SGI 2.0 **Connector Soft tool validation test report**

1. INTRODUCTION

1.1 Purpose

Testing was performed on SGI 2.0 connector to determine its conformance related to the requirements of product specification 108-106266, Rev 2.

1.2 Scope

This report covers the electrical and mechanical performance of SGI 2.0 Connector.
Testing was performed at the Shanghai Electrical Components Test Laboratory from May 24 2016 to May 23 2017.

1.3 Conclusion

Based on the test results, all the test can meet the specification related in product specification 108-106266.

1.4 Test Specimens and test request number.

Specimens with the following part numbers as Table 1 were used for test:

Table 1

Test Group (TE test No.)	Part No.	Quantity	Description
Group 1 (TP-16-03675)	2-2232824-0	3	SGI2.0 plug housing
	2-2232825-0	3	SGI2.0 header housing
Group 2 (TP-16-03770)	1-2232824-0	5	SGI2.0 plug housing
Group 3 (TP-17-00027)	1-2232826-6	4	SGI2.0 Header
Group 4 (TP-17-00106)	1-2232826-6	4	SGI2.0 header TH
	1-2232979-6	4	SGI2.0 plug assembly
Group 5 (TP-17-00106)	1-2232829-6	4	SGI2.0 header SMT
	1-2232979-6	4	SGI2.0 plug assembly
Group 6 (TP-17-00108)	1-2232979-6	2	SGI2.0 plug assembly ,26AWG
	1-2232979-6	2	SGI2.0 plug assembly ,28AWG
Group 7 (TP-17-00248)	1-2232826-6	12	SGI2.0 header
	1-2232979-6	3	SGI2.0 plug assembly with 26AWG,UL1061
	1-2232979-6	3	SGI2.0 plug assembly with 26AWG,UL10272
	1-2232979-6	3	SGI2.0 plug assembly with 28AWG,UL1061
	1-2232979-6	3	SGI2.0 plug assembly with 28AWG,UL10272

1.5 Test Conditions

All the test are doing in the conditions below:
Temperature: 15°C ~35°C
Relative Humidity: 20%~40%

2. SUMMARY OF TESTING

Test Group (TE test No.)	Test Item	Test Condition	Criteria	Test result
Group 1 (TP-16-03675)	Glow wire end-products test	IEC60335-1, SECTION 30	750°C, Te-Ti<=2s or no flame	Meet specification. Please see figure 1.
Group 2 (TP-16-03770)	Examination of Product	EIA-364-18 B Visual and dimensional inspection per product drawing.	No evidence of physical damage	Meet specification.
	Durability Test	Manually press the latch 25 cycles. Test speed: 200 cycles/hour.	No evidence of physical damage	Meet specification.
	Examination of Product	Examined of cracks and other physical damage item.	No evidence of physical damage	Meet specification.
Group 3 (TP-17-00027)	Post retention force (initial)	EIA-364-29. Measure post retention at a maximum rate of 100 mm [3.9 in] per minute.	20N minimum	unit : N Max. 31.52 Min. 26.15 Avg. 28.53
Group 4 (TP-17-00106) For TH Header	Mating Force	EIA-364-13 E-2011 Method A Measure force necessary to mate specimens with companion headers a distance of 5.08 mm from point of initial contact at a maximum rate of 12.7 mm per minute.	4.0N maximum per contact 24N maximum for 6 position.	unit : N Max. 14.36 Min. 12.93 Avg. 13.95
	Latch Activation Force	Assemble the samples and then pull the wire to measure the locking strength. Test speed 12.7mm/minute	29.4N Minimum	Unit: N Max. 57.65 Min. 51.01 Avg. 54.01
Group 5 (TP-17-00106) For SMT Header	mating force	EIA-364-13 E-2011 Method A Measure force necessary to mate specimens with companion headers a distance of 5.08 mm from point of initial contact at a maximum rate of 12.7 mm per minute.	4.0N maximum per contact 24N maximum for 6 position.	unit : N Max. 14.64 Min. 12.96 Avg. 14.03
	Latch Activation Force	Assemble the samples and then pull the wire to measure the locking strength. Test speed 12.7mm/minute	29.4N Minimum	Unit: N Max. 47.20 Min. 44.89 Avg. 46.38

