



FF 250 PLUG HSG 3P NYLON & FF 250 CAP HSG 3P NYLON

1. INTRODUCTION

1.1 Purpose

This is a product validation test. The purpose of this test is to evaluate the performance of FF 250 PLUG HSG 3P & FF 250 TAB HSG 3P. Testing was performed on below products to determine its compliance with the requirements of 108-5153. Rev. C.

1.2 Scope

This report covers the electrical, mechanical performance of the FF 250 PLUG HSG 3P NYLON & FF 250 CAP HSG 3P NYLON. Testing was performed at TE Connectivity Shanghai Electrical Test Laboratory (Building ID 554) between 2023-07 and 24-2023-09-20. The associated test number is TP-23-03180.

1.3 Conclusion

Based on the test results, all samples meet the requirement according to customer requirement. The testing results are only responsible for the specimens tested.

1.4 Test Specimens

Specimens with the following part numbers were used for test:

Table with 6 columns: Test Group, Set Group Name, Part No., Rev., Description, Qty. (pcs). It lists various test specimens including different series (SG1, SG2) and part numbers (1-172132-1, 170342-1, 1-172131-1, 170340-1) for FF 250 PLUG HSG 3P NYLON NAT, 250 FASTON, REC., 20-14 AWG, BR, and FF 250 REC HSG 3P NYLON NAT, FF 250 TAB 20-14AWG BR WITHOUT LATCH.



1.5 Test Sequence

Test Item	Test Group ^a			
	1	2	3	4
	Test Sequence ^b			
Mating Force & Un-mating Force		2		
Retention Force	2			
Vibration			2	
Housing Locking Strength				2
Examination of Product	1	1	1,4	1
Voltage Drop			3	

Note: a). Test group defined per customer requirement.
b). Numbers indicate sequence in which tests are performed.

1.6 Environmental Conditions

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

Temperature: 15 °C to 35 °C
Relative Humidity: 25 %RH to 75 %RH

2. Test Procedures and Requirements

No.	Test Item	Requirement	Procedure	Method
2.1	Mating Force & Un-mating Force	Mating Force: 58.8 N Max. Un-mating Force: 19.6 N Min.	Measure the force to keep the female and male part mate and un-mate at a rate of 100 mm/min.	Customer Requirement
2.2	Retention Force	58.8 N Min.	Measure the force to pull the terminal out of housing at a rate of 100 mm/min.	Customer Requirement
2.3	Vibration	No electrical discontinuity greater than 1 us, no physical damage occurred.	Subject mated connectors to 33Hz, the accelerate is 4.5G, only do Z and Y direction, exchange the direction when one direction do 50 hours, total duration is 200h.	Customer Requirement
2.4	Housing Locking Strength	78.4 N Min.	Measure the force to keep the male and female part fully engaged with latch at a rate of 12.7 mm/min maximum.	Customer Requirement
2.5	Examination of Product	No physical damage.	Visual Inspection: Appearance and function examination according to the applicable inspection spec.	Customer Requirement
2.6	Voltage Drop	45 mV Max.	Measure the voltage drop when the mated samples are applied current with 15A.	Customer Requirement



3. SUMMARY OF TEST

Test Group	Test Sequence	Description	Test Item	Qty (pcs)	Test Result				Requirement	Conclusion	
					Max.	Min.	Avg.	Unit			
1	1	All Samples	Examination of Product	10	No physical damage.				/	No physical damage.	Meet Spec.
1	2	SG1_1-172132-1_3P_14AWG_25 0 Series	Retention Force	5	133.9	110.5	122.9	N	58.8 N Min.	Meet Spec.	
1	2	SG2_1-172131-1_3P_14AWG_25 0 Series	Retention Force	5	139.2	115.9	122.5	N	58.8 N Min.	Meet Spec.	
2	1	All Samples	Examination of Product	10	No physical damage.				/	No physical damage.	Meet Spec.
2	2	All Samples	Mating Force	10	49.7	40.9	46.2	N	58.8 N Max.	Meet Spec.	
2	2	All Samples	Un-mating Force	10	48.5	41.9	44.8	N	19.6 N Min.	Meet Spec.	
3	1	All Samples	Examination of Product	10	No physical damage.				/	No physical damage.	Meet Spec.
3	2	All Samples	Vibration	10	No electrical discontinuity greater than 1 us, no physical damage occurred.				/	No electrical discontinuity greater than 1 us, no physical damage occurred.	Meet Spec.
3	3	All Samples	Voltage Drop	10	14.58	12.32	13.71	mV	45 mV Max.	Meet Spec.	
3	4	All Samples	Examination of Product	10	No physical damage.				/	No physical damage.	Meet Spec.
4	1	All Samples	Examination of Product	10	No physical damage.				/	No physical damage.	Meet Spec.
4	2	All Samples	Housing Locking Strength	10	225.1	212.7	218.2	N	78.4 N Min.	Meet Spec.	



4. VALIDATION

Requested by:

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TE Connectivity Product Engineering

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2024-01-16

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