

Slim WtoB Poke-in Connector**1. Purpose:**

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

2. Scope:

This is test report for slim wire to board poke-in Connector. Testing was performed at TE Connectivity Shanghai Electrical Components Test Laboratory between Jan.24th, 2015 and Feb.06th, 2015.

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.
Slim wire to board poke-in Connector	2834010-3/2834012-3

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:

2834012-3: 16A/16AWG

13A/18AWG

11A/20AWG

2834010-3: 11A/20AWG

8A/22AWG

6A/24AWG

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: 2834010-3: 22AWG solid & stranded

24AWG solid

2834012-3: 16AWG solid

18AWG solid & stranded

20AWG solid & stranded

Requirements: 20N max for both P/N: 2834010-3 & 2834012-3

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: 2834010-3: 22AWG solid & stranded

24AWG solid

2834012-3: 16AWG solid

18AWG solid & stranded

20AWG solid & stranded

Requirements: Extraction force for 2834012-3: 30N min/ Extraction force for 2834010-3: 30N 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 25mΩ Max.

Test method: EIA-364-31, Method III

5.10 Temperature life

Subject mated specimens to 105 °C for 648 hours.

Requirements: LLCR 20mΩ Max.

Test method: EIA-364-17, Method A

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	a	b	c	d	e
Examination of product	1,7	1,7	1,6	1,4	1,3
Contact resistance	2, 5	2, 4, 6	2,5		
Temperature Rise					2
Random vibration	3				
Mechanical shock	4				
Thermal shock			3		
Insertion force.				2	
Extraction Force	6			3	
Humidity -temperature cycling		3	4		
Temperature life		5			
Sample size	5pcs/per P/N	5pcs/per P/N	5pcs/per P/N	2834010:15pcs 2834012: 25pcs	5pcs/per wire

8. Test Result

Group	Test Item	N	Condition	Test Result			Requirement	Judgment
				Max	Min	Ave		
A	Examination of Product	10	Initial	No physical damage occurred			No abnormalities	Pass
	Contact resistance(2834010-3)	5	Initial	1.50	1.16	1.31	<20mΩ	Pass
	Contact resistance(2834012-3)	5	Initial	0.98	0.73	0.91	<20mΩ	Pass
	Random Vibration	10	Final	No discontinuities of 1 microsecond or longer duration occurred			No abnormalities	Pass
	Mechanical Shock	10	Final	No discontinuities of 1 microsecond or longer duration occurred			No abnormalities	Pass
	Contact resistance(2834010-3)	5	Final	1.53	1.19	1.36	<20mΩ	Pass

	Contact resistance(2834012-3)	5	Final	1.01	0.90	0.98	<20mΩ	Pass
	Extraction Force(2834010-3)	5	Final	52.98	49.27	51.19	>30N	Pass
	Extraction Force(2834012-3)	5	Final	77.19	69.88	74.54	>30N	Pass
	Examination of Product	10	Final	No physical damage occurred			No abnormalities	Pass
B	Examination of Product	10	Initial	No physical damage occurred			No abnormalities	Pass
	Contact resistance(2834010-3)	5	Initial	1.08	1.04	1.06	<20mΩ	Pass
	Contact resistance(2834012-3)	5	Initial	1.14	1.08	1.11	<20mΩ	Pass
	Humidity (cycling Temperature)	10	Final	No physical damage occurred			No physical damage occurred	Pass
	Contact resistance(2834010-3)	5	Second	1.20	1.05	1.12	<20mΩ	Pass
	Contact resistance(2834012-3)	5	Second	1.08	0.91	1.02	<20mΩ	Pass
	Temperature life	10	Final	No physical damage occurred			No abnormalities	Pass
	Contact resistance(2834010-3)	5	Final	1.03	0.90	0.98	<20mΩ	Pass
	Contact resistance(2834012-3)	5	Final	1.05	0.86	0.98	<20mΩ	Pass
	Examination of Product	10	Final	No physical damage occurred			No abnormalities	Pass
C	Examination of Product	10	Initial	No physical damage occurred			No abnormalities	Pass
	Contact resistance(2834010-3)	5	Initial	1.31	1.05	1.15	<20mΩ	Pass
	Contact resistance(2834012-3)	5	Initial	0.98	0.82	0.92	<20mΩ	Pass
	Thermal shock	10	Final	No physical damage occurred			No abnormalities	Pass
	Humidity (cycling Temperature)	10	Final	No physical damage occurred			No physical damage occurred	Pass
	Contact resistance(2834010-3)	5	Final	1.45	1.07	1.24	<20mΩ	Pass
	Contact resistance(2834012-3)	5	Final	1.06	0.93	0.98	<20mΩ	Pass
	Examination of Product	10	Final	No physical damage occurred			No abnormalities	Pass
D	Examination of Product	40	Initial	No physical damage occurred			No abnormalities	Pass
	Insertion force:2834010-3 22AWG solid	5	Final	5.48	4.08	4.81	<20N	Pass
	Insertion force:2834010-3 22AWG stranded	5	Final	5.44	4.71	5.19	<20N	Pass
	Insertion force:2834010-3 24AWG solid	5	Final	4.20	3.16	3.70	<20N	Pass
	Insertion force:2834012-3 16AWG solid	5	Final	11.13	8.69	9.77	<20N	Pass

Insertion force:2834012-3 18AWG solid	5	Final	8.36	5.10	6.52	<20N	Pass
Insertion force:2834012-3 18AWG stranded	5	Final	11.82	10.03	10.61	<20N	Pass
Insertion force:2834012-3 20AWG solid	5	Final	6.35	4.18	5.55	<20N	Pass
Insertion force:2834012-3 20AWG stranded	5	Final	6.32	5.77	6.03	<20N	Pass
Extraction force:2834010-3 22AWG solid	5	Final	52.79	48.79	50.32	>30N	Pass
Extraction force:2834010-3 22AWG stranded	5	Final	61.90	51.49	55.90	>30N	Pass
Extraction force:2834010-3 24AWG solid	5	Final	42.12	36.33	40.11	>30N	Pass
Extraction force:2834012-3 16AWG solid	5	Final	90.06	65.89	78.98	>30N	Pass
Extraction force:2834012-3 18AWG solid	5	Final	77.61	67.48	74.23	>30N	Pass
Extraction force:2834012-3 18AWG stranded	5	Final	81.78	52.40	70.24	>30N	Pass
Extraction force:2834012-3 20AWG solid	5	Final	68.54	61.98	66.09	>30N	Pass
Extraction force:2834012-3 20AWG stranded	5	Final	77.71	60.17	69.94	>30N	Pass
Examination of Product	40	Final	No physical damage occurred			No abnormal ities	Pass
Examination of Product	30	Initial	No physical damage occurred			No abnormal ities	Pass
Temperature Rise:2834010-3 With 11A/20AWG	5	Final	29.34	23.13	25.71	<30°C	Pass
Temperature Rise:2834010-3 With 8A/22AWG	5	Final	23.68	19.36	21.86	<30°C	Pass
Temperature Rise:2834010-3 With 6A/24AWG	5	Final	24.86	16.28	21.02	<30°C	Pass
Temperature Rise:2834012-3 With 16A/16AWG	5	Final	26.68	23.35	25.10	<30°C	Pass
Temperature Rise:2834012-3 With 13A/18AWG	5	Final	27.82	21.42	25.25	<30°C	Pass
Temperature Rise:2834012-3 With 11A/20AWG	5	Final	29.17	21.18	25.97	<30°C	Pass
Examination of Product	30	Final	No physical damage occurred			No abnormal ities	Pass

END