

Bare Releasable Poke-in Contact**1. Purpose:**

This is qualification test. The purpose of this test is to evaluate the performance of bare releasable poke-in contact. Testing was performed on below products to determine it compliance with the requirements of product specification.

2. Scope:

This is test report for bare releasable poke-in Connector. Testing was performed at TE Connectivity Shanghai Electrical Components Test Laboratory between JUN.21th, 2016 and AUG.16th, 2016.

3. Conclusion:

The product met the electrical, mechanical, and environmental performance requirements of TE product specification

4. Test samples:

Samples were taken randomly from current production. The following part numbers were used for test:

| Description | Product Part No. |
|--|------------------|
| Bare Releasable Poke-in Contact | 2834167-3 |
| Male Pin Contact | 2834172-3 |

5. Test Method

5.1 Examination of Product

Visual, dimensional and functional per applicable inspection plan.

Requirements: Meets requirements of product drawing

Test Method: In accordance with EIA-364-18

5.2 Contact Resistance

Subject the specimen to maximum allowed rating current and measure the contact resistance.

Requirements: 20mΩ Max.

Test Method: EIA-364-06

5.3 Temperature Rise

Measured at maximum rated current with series all contacts.

Current: 10A with 18AWG /6A with 22AWG

4A for 2834167-3 and 2834172-3 mating

Requirement: Temperature rise should be 30°C Max.

Test method: EIA-364-70

5.4 Vibration, Random

Subject mated specimens to 3.10G's rms between 20~500HZ. Fifteen minutes in each of 3 mutually perpendicular

planes.

Requirements: Discontinuity max 1 μ s

Test method: EIA-364-28, Test Condition VII, Condition D

5.5 Mechanical shock

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.

Requirements: Discontinuity max 1 μ s

Test method: EIA-364-27, Condition H

5.6 Insertion force

Wire size: 2834167-3: 18AWG solid

Requirements: 20N max

Test method: EIA-364-13.

Measure force necessary to insert wires at a maximum rate Of 12.7 mm [.5 in.] per minute.

5.7 Extraction Force

Wire size: 2834167-3: 18AWG solid & stranded (16 strands)

20AWG solid & stranded (26 strands)

22AWG solid & stranded (7 strands)

Requirements: Extraction force: 22.24N min

Test method: EIA-364-13.

Measure force necessary to extract wire at a maximum rate of 12.7 mm [.5 in.] per minute.

5.8 Thermal Shock

Subject specimens to 25 cycles between -40 and 105°C with 30 minute dwells at temperature extremes and 1 minute transition between temperatures.

Requirements: Contact resistance 20m Ω Max.

Test method: EIA-364-32, Test Condition VII

5.9 Humidity (cycling Temperature)

Subject specimens to 10 cycles (10 days) between 25 °C and 65 °C at 80 to 100% RH.

Requirements: Contact resistance 25m Ω Max.

Test method: EIA-364-31, Method III

5.10 Temperature life

Subject mated specimens to 105 °C for 648 hours.

Requirements: LLCR 20m Ω Max.

Test method: EIA-364-17, Method A

5.11 Durability

Subject connector assembly to 5 wire insertion and 4 wire releasing cycles. One full cycle consists of the following actions:

1. Insert the wire, and the wire must be closed the internal bottom.
2. To release wire, contact release button must be depressed.

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

Temperature: 5°C to 35°C Relative Humidity: 45% to 80%

7. Test Sequence

| Test group | A1 | A2 | B1 | B2 | C1 | C2 | D1 | E1 | F1 | G1 | G2 |
|-------------------------------|------|------|---------|------|------|------|---------------|---------------|---------------|---------------|---------------|
| Examination of product | 1,6 | 1,6 | 1,7 | 1,5 | 1,5 | 1,5 | 1,3 | 1,4 | | 1,3 | 1,3 |
| Contact resistance | 2, 5 | 2, 5 | 2, 4, 6 | 2, 4 | 2,4 | 2,4 | | | | | |
| Temperature Rise | | | | | | | | | | 2 | 2 |
| Random vibration | 3 | 3 | | | | | | | | | |
| Mechanical shock | 4 | 4 | | | | | | | | | |
| Durability | | | | | | | | 2 | | | |
| Thermal shock | | | | | 3 | 3 | | | | | |
| Insertion force. | | | | | | | | | 1 | | |
| Extraction Force | | | | | | | 2 | 3 | | | |
| Humidity -temperature cycling | | | 3 | 3 | | | | | | | |
| Temperature life | | | 5 | | | | | | | | |
| Sample size | 5pcs | 5pcs | 5pcs | 5pcs | 5pcs | 5pcs | 5PCS/Per Wire | 5PCS/Per Wire | 5PCS/Per Wire | 5PCS/Per Wire | 5PCS/Per Wire |

