SHANGHAI ELECTRICAL COMPONENTS TEST LABORATORY	**REPORT No.:** 501-115083 **PROJECT No.:** PRJ-14-000001239
TEST REPORT	**STARTED:** 2014-05-29 **COMPLETED:** 2014-07-22 **ISSUED:** 2024-04-29
CUSTOMER INFORMATION: Name: Consumer Devices Request by: Ji, Jone Request Date: 2014-05-04 Address: No.668 Guiping Road Shanghai. China.	**SPECIMEN INFORMATION:** Description: High current spring finger Part No.: 2286211-* Qty.: 35 pcs Received Date: 2014-05-06

DISPOSED OF SAMPLES: Keep in lab

DESCRIPTION :

High current spring finger. See Fig1, total 35pcs samples were used for 7 test groups.

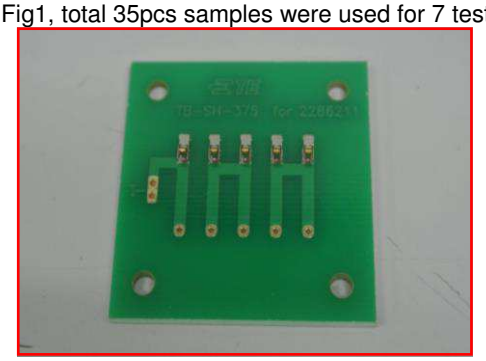

Fig 1.

SCOPE :

This specification covers the requirements for product performance, test methods and quality assurance.
Testing was performed at TE Connectivity Shanghai Electrical Test Laboratory between May 29, 2014 and Jul 22, 2014.

TEST PERFORMED :

See test sequence (page 2) and test procedure (page 4& page 5).

SPECIFICATION :

108-115073.

CONCLUSION :

See the summary of test result.

DISTRIBUTION : Applicant

PREPARED BY: Dong Zhihua Test Engineer	**CHECKED BY: Wu Hellen** Test Supervisor
APPROVED BY: Test Manager	**CLASSFICATION:** Class 2

APPENDICES: See Appendix.

TE Connectivity Shanghai Electrical Components Test Laboratory.
Tel: 86-21-33259340 Fax: 86-21-33259224 Post Code: 200233 Address: No.668 Guiping Road Shanghai, China.

TEST PURPOSE

This is product qualification test. The purpose of this test is to evaluate the performance of High current spring finger connector. Testing was performed on below products to determine it compliance with the requirements of 108-115073.

TEST SEQUENCE

Test Item	Test Group						
	1	2	3	4	5	6	7
	Test Sequence						
Examination of Product	1,5	1,3	1,6	1,5	1,5	1,3	1,5
Normal force Test	3,6		2,7				
LLCR			3,5	2,4	2,4		2,4
Temperature Rising						2	
Temperature Life			4				
Thermal Shock					3		
Humidity Temp. Cycling				3			3
Durability test	4						
Resistance to Soldering Heat	2						
Solderability Test		2					

SUMMARY OF TEST RESULTS

Group	Test Item	N	Condition	Test Result				Requirement	Conclusion
				Max	Min	Ave	Unit		
1	Examination of Product	5	Initial	No physical damage			N/A	No abnormalities	Meet Spec
	Resistance to Soldering Heat	5	Initial	No physical damage			N/A	No abnormalities	Meet Spec
	Normal force Test	5	Initial	1.14	1.10	1.12	N	0.8N Min.	Meet Spec
	Durability test	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
	Examination of Product	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
	Normal force Test	5	Final	1.11	1.06	1.08	N	0.8N Min.	Meet Spec
2	Examination of Product	5	Initial	No physical damage			N/A	No abnormalities	Meet spec
	Solderability Test	5	Final	Soldering Coverage greater than 95%			N/A	95% Min.	Meet Spec
	Examination of Product	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
3	Examination of Product	5	Initial	No physical damage			/	No abnormalities	Meet Spec
	Normal force Test	5	Initial	1.09	1.06	1.08	N	0.8N Min.	Meet Spec
	LLCR	5	Initial	7.02	3.83	5.37	mΩ	50 mΩ Max.	Meet spec
	Temperature Life	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
	LLCR	5	Final	7.99	4.31	5.77	mΩ	50 mΩ Max.	Meet Spec
	Examination of Product	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
	Normal force Test	5	Final	0.90	0.87	0.88	N	0.8N Min.	Meet spec