<table>
<tr><th>Test Group
(TE test No.)</th><th>Test Item</th><th>Test Condition</th><th>Criteria</th><th>Test result</th></tr>
<tr><td>Group 6
(TP-17-00108)</td><td>Termination Tensile Strength</td><td>EIA-364-8.
Apply a pull-off load to terminated wire of contact secured on the tester,
Operation Speed: 50 mm/min.
The load is applied in (1) the axial and (2) the traverse directions as specified.</td><td>26 AWG
19.6 N minimum in Axial direction
11.8N minimum in Traverse direction.
28 AWG
14.7 N Minimum in Axial direction
11.8 N Minimum in Traverse direction</td><td>
<table>
<tr><td>Item
Unit:N</td><td colspan="2">Axial direction</td><td colspan="2">Traverse direction</td></tr>
<tr><td>AWG</td><td>26AWG</td><td>28AWG</td><td>26AWG</td><td>28AWG</td></tr>
<tr><td>Max.</td><td>33.95</td><td>27.54</td><td>19.79</td><td>21.89</td></tr>
<tr><td>Min.</td><td>30.54</td><td>21.78</td><td>15.62</td><td>18.11</td></tr>
<tr><td>Avg.</td><td>32.35</td><td>24.66</td><td>17.64</td><td>20.91</td></tr>
</table>
</td></tr>
<tr><td rowspan="3">Group 7
(TP-17-00248)</td><td>Low Level Contact Resistance (LLCR).</td><td>EIA-364-23.
Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage.</td><td>10 milliohms maximum initial.
20 milliohms maximum final.</td><td>Unit: mΩ
<table>
<tr><td>AWG</td><td>26AWG</td><td>28AWG</td></tr>
<tr><td>Max.</td><td>6.27</td><td>4.29</td></tr>
<tr><td>Min.</td><td>3.21</td><td>3.49</td></tr>
<tr><td>Avg.</td><td>4.6</td><td>3.85</td></tr>
</table>
</td></tr>
<tr><td>Current carrying capacity</td><td>EIA-364-70, Method 1.
Stabilize at a single current level until 3 readings at 5 minute intervals are within 1°C.</td><td>2A maximum</td><td>Meet specification.
Please see the derating curve in figure2 and figure 3.</td></tr>
<tr><td>Low Level Contact Resistance (LLCR).</td><td>EIA-364-23.
Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage.</td><td>10 milliohms maximum initial.
20 milliohms maximum final.</td><td>Unit: mΩ
<table>
<tr><td>AWG</td><td>26AWG</td><td>28AWG</td></tr>
<tr><td>Max.</td><td>8.35</td><td>4.91</td></tr>
<tr><td>Min.</td><td>3.18</td><td>3.49</td></tr>
<tr><td>Avg.</td><td>5.01</td><td>4.20</td></tr>
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</td></tr>
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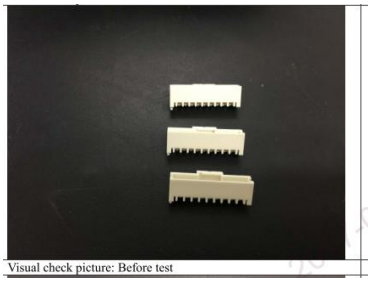
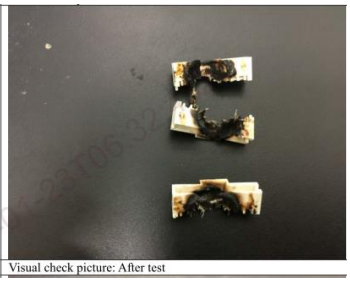
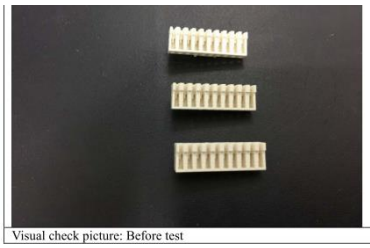


