5.0mm Both Side Entry Screwless Connnector

1. Purpose:

This is qualification test. The purpose of this test is to evaluate the performance of 5.0mm Both Side Entry Screwless Connector. Testing was performed on below products to determine it compliance with the requirements of product specification

2. Scope:

This is test report for 5.0mm Both Entry Screwless Connector. Testing was performed at TE Connectivity Shanghai Electrical Components Test Laboratory between Oct.27th, 2014 and Nov.16th, 2014.

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.
5.0mm Both Side Entry Screwless Connector	2834014-4

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-364-23

5.3 Insulation resistance

Unmated connector with 500V DC between adjacent contacts for 1 min.

Requirements: 2000 MΩMin.

Test Method: IEC 60998-1/60998-2-2

5.4 Dielectric strength

Unmated connector with 2000 V AC between adjacent contacts for 1 min.

Requirements: No breakdown.

Test Method: UL1059 Clause 12

5.5 Temperature rise

Measured at maximum rated current with series all contacts.

Current: 10A

Requirement: Temperature rise should be 30℃ Max.

Test method: UL1059 Clause 11

5.6 Pullout force

Wire:16AWG_40N / Wire:20AWG_30N

The terminal shall not separate from the wire as a result.

Test method: UL486

5.7 Secureness test

Wire:16AWG(Solid &Stranded) /Duration time:15minutes

The joint between a terminal and the wire of a sample set shall be intact after test.

Test method: UL486

5.8 Low temperature test

Temperature:-40 ºC / Humidity:0% / Duration: 24hr

Requirements: Contact resistance 20mΩ Max.

5.9 High temperature test

Temperature: 105 ºC / Humidity:0% / Duration: 24hr

Requirements: Contact resistance 20mΩ Max.

5.10 High temperature and high humidity test

Temperature: 40 ºC / Humidity:90% / Duration: 24hr

Requirements: Contact resistance 20mΩ Max.

5.11 Temperature life

Subject mated specimens to 115 ºC for 48 hours.

Requirements: Contact resistance 20mΩ Max.

Test method: EIA-364-17, Method A

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

Temperature:5℃ to 35℃ Relative Humidity: 45 % to 80%

7. Test Sequence

Test group	A	B	C	D	E	F	G	H	I
Examination of product	1,3	1,3	1,4	1,4	1,4	1,3	1,3	1,4	1,4
Contact Resistance	2		3	3	3				3
Insulation resistance.		2							
Dielectric Withstanding Voltage							2		
Temperature Rise						2			
Conductor tensile force test(Pull test)								3	
Secureness test								2	
Low temperature test			2						
High temperature test				2					
High temperature and high humidity test					2				
Temperature life									2
Sample size	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**12**	**3**

8. Test Result

Group	Test Item	N	Condition	Test Result			Requirement	Judgment
				sample1	sample2	Sample3		
A	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	Contact resistance	3	Final	pass	pass	pass	<20mΩ	Pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass
B	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	Insulation resistance	3	Final	pass	pass	pass	>2000MΩ	Pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass
C	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	Low temperature test	3	Final	No electricity and mechanical issue			No abnormal items	Pass
	Contact resistance	3	Final	pass	pass	pass	<20mΩ	pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass
D	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	High temperature test	3	Final	No electricity and mechanical issue			No abnormal items	Pass
	Contact resistance	3	Final	pass	pass	pass	<20mΩ	pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass

E	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	High temperature and high humidity test	3	Final	No electricity and mechanical issue			No abnormal items	Pass
	Contact resistance	3	Final	pass	pass	pass	<20mΩ	pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass
F	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	Temperature Rise	3	Final	13.1℃	13.6℃	14.8℃	<30℃	Pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass
G	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	Withstanding Voltage	3	Final	pass	pass	pass	No breakdown	Pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass
H	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	Secureness test (16AWG Stranded)	3	Final	pass	pass	pass	No separating	Pass
	Secureness test (16AWG Solid)	3	Final	pass	pass	pass	No separating	Pass
	Pull test (16AWG Solid)	3	Final	pass	pass	pass	No separating	Pass
	Pull test (16AWG Stranded)	3	Final	pass	pass	pass	No separating	Pass
	Pull test (20AWG Solid)	3	Final	pass	pass	pass	No separating	Pass
	Pull test (20AWG Stranded)	3	Final	pass	pass	pass	No separating	Pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass
I	Examination of Product	3	Initial	No physical damage occurred			No abnormal items	Pass
	Temperature life	3	Final	No electricity and mechanical issue			No abnormal items	Pass
	Contact resistance	3	Final	0.71 mΩ	0.77 mΩ	0.72 mΩ	<20mΩ	pass
	Examination of Product	3	Final	No physical damage occurred			No abnormal items	Pass

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END