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PRODUCT NO： A2511 SERIES

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PRODUCT NO： A2511 SERIES

## 1. Scope：

This product specification contains the test results that general performances of A2511 SERIES connector were examined.

## 2. Part name & part number：

| Part name | Part number |
|---|---|
| Housing | A2511H |
| Wafer | A2511WV, A2511WR |

## 3. Construction、dimensions、material & surface finish：

Construction and dimensions shall be in accordance with the referenced drawings.

Material and surface finish shall be as specified below.

| Part name | | Material | Surface finish |
|---|---|---|---|
| Housing | | PBT | UL 94V-0 |
| Wafer | Post | Brass | Tin-plated |
| | Body | PBT | UL 94V-0 |

## 4. Characteristics：

Current rating： 3A AC,DC

Voltage rating：250V AC,DC

Temperature range：-40°C ~ 105°C

## 5. Conditions：

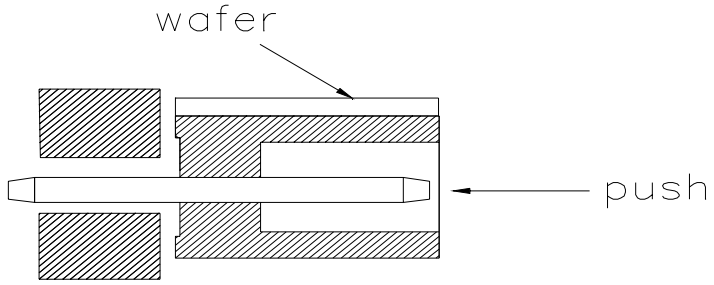
The conditions shall be in accordance with the referenced drawing of next page.

| Number | Item | Requirement |
|---|---|---|
| (1) | Bend up | 4°max. |
| | Bend down | 4°max. |
| | Twisting | 3°max. |
| | Rolling | 8°max. |
| (2) | Bell mouth (flare) | 0.2-0.5 mm |
| (3) | Cut-off tab length | 0.2 mm max. |
| (4) | Extruded wire length | 0-1.0 mm |
| (5) | Seam | Seam shall not be opened and no wire allowed out of crimping area |
| | Wire strip length | 1.2-1.7 mm ref. |
| (8) | Lance height | 0.3 mm ref. |

6.1 Post retention force

(1) Requirement：1.5 Kg (min.)

(2) Test method：The end of a post shall be pushed in a perpendicular to wafer. The load to make the post start moving shall be measured.




(3) Test results：

| Max. | Min. | Ave. | N=10 |
|---|---|---|---|
| 5.64 | 3.18 | 4.45 | |

7. Electrical test：

7.1 Contact resistance

(1) Requirement：Initial : 20 mΩ (max.)
After environmental test : 30 m Ω (max.)

(2) Condition：Test current : 10 mA (DC)
Open voltage : 20mV (max.)

(3) Test result：See items 8.1 ~ 8.4

7.2 Insulation resistance

(1) Requirement：Initial : 1000 MΩ (min.)
After humidity test ：500 MΩ (min.)
After thermal shock test ：500 MΩ (min.)

(2) Test method：DC 800V shall be applied between outer surface of housing and terminal and between adjacent terminals to measure insulation resistance. (MIL-STD-202 , test method 302 , condition B)

(3) Test result：See items 8.1 & 8.3

7.3 Dielectric withstanding voltage

(1) Requirement：There shall be no breakdown nor flashover.

(2) Test method：Initially AC 800V (rms) and after humidity and thermal shock tests AC 800V (rms) shall be applied between outer surface of housing and terminal and between adjacent terminals for one minutes. (MIL-STD-202 , test method 301)
Test current : 1mA

(3) Test result：See items 8.1 & 8.3

## 8. Environment test：

### 8.1 Humidity

(1) Requirement：Contact resistance shall be 30 milliohms (max.) after the test. Insulation resistance shall be 500 megohms (min.) after the test. There shall be no breakdown nor flashover on dielectric withstanding voltage test.

