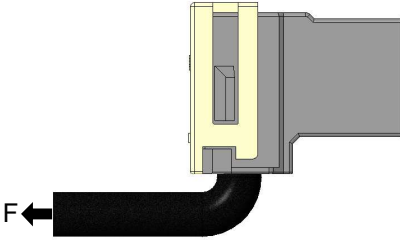
Un-mating Force	13 N (min) per pos.	EIA-364-13B Operation Speed: 25.4 mm/min Fasten contact-loaded housing or tab contact on tensile testing machine, and apply an axial pull-off to un-mate a set of tab and receptacle contacts by operating the head to travel with the speed at a rate of 25.4mm a minute.
Housing Opening Strength	50 N Min. 	EIA-364-98 Operation Speed: 25.4 mm/min The crimped contact is loaded in housing. (AWG 14 should be used.) The sample is fastened on tensile testing machine. Then, apply an axial pull-off load by operating the head to travel with the speed at a rate of 25.4mm a minute. Measure the force required to separate the contacts.
Environmental		
Humidity-Temperature Cycling	No damage detrimental to product performance.	EIA-364-31, Method III Subject mated specimens to 10 cycles between 25°C and 65°C at 80-98% R.H. 1 cycle is 24 hours.
Thermal Shock	No damage detrimental to product performance.	EIA-364-32, Method A, Test Condition VIII Subject mated specimens to 25 cycles between -40 °C and 105 °C with 30 minute dwell time at temperature extremes and 1 minute transition between temperatures. This measurement is taken after specimens are held at ambient room temperature for 3 hours.
Glow Wire Test 750°C (GWT version only)	Test at 750°C (Flame duration ≤ 2 seconds). Lighted tissue paper shall not burn.	IEC 60695-2-11 and IEC 60335-1 Tests to be conducted on each of 3 perpendicular sides. Perform a visual check and take picture after the test.

Figure 1 (end)



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.

3.6. Product Qualification and Requalification Test Sequence

TEST OR EXAMINATION	TEST GROUP (a)			4 Housing Opening Strength
	1 Housing Electricals	2 Mating & un- mating	3 Glow Wire (c)	
	TEST SEQUENCE (b)			
Examination of Product	1, 8	1, 4		1,3
Insulation Resistance	2, 6			
Dielectric Withstanding Voltage	3, 7			
Thermal Shock	4			
Humidity-Temperature Cycling	5			
Mating Force		2		
Un-mating Force		3		
Housing Opening Strength				2
Glow Wire			1	

Figure 2



NOTE

(a) See paragraph 4.2.

(b) Numbers indicate sequence in which tests are performed.

(c) Only on parts with glow wire material.

4. QUALITY ASSURANCE PROVISIONS

4.1. Test Conditions

Unless otherwise specified, all the tests shall be performed in any combination of the following test conditions shown in Figure 3.

Temperature	15°C – 35°C
Relative Humidity	45% – 75%
Atmospheric Pressure	86.6 – 106.6 kPa

Figure 3

4.2. Qualification Testing

A. Specimen Selection

Specimens shall be prepared in accordance with applicable instruction sheets and shall be selected at random from current production. Test Group 2 shall have at least 30 data points.

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Figure 2.

4.3. Requalification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

4.4. Acceptance

Acceptance is based on verification that the product meets the requirements in Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and specimens resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.5. Quality Conformance Inspection

The applicable quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.