Mini FASTON Product Specification

1. SCOPE

1.1. Content

This specification covers the electrical, mechanical and environmental performance requirements for Mini FASTON

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.

2. APPLICABLE DOCUMENTS AND FORMS

The following documents and forms constitute a part of this specification to the extent specified herein. Unless otherwise indicated, the latest edition of the document applies.

2.1. TE Documents

- 114-106216: Application Specification
- 502-106216: Qualification Test Report

2.2. Industry Documents

- EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications
- UL310: UL Standard for Safety Electrical Quick-Connect Terminals
- IEC60512: Electromechanical components for electronic equipment

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

Max Operating Temperature	Voltage	Current
105°C	250V AC	18 AWG : 7A
		20 AWG : 4A
		22 AWG : 3A

3.3. Test Requirements and Procedures Summary

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

TEST DESCRIPTION	REQUIREMENT			PROCEDURE
Examination of product	Meets requirements of product drawing.			EIA-364-18 Method B Visual, dimensional and functional as per applicable inspection plan and no physical damage.
ELECTRICAL				
Contact resistance, Rated current	Wire Size (AWG)	Test Current (A)	Max. Resistance (mΩ)	Measure potential drop of mated contacts according to test 2b of IEC60512-2-2
	22	3	6	
	20	4	6	
	18	7	6	
MECHANICAL				
Crimp tensile strength	Wire section (AWG)	Minimum tensile force lbs (N)		UL310 Speed of tensile testing machine to be 25.4 mm/ min. test until breakage or pull-out
	22	8 (36)		
	20	13 (58)		
	18	20 (89)		
Insertion force	1st insertion –8lbs (35.6N) max.			IEC60512-7, test 13b Measure force to push terminal onto test tab at the rate of 1 mm/ s.
Withdrawal force	1st withdrawal –5lbs (22N) ave. min.; 3lbs (13N) Individual min. 6th withdrawal –4lbs (18N) ave. min.; 3lbs (13N) Individual min.			IEC60512-7, test 13b Measure force to pull terminal from test tab at a rate of 1 mm/ s.
Vibration	No physical damage. No discontinuities ≥1 microsecond			Subject receptacle mated with test tab to 10-100-10Hz at 10g acceleration for 2 hours each in X,Y and Z directions – rate 1 octave/ minute amplitude of oscillation 0.75mm

Figure 1 cont.

ENVIRONMENTAL		
Temperature rise	Temperature rise of any individual termination shall not exceed 30°C (temp. rise = temp. of contact – room temp.)	UL310 Temperature rise at rated current.
Current cycling	The temperature rise Δt1 of any individual connection is measured after the 24th cycle and Δt2 after the 500th cycle. The Δt2 value shall not exceed by 15°C the Δt1 value and neither rise shall exceed 85°C	UL310 Terminals terminated overload test current to be 200% of the nominal test current. One cycle 45 min. on / 15 min. off, duration of 500 cycles
Temperature and humidity cycling	See note	EIA-364-31 Conditions: 10 days@ 25-65 C/ 80-100 RH / without cold shock)
Thermal shock	See note	EIA-364-32 VIII Total 25 cycles, -40 to 105 C, per EIA-364-32 VIII
Temperature life	See note	105 °C for 96 Hrs per EIA-364-17C
Slaty spray	No function affect	EIA-364-26 Subject mated specimen to 5% salty condition for 96 hours. After this test, rinse the samples in warter , sit it for 1 hour for drying at room temperature.

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 GROUP				
	A	B	C	D	E
	TEST SEQUENCE				
Examination of product	1,4	1	1,4	1,10	1
Insertion force	2				
Withdrawal force	3				
Contact resistance				2,4,6,8	2,4
Crimp tensile strength		2			
Current cycling			3		
Thermal shock				7	
Temperature rise			2		
Temperature and humidity cycling				3	
Salty spay					3
Vibration				9	
Temperature life				5	

NOTE

(a) Samples shall be prepared in accordance with applicable instruction sheets. They shall be selected at random from current production.

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