1.0 SCOPE

1.1. Content:

This specification covers performance, tests and quality requirements for 2.5mm top entry Screwless Connector. Applicable product descriptions and part numbers are as shown on product drawing.

1.2. Qualification:

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

2.0 APPLICABLE DOCUMENTS

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 Documents:

C-2834021: Customer drawing for Connector

114-137084: Application Specification for 2.50mm top entry screwless Connector

501-137084: Qualification Test Report for 2.50mm top entry screwless Connector

3.0 REQUIREMENTS

3.1 Design and Construction

Product shall be of the design, construction 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 product drawing.

3.4 Ratings

A. Voltage: 300 V AC Max.

B. Current: 5 A Max.

C. Operating Temperature: -40 to 105℃

D. Storage Environment:

Temperature: - 25℃ to 40℃ Relative humidity: 15%-70%

3.5 Performance and Test Description

Product is designed to meet the electrical, mechanical and environmental performance requirements. Unless otherwise specified, all tests shall be performed in the room temperature (5～35℃), relative humidity (45～85％), air pressure (86～106kPa), and special case temperature (18～22℃), relative humidity (60～70％), unless otherwise specified.

3.6 Test Requirements and Procedures Summary

3.6.1 Examination:

Test Description	Requirement	Procedure
Examination of the product	Meets visual requirements.	Visual inspection per product drawing. Per EIA-364-18

3.6.2 ELECTRICAL

Test Description	Requirement	Procedure
Contact Resistance	20 mΩ Max	Subject the specimen to maximum allowed rating current and measure the contact resistance. Per EIA-364-23
Insulation resistance.	2000 MΩ Min.	Unmated connector with 500 V DC between adjacent contacts for 1 min. Per IEC 60998-1/60998-2-2
Dielectric Withstanding Voltage	No breakdown.	Unmated connector with 2000 V AC between adjacent contacts for 1 min. Per UL1059 Clause 12
Temperature Rise	The temperature rise should be 30ºC Max.	Mated connector measured at 5A current with series all contacts. Per UL1059 Clause 11/ 20AWG

3.6.3 MECHANICAL

Test Description	Requirement	Procedure
Conductor tensile force test(Pull test)	After the Rotating test and the terminal shall not separate from the wire as a result.	The force should be applied in one smooth and continuous application, for 1 min, in the direction of the axis of the conductor. Per UL486 Wire: 20AWG (Solid &Stranded) 30N 26AWG(Solid &Stranded) 8.9N

3.6.4 Environmental

Test Description	Requirement	Procedure
Low temperature test	No electricity and mechanical issue	Temperature :-40 ºC Humidity: 0% Duration:24 hr
High temperature test	No electricity and mechanical issue	Temperature :105 ºC Humidity: 0% Duration:24 hr
High temperature and high humidity test	No electricity and mechanical issue	Temperature :40 ºC Humidity: 90% Duration:24 hr
Temperature life	See Note	Subject mated specimens to 115 ºC for 48 hours. Per EIA-364-17, Method A

Figure 1

NOTE

1. 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.

2. Test wire size: 16 AWG Default

3.6.5 Product Qualification and Requalification Test Sequence

Test group	A	B	C	D	E	F	G	H	I
Examination of product	1,3	1,3	1,4	1,4	1,4	1,3	1,3	1,4	1,3
Contact Resistance	2		3	3	3				
Insulation resistance.		2							
Dielectric Withstanding Voltage							2		
Temperature Rise						2			
Conductor tensile force test(Pull test)								3	
Low temperature test			2						
High temperature test				2					
High temperature and high humidity test					2				
Temperature life									2
Sample size	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**12**	**3**

Figure 2

4.0 Quality Assurance Provisions

4.1 Qualification Testing

A. Specimen Selection

Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production.

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified.

4.2. 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.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements. 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 resubmitted.

4.4. 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