FASTON* 187 and 250 Series Receptacle Housing Material Evaluation

1. INTRODUCTION

1.1. Purpose

Testing was performed on the TE Connectivity (TE) FASTON* receptacle housing to determine its conformance to the requirements of mold stress release distortion, dielectric withstanding voltage, and contact insertion and retention tests.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of the FASTON receptacle housing molded using an alternate material. Testing was performed at the Shanghai Electrical Components Test Laboratory between 30Jan2018 and 31Jan2018. The test file number for this testing is TP-18-00206 and TP-18-00213. This documentation is on file at and available from the Shanghai Electrical Components Test Laboratory.

1.3. Conclusion

Based on the test results, all specimens meet the specification. See Section 2 for more details.

1.4. Test Specimens

Test Group	Qty	Part Number	Description
1, 2	12	480435-1	FASTON 187 Receptacle Housing
1, 2	12	3-480435-1	FASTON 187 Receptacle Housing
1	6	2-480435-2	FASTON 187 Receptacle Housing
1, 2	12	480416-2	FASTON 250 Receptacle Housing
1	6	1-480416-8	FASTON 250 Receptacle Housing
1, 2	12	2-480416-5	FASTON 250 Receptacle Housing
1	18	63477-2	FASTON 187 Receptacle Terminal on 16 AWG
1	18	63609-2	FASTON 250 Receptacle Terminal on 18 AWG

Figure 1

1.5. Test Sequence

Test Description	Test Group (a)	
	1	2
	Test Sequence (b)	
Examination of Product	1, 5	1, 3
Dielectric Withstanding Voltage	2	
Contact Insertion Force	3	
Contact Retention Force	4	
Mold Stress Relief Distortion		2

Figure 2

NOTE
(a) See Paragraph 1.4.
(b) Numbers indicate sequence in which tests shall be performed.

1.6. Environmental Conditions

Unless otherwise stated, the following environmental conditions prevailed during testing:

Temperature:	15°C to 35°C
Relative Humidity:	20% to 80%

2. SUMMARY OF TESTING

2.1. Examination of Product

All specimens submitted for testing were representative of normal production lots. Where specified, specimens were visually examined and no evidence of physical damage detrimental to product performance was observed.

2.2. Dielectric Withstanding Voltage

All specimens met the requirement for dielectric withstanding voltage with no dielectric breakdown or flashover occurring.

2.3. Contact Insertion Force

All contact insertion force values were less than the maximum requirement of 17.79 N.

2.4. Contact Retention Force

All contact retention force values were greater than the minimum requirement of 80 N.

2.5. Mold Stress Relief Distortion

All specimens met the requirement for mold stress relief distortion and displayed a slight discoloration after testing, but no evidence of physical damage detrimental to product performance.

3. TEST METHODS

3.1. Examination of Product

Specimens were visually examined and no evidence of physical damage detrimental to product performance was observed.

3.2. Dielectric Withstanding Voltage

A test potential of 3.4 kV was applied between the output terminals and metal foil crapped around the specimen. This potential was applied for 1 minute. See Figure 5 for typical test setup.

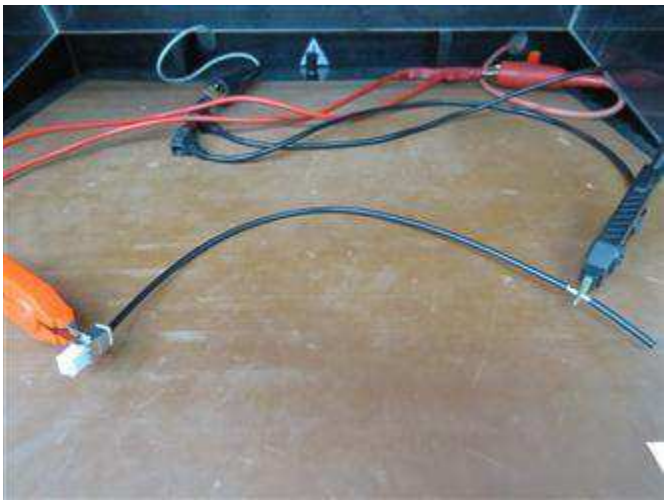

Figure 3

3.3. Contact Insertion Force

Contact insertion force was measured by applying an increasing force to each contact using a tensile/compression device with a rate of travel at 25.4 mm per minute until the contact was properly seated in the housing. See Figure 6 for a typical test setup.

3.4. Contact Retention Force

Contact retention force was measured by applying an axial pull-off load to the crimped wire on each contact using a tensile/compression device with a rate of travel at 25.4 mm per minute until the contact was removed from the housing. See Figure 6 for a typical test setup.

Figure 4

3.5. Mold Stress Relief Distortion

Testing was performed in accordance with UL1977. Specimens were placed in an air-circulating oven at a temperature of 140°C for 7 hours.