1. Scope:

1.1 Contents

This specification covers performance, test and quality requirements for the Tyco Electronics Surface Mount (SMT) Receptacle Connector and Plug Connector Assembly.

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.

2. Applicable Documents:

The following documents form a part of this specification to the extent specified herein. 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 Tyco Electronics Documents:

A. 114-106064: Application Specification

B. 501-106064: Qualification Test Report (Mini Screw Down Board-To-Board Jumper)

2.2 Commercial Standards and Specifications:

A. EIA-364

B. 109-197: Test Specification (Tyco Electronics Test Specifications vs EIA and IEC Test Methods)

3. 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.

3.3 Ratings:

A. Voltage Rating： 250 V AC/DC

B. Current Rating： 3 A maximum

C. Temperature Rating： -40℃ to 105℃

3.4 Performance Requirements and Test Descriptions:

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. All tests shall be performed in the room temperature unless otherwise specified.

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3.5 Test Requirements and Procedures Summary:

Test Description	Requirement	Procedures
Initial examination of product	Meets requirements of product drawing and AMP Specification.	EIA364-18 Visual and dimensional inspection per product drawing
Final examination of product	Meet visual requirements. And no corrosion influence performance	EIA364-18 Visual inspection
ELECTRICAL		
Low level contact resistance (LLCR)	18 milliohms maximum initial. ΔR 5 milliohms maximum.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage.
Insulation resistance	One megohm minimum.	EIA-364-21. 500 volts DC, 2 minute hold. Test between contacts and mounting screw.
Withstanding Voltage	1 minute hold with no breakdown or flashover	EIA364-20, Condition 1. 1500 V AC at sea level. Test between contacts and mounting screw.
Temperature rise vs. current	30º C maximum temperature rise at specified current	EIA364-70, Method 1. Stabilize at a single current level until 3 Readings at 5 minute intervals are within 1 º C. Energize 100% of the circuit.
Test Description	Requirement	Procedures
MECHANICAL		
Random Vibration	No discontinuities of 1 microsecond or longer duration. See note.	EIA-364-28, Test Condition Vll, Condition Letter D. Subject mated specimens to 3.10G's rms between 20~500HZ. Fifteen minutes in each of 3 mutually perpendicular planes.
Mechanical shock	No discontinuities of 1 microsecond or longer duration. See note	EIA-364-27, Condition H. Subject mated specimens to 30 G's half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.
Durability	See Note.	EIA-364-9. Mate and unmated specimens for 10 cycles at a maximum rate of 500 cycles per hour.
ENVIRONMENTAL		
Thermal shock	See Note	EIA-364-32, Test Condition Vll. Subject specimens to 25 cycles between -40 and 105 ºC with 30 minute dwells at temperature extremes and 1 minute transition between temperatures.

Humidity -temperature cycling	See Note	EIA-364-31, Method lll. Subject specimens to 10 cycles (10 days) between 25 and 65 ºC at 80 to 100% RH.
Temperature life	See Note	EIA-364-17, Method A, Test Condition 4. Subject mated specimens to 130 ºC for 650 hours.

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

3.6 Product Qualification Test Sequence

Test of examination	Test group(a)		
	1	2	3
	Test Sequence(b)		
Initial examination of product	1	1	1
LLCR	2,6	2,8	
Insulation resistance			2,6
Withstanding Voltage			3,7
Temperature rise vs. current		4,9	
Random vibration	4	7	
Mechanical shock	5		
Durability	3	3	
Thermal shock			4
humidity -temperature cycling		5	5
Temperature life		6	
Final examination of product	7	10	8

NOTE *(a) See paragraph 4.1.A.*

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

Figure 2

4. 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. All test groups shall each consist of a minimum of 5 specimens

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Figure2.

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 requirement of Figure 1. Failures attributes 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.

4.4 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.