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.

PCB Tabs

1. SCOPE

1.1. Content

This specification covers performance, tests, and quality requirements for PCB Tabs.

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:

- Updates to test groups
- Updated test specification for Temperature Rise and Current Cycling
- Updated relative humidity range, temperature rise test procedure, solderability dip test, and clarified current rating

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

114-2115	Application Specification for Tab Contacts for Printed Circuit (PC) Board Applications
501-TBD	Qualification Test Report

2.2. Commercial Standards and Specifications

IEC 61984	International Standard – Safety Requirements and Tests
IEC 60335	International Standard – Safety of Household and Similar Appliance
IEC 60512	International Standard – Connectors for Electronic Equipment – Tests and Measurements
IEC 60695	International Standard – Fire Hazard Testing
UL 1977	Safety Standards – Component Connectors for Use in Data, Signal, Control, and Power Applications
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.

A. Contacts: Brass

3.3. Ratings

A. Current Rating:

Tab Width (mm) [in.]	Current (Amps)
4.75 [.187]	15 Max.
6.35 [.250]	20 Max.

B. Temperature Rating: –40°C to +105°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
Initial Examination of Product	Meets the requirements of product drawing; no defective abnormalities such as cracks, breakage, damages, loose of parts, rust and fusion that are detrimental to connector functions, shall be present.	EIA-364-18 Visually and tactually inspect parts for appearance in accordance with applicable Q.I.P (Quality Inspection Procedure) and product drawing for presence of stated defects. Please record date of manufacture of product.
Final Examination of Product	After testing, no physical damage such as cracks, breakage, damages, loose of parts, rust and fusion that are detrimental to connector functions, shall be present.	EIA-364-18 Visually and tactually inspect parts for appearance in accordance with applicable Q.I.P (Quality Inspection Procedure) and product drawing for presence of stated defects.

<table>
<tr><th colspan="3">Electrical</th></tr>
<tr><td>Temperature Rise</td><td><table>
<tr><th>Tab Width (mm) [in.]</th><th>Wire Size of Mating Terminal (AWG)</th><th>Test Current (Amps)</th><th>Temperature Rise (°C)</th></tr>
<tr><td>4.75 [.187]</td><td>14</td><td>15</td><td>30</td></tr>
<tr><td>6.35 [.250]</td><td>12</td><td>20</td><td>30</td></tr>
</table></td><td>EIA-364-70
Measure the temperature rise above ambient created by the energizing current. Measurement must be taken at a place where there is no influence from air convection. The probing point shall be attached to the wire barrel of the respective mating receptacle using resistive welding or thermally conductive epoxy.
The mating receptacle for a 4.75 mm [.187”] wide tab would be limited to 15 A. The mating receptacle for a 6.35 mm [.250”] wide tab would be limited to 20 A.
The interface of the PCB would be limited to 5 A per pin for a press fit. For soldered PCB tabs, with a post of minimum dimensions 1.14 mm x 0.77 mm [.045”x.030”], the interface of the PCB would be limited to 10 A per pin.</td></tr>
<tr><td>Current Cycling</td><td>Temperature rise between T1 and T2 shall not exceed 15°C. Neither T1 nor T2 shall exceed 85°C.</td><td>EIA-364-55
Subject terminals to 500 cycles. T1 shall be measured after the 24th cycle and T2 shall be measured after the 500th cycle. Terminals terminated overload test current to be 200% of the nominal test current. One cycle includes 45 minutes on and 15 minutes off.</td></tr>
<tr><td>Low Level Contact Resistance</td><td>Max Resistance: 6 mΩ</td><td>EIA-364-23
Mating Conditions: Mated
Test Current: <100 mA
Test Voltage: <20 mV</td></tr>
<tr><td>Solderability Dip Test</td><td>Acceptance Criteria as per Method 1 of IEC 60068-2-20.</td><td>IEC 60068-2-20
Method 1</td></tr>
</table>

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)	
	1 Electrical	2 Solderability (c)
	TEST SEQUENCE (b)	
Examination of Product	1,7	1,3
Low Level Contact Resistance	2,4,6	
Temperature Rise	3	
Current Cycling	5	
Solderability Dip Test		2

Figure 2

NOTE
(a) See paragraph 4.2.
(b) Numbers indicate sequence in which tests are performed.
(c) When applicable for soldered terminations

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	20% – 80%
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.

B. Test Sequence

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

C. Sample Assembly

Terminals are to be tested as assembled in PCB (soldered, screwed, or press fit depending on style).

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.