## 1.0 SCOPE

This specification covers performance, tests and quality requirements of the SHIELDING TONGS CONN.

## 2.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of the specification and the product drawing, the product drawing shall take precedence.. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1. Applicable Documents And Specifications

[MIL-STD]

[MIL-STD]

[ EIA-364]

## 3.0. REQUIREMENTS

3.1. Standard atmospheric condition:

Unless otherwise specified, the standard range of atmospheric condition for marking, measurement and tests is as follows:

Ambient temperature: 15℃ to 35℃

Relative humidity: 50% to 85%

Air pressure: 86 kpa to 106 kpa

If there may be any doubt on the results, measurements shall be mode within the following limits:

Ambient temperature: 23±1℃

Relative humidity: 60% to 70%

Air pressure: 86 kpa to 106 kpa

3.2. Rating:

Operating temperature: -35℃ to 80℃

Storage temperature:-10℃ to 60℃

Operating humidity: 20%~80%R.H

Storage humidity: 40%~60%R.H

Maximum Voltage rating: 30V (Volts) DC/AC（rms）

Maximum Current rating: 0.5A (Amperes)DC/AC

3.3. Material, plating and marking

| Parts | ShieldingTongs |
|---|---|
| Material | Stainless |

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## 4.0. PERFORMANCE AND TEST DESCRIPTION

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Form 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per IEC 512&MIL-STD& EIA-364

Form-1

### 4.1 ELECTRICAL REQUIREMENTS

| ITEM | DESCRIPTION | TEST CONDITIN | REQUIREMENT |
|---|---|---|---|
| 4.1.1 | Examination of Product | No crack or deformation that may affect the performance specified in this specification and drawing. | Visual, dimensional and functional per applicable quality inspection plan. EIA-364-18 |

### 4.2 ELECTRICAL REQUIREMENTS

| ITEM | DESCRIPTION | TEST CONDITIN | REQUIREMENT |
|---|---|---|---|
| 4.2.1 | Contact Resistance | Test current 1 mA. (Max.)<br>Open circuit voltage 20mVDC. (Max.)<br>(IEC 512-2-2A) | 100 mΩ Max. |

### 4.3.MECHANICAL REQUIREMENT

| ITEM | DESCRIPTION | TEST CONDITIN | REQUIREMENT |
|---|---|---|---|
| 4.3.2 | Mating and Unmating force | Measures force necessary to mate connector assemblies at a rate of 25±3mm/Min<br>EIA-364-13B | Insertion Fore 10N Max<br>Extraction Fore 1N Min |

### 4.4. ENVIRONMENTAL REQUIREMENTS

| ITEM | DESCRIPTION | TEST CONDITIN | REQUIREMENT |
|---|---|---|---|
| 4.4.1 | Heat resistance | The contact and Micro card is exposed in the heat chamber 85ºC for 96 hours. | Appearance：No damage.<br>Contact Resistance: 100 mΩ Max. |
| 4.4.2 | Cold resistance | The contact and Micro card is exposed in the cold chamber-40 ºC for 96hours.<br>(IEC 512-4-11k) | Appearance： No damage.<br>Contact Resistance: 100 mΩ Max. |

| | | | |
|---|---|---|---|
| 4.4.4 | Temperature cycling | －55ºC →＋85ºC<br>Transition time:5 minute Max<br>5 cycles(1 cycles=1 hour)with connectors engaged.<br>( IEC-512-6-11d)<br>1.-35 ºC 30 Minutes<br>2.+85 ºC 10 Minutes<br>3.+35 ºC 30 Minutes<br>4.+65 ºC 10 Minutes | (a)Function and performance shall be as specified. Not to change for Physical appearance<br>(b) Contact Resistance: 100 mΩ Max. |
| 4.4.5 | Humidity | Temperature：+40ºC<br>Humidity：90-95% R.H. for 96hours | (a)Function and performance shall be as specified. Not to change for Physical appearance<br>(b) Contact Resistance: 100 mΩ Max. |
| 4.4.6 | Solder ability | Temperature：230±5ºC<br>Duration：3±0.5 seconds<br>(MIL-STD-202) | Functional check：<br>Soldering area should at least 95% covered by solder. |
| 4.4.7 | Soldering Heat Resistance | Temperature：250±5ºC<br>Duration：5±1 seconds<br>( MIL-STD-202F, Method 210B ) | Appearan：<br>No damage |
| 4.4.9 | In IR-Reflow | MIL-STD-202G Method 210F<br>Temperature:250±5ºC minimum<br>Temperature time(250±5ºC):10 sec or more.<br>Lead-Free Soler:Sn96.5Ag 3Cu<br>Reflow Profile For reference see 6.1 | (a) Should not have any flaw scratch and crack<br>(b) No visual damage to insulator. |

Note :(a).Shall meet visual requirements show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Form-2.

