

## ULTRA-POD .250 ASSEMBLY RECEPTACLE 18-14 AWG BRASS Product Evaluation

### 1. INTRODUCTION

#### 1.1 Purpose

Testing was performed on the TE Connectivity **ULTRA-POD .250 ASSEMBLY RECEPTACLE 18-14 AWG BRASS** to evaluate new product.

#### 1.2 Scope

This report covers the electrical, mechanical, and environmental performance of ULTRA-POD .250 ASSEMBLY RECEPTACLE 18-14 AWG BRASS. The specimens listed in Table 1 of paragraph 1.4 were subject to the test sequence outlined in Table 2 of paragraph 1.5. Testing was performed at the Shanghai Electrical Components Test Laboratory during 23Jan2018 to 29Jan2018. The associated test number is TP-18-00202.

#### 1.3 Conclusion

Based on the test results, all specimens meet the specification. See summary of testing for more details. 1-1969529-1 and 1969161-5 are qualified as they are sharing the same housing with 521848-1.

#### 1.4 Test Specimens

Specimens with the following part number as Table 1 were used for this test. Refer to table 1 for test specimen identification information.

Table 1

Test Group	Part No	Description	Qty.	Comments
1	521848-1	ULTRA-POD 250 ASSY REC 18-14 AWG BR	6	
2	521848-1	ULTRA-POD 250 ASSY REC 18-14 AWG BR	6	

#### 1.5 Test Sequence

Specimens identified in table 1 were subjected to the test sequence outlined in Table 2.

Table 2-Test sequence

Test	Test Group	
	1	2
	Test Sequence	
Examination of Product	1,4	1,4
Dielectric withstanding Voltage	3	
Contact Retention Force		3
Heat Age	2	2

Note:

- a). Test group defined per customer requirement;
- b). Numbers indicate sequence in which tests are performed.

#### 1.6 Environmental Conditions

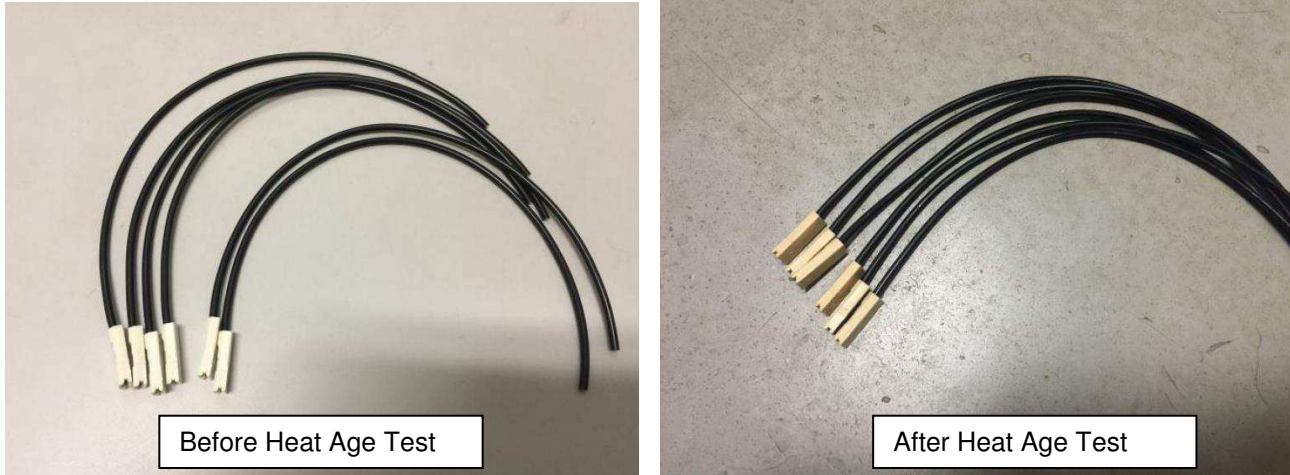
Unless otherwise stated, the following environmental conditions prevailed during testing:

Temperature: 15°C to 35°C  
Relative Humidity: 25% to 75%

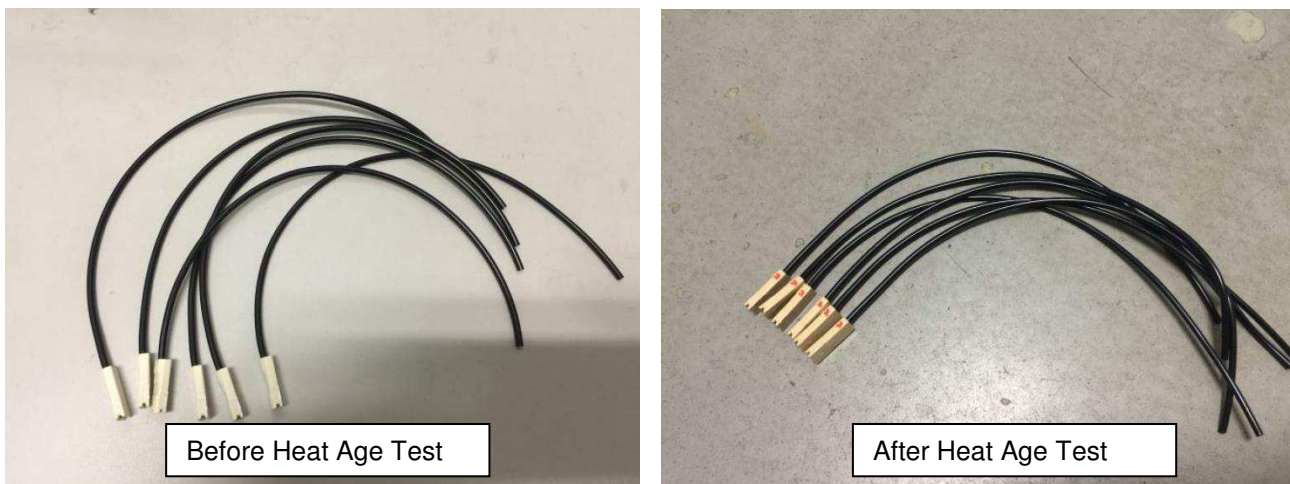
**2. SUMMARY OF TESTING**

2.1 Visual Examination of Product

Refer to picture 1 for visual examination of product before and after heat age test, all specimens Meets requirements of product drawing and Application Specification 114-2124. Picture 1 shown as below of sequence 1, and picture 2 shown as below of sequence 2.



Picture 1 – Examination of product before and after heat age test, sequence 1



Picture 2 – Examination of product before and after heat age test, sequence 2

2.2 Dielectric test, 3400V AC

No dielectric breakdown occurred due to the application of a test voltage potential of 3400VAC, refer to table 3

Table 3-leakage current, test sequence 1

Specimen ID	1	2	3	4	5	6
521848-1	NO BREAKDOWN	NO BREAKDOWN	NO BREAKDOWN	NO BREAKDOWN	NO BREAKDOWN	NO BREAKDOWN

2.4 Contact retention force

All recorded values were meet the requirements of apply a 5-pound force to a fully seated contact for 1 minute. No test value need to be recorded.

### 3. TEST PROCEDURES

#### 3.1 Examination of Product

Visual Inspection: appearance, and function of specimens pursuant to the applicable inspection plan.

Requirements: Meets requirements of product drawing and Application Specification 114-2124.

Test Method: EIA-364-18 B

#### 3.2 Dielectric Strength

The test specimens were tested in the as-specified state. The test voltage shall be raised from zero to the specified value as uniformly as possible, at a rate of approximately 500 volts (AC or DC) per second. Dielectric withstanding voltage was measured separately between the closest adjacent contacts at 3400 V for 1 minute. Take picture of initial testing to make insurance of the same method is used. Measure and record the performance of the specimens. Execute visual check after test.

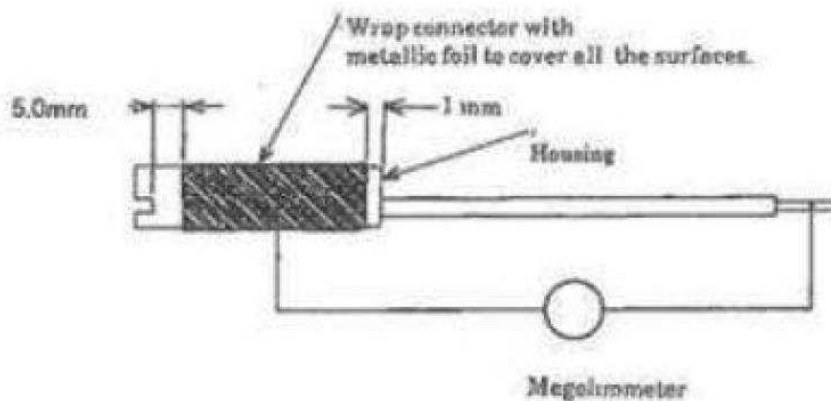


Figure 3-DWV test setup

#### 3.3 Contact insertion force

Execute visual check before test, and take picture. Mount test specimen with fixtures in a normal manner, and take picture. Edit test procedure according to test method then perform test. Test Condition: Measure the force required to insert contact into housing. Test Speed: 25.4 mm/min. Export test data and test curve, execute visual check and take picture after test. Refer to figure 5 for an image of the typical test setup. Testing was performed in accordance with EIS-364-05B



Figure 5 – typical contact insertion force setup

#### 3.4 contact retention force

The housing was clamped to a free floating x/y and rotational table at the base of the tensile/compression machine. The wire of the terminal was clamped in an air jaw to the moveable crosshead of the tensile/compression machine. Force was

then applied in an upward direction at a rate of 100 mm/min until the terminal was fully removed from the housing. Refer to figure 6 for an image of typical test setup.



Figure – 6 typical retention force setups

### 3.5 Heat age test

Receptacle specimens was exposure to a temperature of 136°C for a duration of 168.0 hours in a chamber.

## 4. CALIBRATION

### 4.1 Calibration Statement

All equipment containing a calibration number is calibrated and traceable through TE Connectivity (TE).

### 4.2 Equipment List

Equipment Name	Calibration Number
Dielectric Strength Tester (Chroma 19073)	E-00057
Load Tester (MAX-1KN-H-2 500N )	E-00017
Temperature Chamber (Espec PHH-201)	E-00099



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Product Evaluation**

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**5. VALIDATION**

Requested by:

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