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4	Examination of Product	5	Initial	No physical damage			N/A	No abnormalities	Meet spec
	LLCR	5	Initial	5.73	4.83	5.28	mΩ	50 mΩ Max.	Meet Spec
	Humidity and Temperature Cycling	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
	LLCR	5	Final	16.22	6.51	10.51	mΩ	50 mΩ Max.	Meet Spec
	Examination of Product	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
5	Examination of Product	5	Initial	No physical damage			N/A	No abnormalities	Meet spec
	LLCR	5	Initial	5.88	5.03	5.31	mΩ	50 mΩ Max.	Meet Spec
	Thermal Shock	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
	LLCR	5	Final	7.18	5.80	6.53	mΩ	50 mΩ Max.	Meet Spec
	Examination of Product	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
6	Examination of Product	5	Initial	No physical damage			N/A	No abnormalities	Meet spec
	Temperature Rising	5	Final	28.6	26.8	27.7	°C	30°C Max.	Meet Spec
	Examination of Product	5	Final	No physical damage			N/A	No abnormalities	Meet Spec
7	Examination of Product	5	Initial	No physical damage			N/A	No abnormalities	Meet Spec
	LLCR	5	Initial	5.91	4.36	5.28	mΩ	50 mΩ Max.	Meet spec
	Humidity and Temperature Cycling	5	Final	No physical damage			N/A	No abnormalities	Meet spec
	LLCR	5	Final	6.58	6.27	6.42	mΩ	50 mΩ Max.	Meet spec
	Examination of Product	5	Final	No physical damage			N/A	No abnormalities	Meet spec

ENVIRONMENTAL CONDITION

Unless otherwise stated, the following environmental conditions prevailed during testing:
Temperature:15°C to 35°C, Relative Humidity: 25% R.H to 75% R.H

TEST SPECIMEN

Assembly

Name	P/N	Qty.	Manufacturer
High current spring finger	2286211-*	35	TE

TEST PROCEDURE

1.Examination of Product
Test Condition: Visual inspection, no physical damage.
Requirements: Meets requirements of product drawing.
Test Method: 108-115073.

2.Normal force Test
Test Condition: Stroke the spring top to 1.6 mm product height.
Requirements: Normal force at 1.6mm Spring height: 0.8N Min.
Test Method: 108-115073.

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3.Low Level Contact Resistance
Test Condition: Subject matted contacts at set position to 20mV Max open circuit at100mA.
Requirements: 50 mΩ Max. at 1.6mm Contact height
Test Method: 108-115073.

4.Temperature Rising
Test Condition: Measure temperature rising by current 4.2A.EIA 364-70 Method 2;
Requirements: 30°C Max. under loaded rating current. No physical damage.
Test Method: 108-115073.

5.Temperature Life
Test Condition: Mated connector at 1.6mm height, 85°C, 500Hrs.
Requirements: Termination Resistance (Final):50 mΩ Max.
Test Method: 108-115073.

6.Thermal Shock
Test Condition: Mated connector at 1.6mm height,-55°C ～85°C /30min.,200cycles
Requirements: Termination Resistance (Final):50 mΩ Max.
Test Method: 108-115073.

7.Humidity and Temperature Cycling
Test Condition: Mated connector at 1.6mm height, make 25～65℃,95% R. H. 24 hours a cycle, repeat 10cycles.
Requirements: Termination Resistance (Final):50 mΩ Max.
Test Method: 108-115073.

8.Durability test
Test Condition: No. of Cycles: 10 cycles. Stroke the spring top to 1.6mm product height.
Requirements: Normal force at 1.6mm Spring height: 0.8N Min. (Final).
Test Method: 108-115073.

9. Solderability Test
Test Condition: Solder Temperature: 235 ± 5 °C; Immersion Duration:5 ± 0.5 seconds AMP Spec. 109-5203;
Requirements: Wet Solder Coverage: 95 % Min.
Test Method: 108-115073.

10. Resistance to Soldering Heat
Test Condition: Reflow condition shown as Fig.3 Rank B shall apply to the lead free reflow condition;
Requirements: No physical damage shall occur.
Test Method: 108-115073.

EQUIPMENT USED

No.	Test Item	Equipment Code	Equipment appellation	Calibration Effective Period	Serial No.
1	Examination of Product	N/A	Visual Inspection	N/A	N/A
2	Resistance to Soldering Heat	1809MKIII	Reflow Oven	N/A	E-00183
3	Normal force Test	Instron 5543A	Auto Pull-Push Tester	2014-03-12	E-00092
4	Durability test	HYL1306	Horizontal Durability Tester	N/A	E-00185
5	Solderability Test	SAT-5100	Wetting Balance Tester	2015-05-08	E-00288
6	LLCR	Agilent 34420A	Milliohm Meter	2015-04-17	E-00112

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7	Temperature Life	ST-120B2	Temperature Chamber	2015-04-17	E-00103
8	Humidity and Temperature Cycling	Espec PL-1KPH	Temperature & Humidity Chamber	2014-11-08	E-00061
9	Thermal Shock	TSA-301L-W	Thermal Shock Chamber	2014-12-19	E-00066
10	Temperature Rising	GPS-1850D	DC Power Supply	2015-05-06	E-00125

---------- END OF REPORT----------

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