(2) Test method ：Mated connector shall be placed in a humidity chamber of the following conditions. After the test , contact resistance , insulation resistance and dielectric with-standing voltage shall be measured. (MIL-STD-202 , test method 103 , condition A)

Temperature : 40 ±2 °C
Humidity : 90% ~ 95% (RH)
Period : 240 hours continuously

(3) Test results ：

| Test item | Initial (mΩ) | | | After test (mΩ) | | | |
|---|---|---|---|---|---|---|---|
| Contact resistance | Max. | Min. | Ave. | Max | Min | Ave | |
| | 3.28 | 1.35 | 2.44 | 3.31 | 1.42 | 2.38 | N=30 |

| Test item | Housing-Terminal (MΩ) | | Terminal-Terminal (MΩ) | | |
|---|---|---|---|---|---|
| Insulation resistance | Initial | After test | Initial | After test | |
| | 1000min | 1000min | 1000min | 1000min | N=20 |

| Test item | Housing-Terminal (MΩ) | | Terminal-Terminal (MΩ) | | |
|---|---|---|---|---|---|
| D.W.V. | Initial | After test | Initial | After test | |
| | Good | Good | Good | Good | N=20 |

( D.W.V. ：Dielectric withstanding voltage )

### 8.2 Salt spray

(1) Requirement：Contact resistance shall be 30 milliohms (max.) after the test.

(2) Test method ：Mated connector shall be subjected to salt spray test of the following conditions. After the test, specimen shall be washed with running water and dried naturally before the measurement of contact resistance.

Temperature : 40 ±2 °C
Humidity : 90% ~ 95% (RH)
Period :8 or 16 or 24 or 32 or 48 hours

(3) Test result ：

| Test item | Initial (mΩ) | | | After test (mΩ) | | | |
|---|---|---|---|---|---|---|---|
| Contact resistance | Max. | Min. | Ave. | Max. | Min | Ave. | |
| | 3.51 | 1.38 | 2.47 | 3.31 | 1.28 | 2.39 | N=30 |

### 8.3 Thermal shock

(1) Requirement：Contact resistance shall be 30 milliohms (max.) after the test. Insulation resistance shall be 500 megohms (min.) after the test. There shall be no breakdown nor flashover on dielectric withstanding voltage test.

(2) Test method ：Mated connector shall be subjected to thermal shock test of the following conditions. After the test , contact resistance , insulation resistance and dielectric withstanding voltage shall be measured.

1 cycle consists of ：
-55 °C for 30 minutes
+85 °C for 30 minutes
Times of cycles：25 cycles

(3) Test results ：

| Test item | Initial (mΩ) | | | After test (mΩ) | | | |
|---|---|---|---|---|---|---|---|
| Contact resistance | Max. | Min. | Ave. | Max. | Min | Ave. | |
| | 3.39 | 1.31 | 2.42 | 3.38 | 1.29 | 2.35 | N=30 |

| Test item | Housing-Terminal (MΩ) | | Terminal-Terminal (MΩ) | | |
|---|---|---|---|---|---|
| Insulation resistance | Initial | After test | Initial | After test | |
| | 1000min | 1000min | 1000min | 1000min | N=20 |

| Test item | Housing-Terminal (MΩ) | | Terminal-Terminal (MΩ) | | |
|---|---|---|---|---|---|
| D.W.V. | Initial | After test | Initial | After test | |
| | Good | Good | Good | Good | N=20 |

D.W.V. ：Dielectric withstanding voltage

## 8.4 Vibration

(1) Requirements：Contact resistance shall be 30 milliohms (max.) after the test. There shall be no current discontinuity longer than 1 microsecond during the test.

(2) Test method ：Mated connector shall be mounted on a PCB and subjected to a vibration test of the following conditions. During the test , current continuity shall be checked. After the test , contact resistance shall be measured.
(MIL-STD-202 , test method 201)

Frequency : 10~55~10 Hz/min.
Amplitude : 1.5 mm
Direction : 1. Axis of up and down
2. Axis of right and left
3. Axis of front and back

(3) Test result ：

| Test item | Initial (mΩ) | | | After test (mΩ) | | | |
|---|---|---|---|---|---|---|---|
| Contact resistance | Max. | Min. | Ave. | Max. | Min | Ave. | |
| | 3.34 | 1.39 | 2.28 | 3.3 | 1.28 | 2.35 | N=30 |

Current discontinuity：There shall be no current discontinuity longer than 1 microsecond during the test.

## 8.5 Solderability

(1) Requirements：Solder-dipping section shall be covered by solder entirely.

(2) Test method ：Fluxed soldering section of shrouded header shall be dipped in solder of the following conditions.

Solder temperature : 235 ±5 °C
Immersion period : 3-5 seconds

(3) Test result ：Good.

8.6 Resistance to soldering heat

(1) Requirements：There shall be no deformation nor damage which may affect the performance.

(2) Test method ：Specimen shall be mounted on a PCB (inserted only) and subjected to resistance to soldering heat test of the following conditions.

Solder temperature : 250 ±5 °C

Immersion period : 3-5 seconds

(3) Test result ：Good.