

| PRODUCT SPECIFICATION | | | | | |
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| | | | BY | BY | BY |
| | | | Jack Yin | Lailin | Haisen Li |
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1.SCOPE:

This specification covers the requirements for product performance of 1.27 mm pitch wire to board connector series.

2.PART NAME & PART NUMBERS

| Part name | Part number |
|-----------|-------------------|
| Housing | A1276HE |
| Terminal | A1276-T |
| Wafer | A1276WVE、A1276WRE |

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 |
|-----------|-----------------|------------------|
| Terminal | Phosphor Bronze | Gold over Nickel |
| Housing | LCP | UL94V-0 |
| Wafer | Base | LCP |
| | PIN | Phosphor bronze |
| | Solder tab | Phosphor bronze |
| | | UL94V-0 |
| | | Gold over Nickel |
| | | Tin over Nickel |

4. RATINGS & APPLICABLE WIRES

| Item | Standard |
|--------------------------------|---|
| Rated Voltage (max.) | 313V AC DC |
| Rated Current (max.) | 3.1A AC DC |
| Ambient Temperature Range | -40℃~+105℃* |
| Applicable wire insulation O.D | AWG #28 ~ AWG #30(0.05~0.08mm2) Insulation O.D. 0.97mm(Max.) |

*: Including terminal temperature rise

5. CONDITIONS:

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

| Number | Item | Requirement |
|--------|----------------------|---|
| (1) | Bend up | 2°Max. |
| | Bend down | 3°Max. |
| | Twisting | 2°Max. |
| | Rolling | 5°Max. |
| (2) | Bell mouth (flare) | 0.05-0.25 mm |
| (3) | Cut-off tab length | 0.3 mm Max. |
| (4) | Extruded wire length | 0.2-0.6 mm |
| (5) | Seam | Seam shall not be opened and no wire allowed out of crimping area |
| (6) | Wire strip length | 1.2-1.5 mm ref. |
| (7) | Lance height | 0.3 mm ref. |

After crimping, the crimped areas should be as follows.

| Wire Size (AWG) | Terminal Part Number | Conductor(mm) | | Insulation(mm) | | Crimp Strength (kgf) |
|-----------------|----------------------|---------------|--------------|----------------|--------------|----------------------|
| | | Crimp Width | Crimp Height | Crimp Width | Crimp Height | |
| #28 | A1276-T | 0.79±0.03 | 0.43~0.49 | 0.97±0.03mm | 1.12~1.22 | 0.9kgf |
| #30 | | | 0.40~0.46 | | 0.95~1.05 | 0.7kgf |

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6. PERFORMANCE

6.1 ELECTRICAL PERFORMANCE

| Test Description | | Procedure | Requirement |
|------------------|---------------------------------|---|--------------|
| 6-1-1 | Contact Resistance | Mate connectors, measure by dry circuit, 20mV MAX, 10mA.(Based upon EIA-364-06A). | 20mΩ max. |
| 6-1-2 | Insulation Resistance | Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon JIS C5402 5.2/MIL-STD-202 Method 302 Cond. B) | 1000MΩ min. |
| 6-1-3 | Dielectric Withstanding Voltage | Mate connectors, apply 1000V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A / MIL-STD-202 Method 301) | No Breakdown |

6.2 MECHANICAL PERFORMANCE

| Test Description | | Procedure | | Requirement |
|------------------|----------------------------------|---|--------------------|--|
| 6-2-1 | Insertion & Retention Force | Insert and withdraw Connectors at the speed rate of 25.4±3mm/minute. | | Mating Force: 0.14kgf Max per circuit Unmating Force: 0.01Kgf Min per circuit |
| 6-2-2 | Crimping Pull Out Force | Fix the crimped terminal, apply axial pull out force on the wire. (Do not crimp insulation part). | AWG #28 | 8.91N/0.91kgf min. |
| | | | AWG #30 | 6.66N/0.68kgf min. |
| 6-2-3 | Terminal/Housing Retention Force | Apply axial pull out force at the speed rate of 25 ± 3mm/minute on the terminal assembled in the housing. | | 9.80N / 1kgf Min. |
| 6-2-4 | Pin Retention Force | Apply axial push force at the speed rate of 25.4 ± 3mm/minute. | | 3.43N /0.35kgf min. |
| 6-2-5 | Durability | When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute. | Contact Resistance | 40mΩ max. |
| 6-2-6 | Vibration | Amplitude: 1.52mm P-P Sweep time: 10-55-10 Hz in 1 minute Duration: 2 hours in each X.Y.Z. axes (Based upon MIL-STD-202 Method 201A) | Appearance | No Damage |
| | | | Contact Resistance | 40mΩ max. |
| | | | Discontinuity | 1μsec. max. |
| 6-2-7 | Shock | 490m/s ² {50G}, 3 strokes in each X.Y.Z. axes. (Based upon JIS C0041/MIL-STD-202 Method 213B Cond. A) | Appearance | No Damage |
| | | | Contact Resistance | 40mΩ max. |
| | | | Discontinuity | 1μsec. max. |

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6.3 ENVIRONMENTAL PERFORMANCE AND OTHERS

| Test Description | | Procedure | | Requirement |
|------------------|------------------------------|--|---------------------------------|--------------------------|
| 6-3-1 | Temperature Rise | Carrying rated current load. (Based upon UL 498) | Temperature Rise | 30°C max. |
| 6-3-2 | Heat Resistance | 105 ± 2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A) | Appearance | No Damage |
| | | | Contact Resistance | 30mΩ max. |
| 6-3-3 | Cold Resistance | -40 ± 5°C, 96 hours (Based upon JIS C0020) | Appearance | No Damage |
| | | | Contact Resistance | 40mΩ max. |
| 6-3-4 | Humidity | Temperature: 40 ± 2°C Relative Humidity: 90 ~ 95% Duration: 96 hours (Based upon JIS C0022/MIL-STD-202 Method 103B Cond. B) | Appearance | No Damage |
| | | | Contact Resistance | 40mΩ max. |
| | | | Insulation Resistance | 500MΩ min. |
| | | | Dielectric Withstanding Voltage | Must meet 6-1-3 |
| 6-3-5 | Temperature Cycling | 5 cycles of: a) - 55°C 30 minutes b) +85°C 30 minutes (Based upon JIS C0025) | Appearance | No Damage |
| | | | Contact Resistance | 40mΩ max. |
| 6-3-6 | Salt Spray | 24 hours exposure to a salt spray from the 5% solution at 35 ± 2°C. (Based upon JIS C0023/MIL-STD-202 Method 101D Cond. B) | Appearance | No Damage |
| | | | Contact Resistance | 40mΩ max. |
| 6-3-7 | Solderability | Soldering Time: 3~5 sec. Solder Temperature: 245 ± 5°C | Solder Wetting | Solder coverage: 95% MIN |
| 6-3-8 | Resistance to Soldering Heat | <u>High temperature resistant materials</u> Soldering Time: 3~5 sec. Solder Temperature: 260 ± 5°C | Appearance | No Damage |