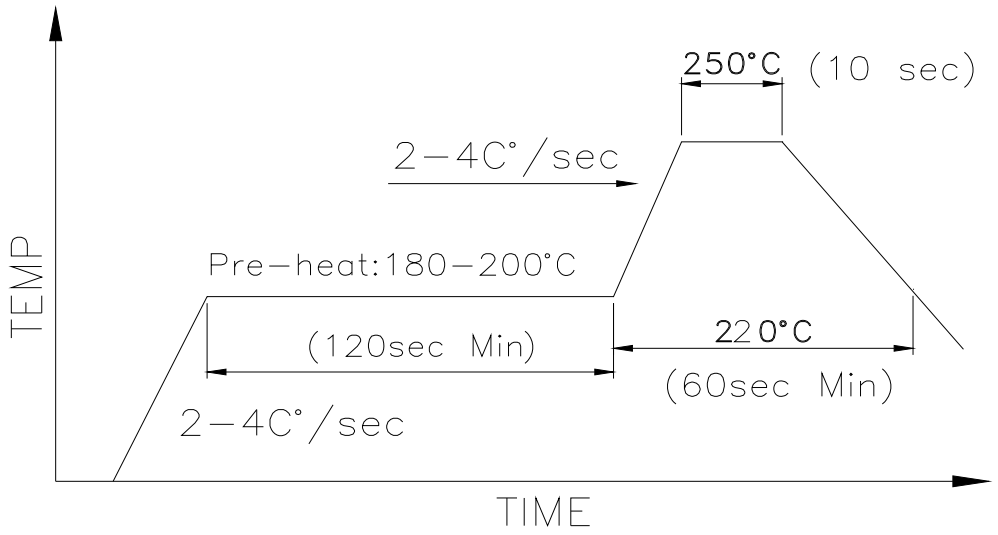
## 5.0. PRODUCT QUANLIFICATION AND TEST SEQUENCE

**Form-2**

| Test Item | | Test Group | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | I | J | K | L |
| | | Test Sequence | | | | | | | | | | | |
| 1 | Examination of Product | 1 | 1 | 1,5 | 1,5 | 1,5 | 1,5 | 1,3 | 1,3 | | | | |
| 2 | Contact Resistance | 2 | | 2,4 | 2,4 | 2,4 | 2,4 | | | | | | |
| 3 | Mating and Unmating force | | 2 | | | | | | | | | | |
| 4 | Heat Resistance | | | 3 | | | | | | | | | |
| 5 | Cold resistance | | | | 3 | | | | | | | | |
| 6 | Humidity | | | | | 3 | | | | | | | |
| 7 | Temperature cycling | | | | | | 3 | | | | | | |
| 8 | Solder ability | | | | | | | 2 | | | | | |
| 9 | Soldering Heat Resistance | | | | | | | | 2 | | | | |
| 18 | No. of Test Samples (Min.) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

## 6.0. APPENDIX

6.1 Figure 1 (Reflow Profile For reference)




6.2 Connector handling precautions.

6.2.1 Safeguard the connector assembly against flux penetration from its top side.

6.2.2 This product is designed on the assumption that they will not be washed after soldering, If you wash it, it may be cause deterioration of mechanically and electrically. If washing is necessary, please make contact with us beforehand.

6.3. Regarding the setting of reflow conditions, please confirm them with the actual mass production conditions.

6.4 As P.W.B warping may alter characteristics, please take this into consideration when designing pattern and layout.

6.5 The dimensions of holes for mounting a P.C.B. shall conform to the dimensions in the product Drawing.

6.6 Please do not solder at the ejector pushing position.

6.7 To prevent contact disturbance by the vulcanization or oxidation of the contact and terminal, and deterioration of solder ability by thin film on the terminal, please note following:

6.7.1 Storage in the atmosphere of high temperature, high humidity, corrosive gases such as sulfur or chlorinate gas, and excessive piling up of the carton boxes shall be avoided.

6.7.2 When the connectors are stored after opening the package, the connectors shall be sealed with a polyethylene bag etc. And stored in dark and cool place, Avoiding direct sunlight. The connectors shall be used an soon as possible.

6.8 This product does not operate normally when the card which does no conform to the specification is used occasionally.

6.9 There is a possibility that the product would fall when the reverse side reflow is done. We will recommend to fix this product with a thermosetting adhesive etc. Please contact to us about the range of the adhesive spreading separately.

6.10 Recommending a metal mask more than 0.12mm thick. Please confirm solderability, if use a metal mask less than 0.12mm thick.

6.11 Please do not add the force of 5N or more when you adsorb it in the Mounter

6.12 The upper surface of the products swells when the card is inserted. Therefore, please consider not to hit the connector enough when you design the case.

6.13 JPC will follow Micro SIM industrial specification and guarantee 5000times durability test, others are not mentioned in the Micro SIM industrial specification as application issues.

6.14 Suggest to use Micro SIM within 3 months as you receive, and must to apply it within 6 months once you have.