Visual check picture: Before test

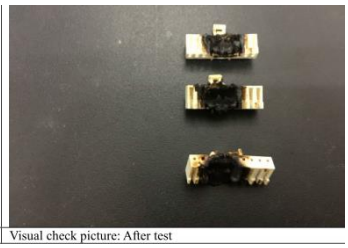


Visual check picture: After test

Group	Test Item	QTY	Status	Test Result						
	Examination	3	Initial	No Physical Damage						
SGI2.0 header housing	Glow Wire Test	3	Final	Point of glow tip application	Ti (sec)	Te (sec)	Flame Height (cm)	Drops (yes/no)	Light tissue paper burns (yes/no)	Judgment
				A(750°C)	0	0	0	no	no	Meet Spec
				A(750°C)	0	0	0	no	no	Meet Spec
				A(750°C)	0	0	0	no	no	Meet Spec



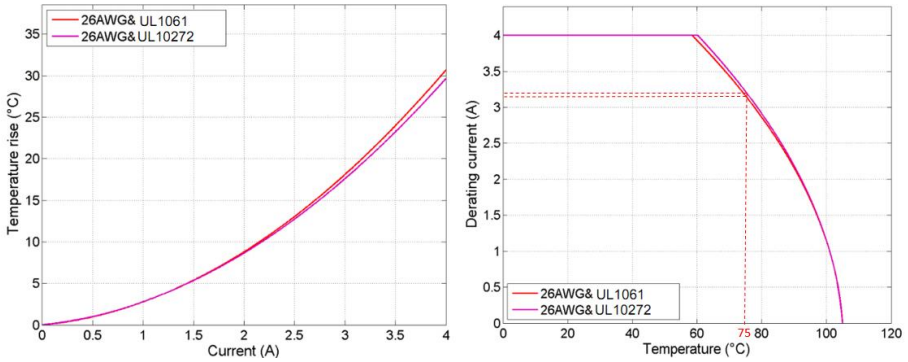
Visual check picture: Before test



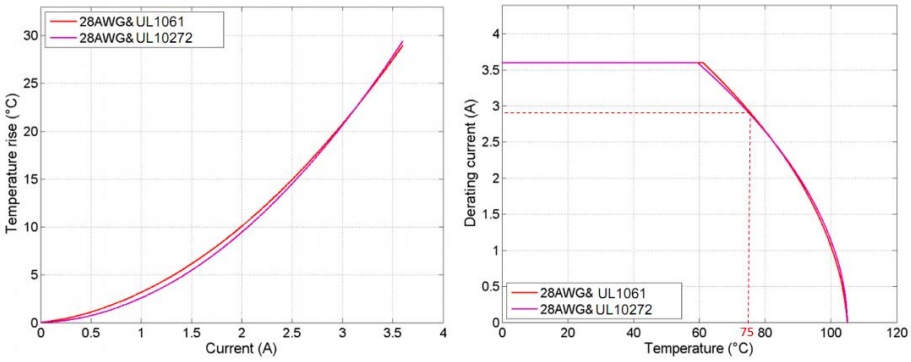
Visual check picture: After test

Group	Test Item	QTY	Status	Test Result						
	Examination	3	Initial	No Physical Damage						
SGI2.0 plug housing	Glow Wire Test	3	Final	Point of glow tip application	Ti (sec)	Te (sec)	Flame Height (cm)	Drops (yes/no)	Light tissue paper burns (yes/no)	Judgment
				A(750°C)	0	0	0	no	no	Meet Spec
				A(750°C)	0	0	0	no	no	Meet Spec
				A(750°C)	0	0	0	no	no	Meet Spec

GWT Test Result
Figure 1



Derating curve
Figure 2



Derating curve
Figure 3

3. CALIBRATION

3.1 Calibration Statement

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

4. VALIDATION

Requested by:
Candy xu 2017 09 12
_____ ____/____/____
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TE Connectivity Shanghai product engineer

Prepared by:
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