
0.8 mm CHAMP* Single or Stackable Receptacle and Cable Mounted Plug

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for 0.8mm CHAMP* printed circuit board mounted receptacles available in stackable or single use designs and cable mounted plug connectors.

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 was completed on 25May01. The Qualification Test Report number for this testing is 501-335-1. This documentation is on file at and available from Engineering Practices and Standards (EPS).

2. 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 (TE) Documents

- 108-1471: Product Specification (Connector, 0.8mm CHAMP*)
- 109-197: TE Test Specifications vs EIA and IEC Test Methods
- 114-6057: Application Specification
- 501-335-1: Qualification Test Report

2.2. Commercial Standard

EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications

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

- Voltage: 30 volts AC
- Current: 1.5 amperes single circuit; 0.5 ampere at 10°C temperature rise, maximum of 50% contacts energized; 0.3 ampere 100% energized. See Figure 2.
- Temperature: -55 to 85°C unless limited by temperature rating of cable

3.4. Performance and Test Description

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per EIA-364.

3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Initial examination of product.	Meets requirements of product drawing.	EIA-364-18. Visual and dimensional (C of C) inspection per product drawing.
Final examination of product.	Meets visual requirements.	EIA-364-18. Visual inspection.
ELECTRICAL		
Low level contact resistance.	ΔR 10 milliohms max/min.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage. See Figure 4.
Insulation resistance.	500 megohms minimum.	EIA-364-21. Test between adjacent contacts of mated but unterminated specimens at 100 volts DC.
Withstanding voltage.	250 volts AC at sea level. 1 minute hold with no breakdown or flashover. 0.5 milliampere maximum leakage current.	EIA-364-20, Condition I. Test between adjacent contacts of mated but unterminated specimens.
MECHANICAL		
Solderability, dip test.	Solderable area shall have a minimum of 95% solder coverage.	EIA-364-52, Category 1, Class 2 Flux. Subject contacts and brackets to solderability.

Figure 1 (continued)

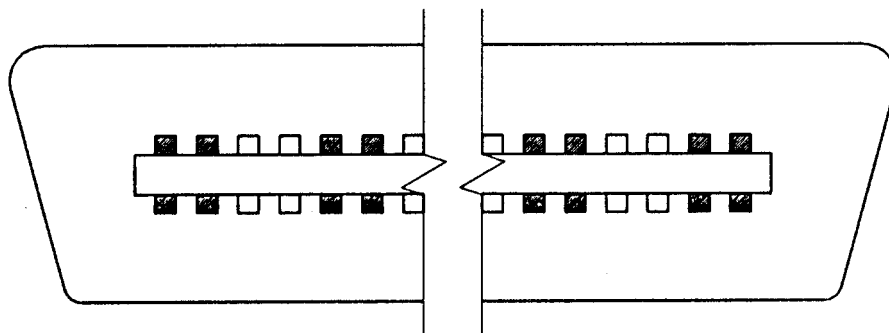
Test Description	Requirement	Procedure
Vibration, random.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-28, Test Condition VII, Condition E. Subject mated and terminated specimens to 4.90 G's rms between 20-500 Hz. 15 minutes in each of 3 mutually perpendicular planes. See Figure 5.
Mechanical shock.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-27, Method H. Subject mated and terminated specimens to 30 G's half-sine shock pulses of 11 milliseconds duration. 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks. See Figure 5.
Durability.	See Note.	EIA-364-9. Mate and unmate specimens for 500 cycles at a maximum rate of 500 cycles per hour.
Mating force.	44 N [9.89 lb] maximum for 68 position specimens. 23 N [5.17 lb] maximum for 36 position specimens.	EIA-364-13. Measure force necessary to mate specimens at a maximum rate of 12.7 mm [.5 in] per minute.
Unmating force.	6.2 N [1.39 lb] minimum for 68 position specimens. 3.3 N [.74 lb] minimum for 36 position specimens.	EIA-364-13. Measure force necessary to unmate specimens at a maximum rate of 12.7 mm [.5 in] per minute.
Housing lock strength.	125 N [28.1 lb] minimum.	EIA-364-98. Determine strength of receptacle housing locking mechanism at a maximum rate of 12.7 mm [.5 in] per minute.
ENVIRONMENTAL		
Thermal shock.	See Note.	EIA-364-32, Test Condition I. Subject mated but unterminated specimens to 5 cycles between -55 and 85°C.
Humidity-temperature cycling.	See Note.	EIA-364-31, Method III. Subject mated but unterminated specimens to 10 cycles (10 days) between 25 and 65°C at 80 to 100% RH.

Figure 1 (continued)

Test Description	Requirement	Procedure
Temperature life.	See Note.	EIA-364-17, Method A, Test Condition 3, Test Time Condition C. Subject mated and terminated specimens to 85°C for 500 hours.
Mixed flowing gas.	See Note.	EIA-364-65, Class IIA. Subject mated and terminated specimens to environmental Class IIA for 14 days.