NOTE

1. Group Tail Number "1" for 2834167-3 WTB test.
2. Group Tail Number "2" for 2834167-3 & 2834172-3 BTB mating test.

8. Test Result

Group series: 2834167-3 WTB Test

| Group | Test Item | N | Condition | Test Result | | | Requirement | Judgment |
|-------|------------------------|---|-----------|---|------|------|------------------|----------|
| | | | | Max | Min | Ave | | |
| A1 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Initial | 0.71 | 0.47 | 0.62 | <20mΩ | Pass |
| | Random Vibration | 5 | Final | No discontinuities of 1 microsecond or longer duration occurred | | | No abnormalities | Pass |

| | | | | | | | | |
|----|----------------------------------|----|---------|---|-------|--------|-----------------------------|------|
| | Mechanical Shock | 5 | Final | No discontinuities of 1 microsecond or longer duration occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Final | 1.51 | 0.99 | 1.28 | <20mΩ | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| B1 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Initial | 0.72 | 0.43 | 0.58 | <20mΩ | Pass |
| | Humidity (cycling Temperature) | 5 | Final | No physical damage occurred | | | No physical damage occurred | Pass |
| | Contact resistance | 5 | Second | 1.20 | 1.05 | 1.12 | <20mΩ | Pass |
| | Temperature life | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Final | 2.96 | 1.25 | 1.76 | <20mΩ | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| C1 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Initial | 1.31 | 1.05 | 1.15 | <20mΩ | Pass |
| | Thermal shock | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Final | 0.87 | 0.68 | 0.82 | <20mΩ | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| D1 | Examination of Product | 30 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Extraction force: 18AWG solid | 5 | Final | 150.49 | 75.98 | 113.16 | >22.24N | Pass |
| | Extraction force: 18AWG stranded | 5 | Final | 108.43 | 83.06 | 91.68 | >22.24N | Pass |
| | Extraction force: 20AWG solid | 5 | Final | 93.31 | 68.25 | 80.05 | >22.24N | Pass |
| | Extraction force: 20AWG stranded | 5 | Final | 90.12 | 68.08 | 80.10 | >22.24N | Pass |
| | Extraction force: 22AWG solid | 5 | Final | 63.74 | 57.98 | 60.70 | >22.24N | Pass |
| | Extraction force: 22AWG stranded | 5 | Final | 38.92 | 29.27 | 32.93 | >22.24N | Pass |
| | Examination of Product | 30 | Final | No physical damage occurred | | | No abnormalities | Pass |
| E1 | Examination of Product | 30 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Durability | 30 | Initial | No physical damage occurred | | | No abnormalities | Pass |

| | | | | | | | | |
|----|-------------------------------------|----|---------|-----------------------------|-------|-------|------------------|------|
| | Extraction force: 18AWG solid | 5 | Final | 72.78 | 48.16 | 64.46 | >22.24N | Pass |
| | Extraction force: 18AWG stranded | 5 | Final | 84.53 | 46.28 | 62.45 | >22.24N | Pass |
| | Extraction force: 20AWG solid | 5 | Final | 89.13 | 59.34 | 74.47 | >22.24N | Pass |
| | Extraction force: 20AWG stranded | 5 | Final | 88.38 | 38.75 | 57.68 | >22.24N | Pass |
| | Extraction force: 22AWG solid | 5 | Final | 75.28 | 58.13 | 67.27 | >22.24N | Pass |
| | Extraction force: 22AWG stranded | 5 | Final | 69.56 | 55.25 | 61.83 | >22.24N | Pass |
| | Examination of Product | 30 | Final | No physical damage occurred | | | No abnormalities | Pass |
| F1 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Insertion Force | 5 | Final | 13.96 | 11.87 | 12.54 | 20N max | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| G1 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Temperature Rise (10A) | 5 | Final | 28.19 | 22.78 | 26.03 | <30°C | Pass |
| | Temperature Rise (6A) | 5 | Final | 19.79 | 14.16 | 17.60 | <30°C | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |

Group series: 2834167-3 & 2834172-3 BTB Test

| Group | Test Item | N | Condition | Test Result | | | Requirement | Judgment |
|-------|--------------------------------|---|-----------|---|-------|-------|-----------------------------|----------|
| | | | | Max | Min | Ave | | |
| A2 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Initial | 4.78 | 4.47 | 4.61 | <20mΩ | Pass |
| | Random Vibration | 5 | Final | No discontinuities of 1 microsecond or longer duration occurred | | | No abnormalities | Pass |
| | Mechanical Shock | 5 | Final | No discontinuities of 1 microsecond or longer duration occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Final | 5.71 | 4.54 | 4.74 | <20mΩ | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| B2 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Initial | 18.00 | 17.56 | 17.78 | <20mΩ | Pass |
| | Humidity (cycling Temperature) | 5 | Final | No physical damage occurred | | | No physical damage occurred | Pass |

| | | | | | | | | |
|----|------------------------|---|---------|-----------------------------|-------|-------|------------------|------|
| | Contact resistance | 5 | Second | 4.82 | 4.56 | 4.69 | <20mΩ | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| C2 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Initial | 4.49 | 4.41 | 4.44 | <20mΩ | Pass |
| | Thermal shock | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| | Contact resistance | 5 | Final | 4.58 | 4.37 | 4.46 | <20mΩ | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |
| G2 | Examination of Product | 5 | Initial | No physical damage occurred | | | No abnormalities | Pass |
| | Temperature Rise (4A) | 5 | Final | 13.36 | 11.03 | 12.32 | <30°C | Pass |
| | Examination of Product | 5 | Final | No physical damage occurred | | | No abnormalities | Pass |

END