NOTE *Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Qualification and Requalification Test Sequence shown in Figure 3.*

Figure 1 (end)



■ DENOTES ENERGIZED CIRCUIT

Figure 2
Current Energizing Circuit

3.6. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)				
	1(b)	2(b)	3(b)	4(c)	5
	Test Sequence (d)				
Initial examination of product	1	1	1	1	1
Low level contact resistance	3,7	2,4	2,4		
Insulation resistance				2,6	
Withstanding voltage				3,7	
Solderability, dip test					2
Vibration	5				
Mechanical shock	6				
Durability	4				
Mating force	2				
Unmating force	8				
Housing lock strength		5			
Thermal shock				4	
Humidity-temperature cycling				5	
Temperature life		3(e)			
Mixed flowing gas			3(e)		
Final examination of product	9	6	5	8	3

- NOTE**
- (a) See paragraph 4.1.A.
 - (b) Specimens for these test groups shall be mated and terminated.
 - (c) Specimens for this test group shall be mated but unterminated.
 - (d) Numbers indicate sequence in which tests are performed.
 - (e) Precondition specimens with 10 cycles durability.

Figure 3

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 5 printed circuit board connectors and 5 offset cable connectors. Thirty random contacts shall be selected and identified, unless otherwise specified, these contacts shall be used for all measurements.

B. Test Sequence

Qualification inspection shall be verified by testing samples as specified in Figure 3.

4.2. Requalification Testing

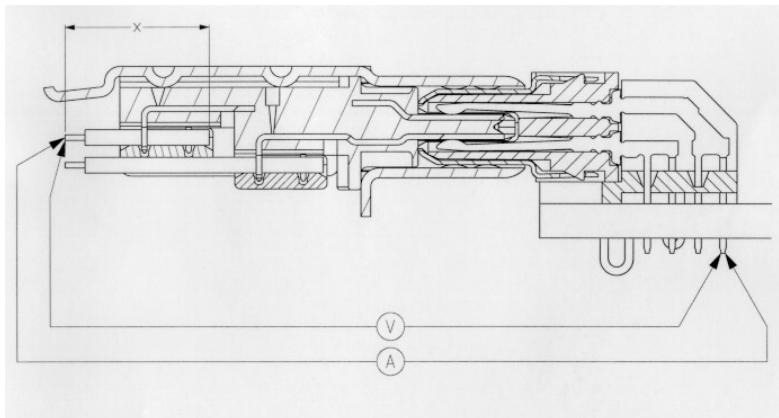
If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. When 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

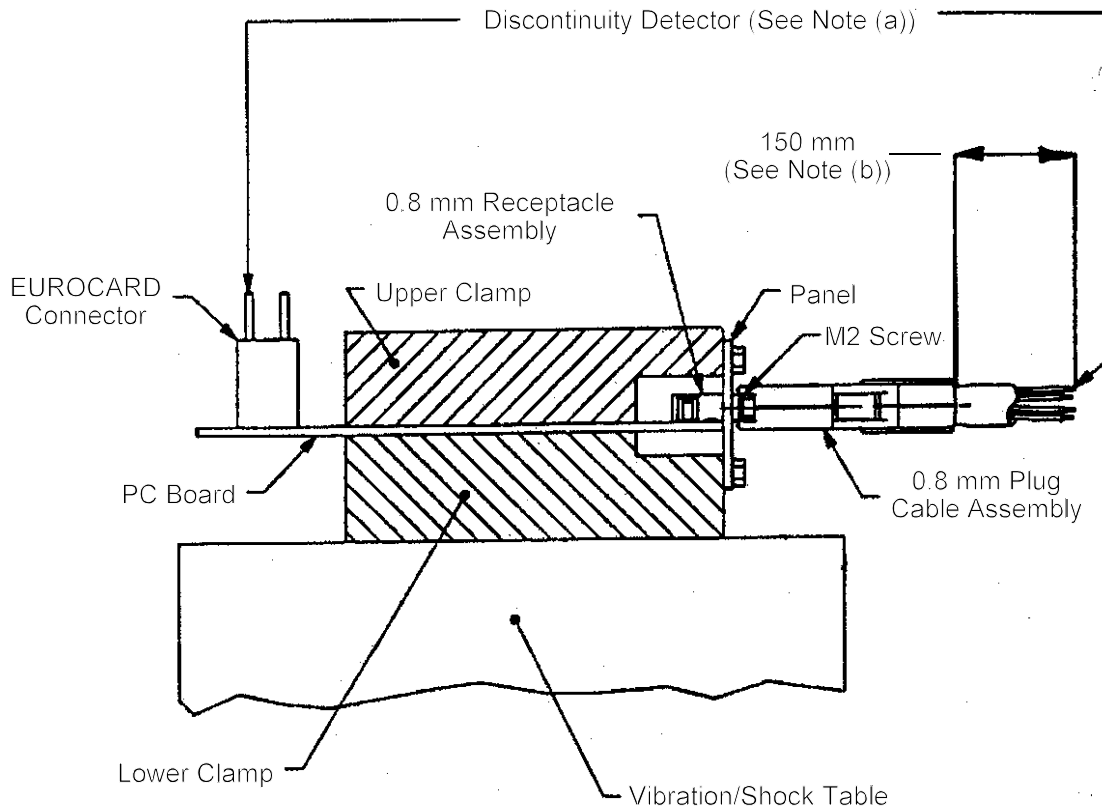
The applicable quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.



NOTE

- (a) Voltage drop due to X mm of wire is to be removed from all readings.
- (b) Backshells and covers shown broken for clarity.

Figure 4
Low Level Contact Resistance Measurement Points



- NOTE** (a) *Specimens may be series wired*
 (b) *Cable end clamped to vibrating member.*

Figure 5
 Vibration and Mechanical Shock Mounting Fixture