



PRODUCT SPECIFICATION

PRODUCT SERIES NAME: A2006-U SERIES

PAGE : 1/6

Index

1. Scope
2. Part name & part numbers
3. Construction. dimensions. material & surface finish
4. Ratings & applicable wires
5. Conditions
6. Performance
 - 6.1 Electrical performance
 - 6.2 Mechanical performance
 - 6.3 Environmental performance and others
7. Insertion and Withdrawal Force

| | | | APPROVED | CHECKED | WRITTEN |
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PRODUCT SPECIFICATION

PRODUCT SERIES NAME: A2006-U SERIES

PAGE : 2/6

1.SCOPE:

This specification covers the requirements for product performance of 2.00 mm pitch wire to board connector series.

2.PART NAME & PART NUMBERS

| Part name | Part number |
|-----------|--------------------------------------|
| Housing | A2006HU |
| Terminal | A2006-T-U A2006-T-U-L |
| Wafer | A2006WVU/WVU-F/WVU-F1 A2006WRU/WRU-F |

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 | | Nylon 66 | UL94V-0 |
| Terminal | | Phosphor bronze | Tin over Nickel/Gold over Nickel |
| Wafer | Post | Brass | Tin over Nickel/Gold over Nickel |
| | Body | Nylon 4T | UL94V-0 |

4. RATINGS & APPLICABLE WIRES

| Item | Standard | |
|--|------------|------------|
| Rated Voltage (Max.) | 250V AC DC | |
| Rated Current (Max.) and Applicable Wires | AWG #22 | 3.0A AC DC |
| | AWG #24 | 2.5A AC DC |
| | AWG #26 | 2.0A AC DC |
| | AWG #28 | 1.5A AC DC |
| Ambient Temperature Range | -40℃~105℃* | |

*: Including terminal temperature rise

Insulation O.D.
0.76mm~1.50mm

PRODUCT SPECIFICATION
PRODUCT SERIES NAME: A2006-U SERIES

PAGE : 3/6

5. CONDITIONS:

The conditions shall be in accordance with the referenced data of next table.

| Number | Item | Requirement |
|--------|----------------------|---|
| (1) | Bend up | 6°Max. |
| | Bend down | 3°Max. |
| | Twisting | 5°Max. |
| | Rolling | 7°Max. |
| (2) | Bell mouth (flare) | 0.1-0.3 mm |
| (3) | Cut-off tab length | 0-0.5 mm |
| (4) | Extruded wire length | 0.3-0.6 mm |
| (5) | Seam | Seam shall not be opened and no wire allowed out of crimping area |
| (6) | Wire strip length | 1.7-2.0 mm ref. |
| (7) | Lance height | 0.3 mm ref. |

After crimping, the crimped areas [(5)、(6)] 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 | |
| # 22 | A2006-T-U | 1.35 | 0.62~0.67 | 1.60 | 1.8 | 4.00(Min.) |
| # 24 | | | 0.55~0.60 | | 1.8 | 3.00(Min.) |
| # 26 | | | 0.52~0.57 | | 1.6 | 2.00(Min.) |
| # 24 | A2006-T-U-L | | 0.57~0.62 | | 1.7 | 3.00(Min.) |
| # 26 | | | 0.52~0.57 | | 1.6 | 2.00(Min.) |
| # 28 | | | 0.47~0.52 | | 1.5 | 1.00(Min.) |

The crimp width at the conductor & insulation part 、 crimp height at the insulation part is a reference value, so adjust it according to a wire to be used.

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 JIS C5402 5.4) | 10mΩ 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 800V AC (rms) for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301) | No Breakdown |

PRODUCT SPECIFICATION
PRODUCT SERIES NAME: A2006-U SERIES

PAGE : 4/6

6.2 MECHANICAL PERFORMANCE

| Test Description | | Procedure | | Requirement |
|------------------|----------------------------------|--|--------------------|---|
| 6-2-1 | Insertion & Withdrawal Force | Insert and withdraw connectors at the speed rate of 25 ± 3 mm/minute. | | Refer to section 7 |
| 6-2-2 | Crimping Pull Out Force | Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of 25 ± 3 mm/minute. (Based upon JIS C5402 6.8) | AWG #22 | 39.2N/4.0kgf Min. |
| | | | AWG #24 | 29.4N/3.0kgf Min. |
| | | | AWG #26 | 19.6N/2.0kgf Min. |
| | | | AWG #28 | 9.8N/1.0kgf Min. |
| 6-2-3 | Crimp Terminal Insertion Force | Insert the crimped terminal into the housing. Testing speed: 25 ± 3 mm/minute. | | N/A |
| 6-2-4 | Terminal/Housing Retention Force | Apply axial pull out force at the speed rate of 25 ± 3 mm/minute on the terminal assembled in the housing. | | 1.0kgf Min. |
| 6-2-5 | Locking Strength | A socket housing and a header shall be mated. A load shall be applied between them. The load to come them off each other shall be measured. Testing speed: 25 ± 3 mm/minute | | 8P~18P: 2.0kgf Min. 20P~28P: 2.5kgf Min. 30P~40P: 3.0kgf Min. |
| 6-2-6 | Header Terminal Retention Force | Apply axial push force at the speed rate of 25 ± 3 mm/minute. | | 1.0kgf Min. |
| 6-2-7 | Durability | When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute. | Contact Resistance | 20mΩ Max. |
| 6-2-8 | 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 JIS C 60068-2-6/MIL-STD-202 Method 201) | Appearance | No Damage |
| | | | Contact Resistance | 20mΩ Max. |
| | | | Discontinuity | 1μsec. Max. |
| 6-2-9 | Physical Shock | Mate connectors and shock at 50 g's with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total). | Appearance | N/A |
| | | | Contact Resistance | |
| | | | Discontinuity | |

PRODUCT SPECIFICATION
PRODUCT SERIES NAME: A2006-U SERIES

PAGE : 5/6

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 | 85 ± 2°C, 250 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A) | Appearance | No Damage |
| | | | Contact Resistance | 20mΩ Max. |
| 6-3-3 | Humidity | Temperature: 40 ± 2°C Relative Humidity: 90 ~ 95% Duration: 240 hours (Based upon JIS C0022/MIL-STD-202 Method 103B Cond. B) | Appearance | No Damage |
| | | | Contact Resistance | 20mΩ Max. |
| | | | Insulation Resistance | 500MΩ Min. |
| | | | Dielectric Withstanding Voltage | Must meet 6-1-3 |
| 6-3-4 | Temperature Cycling | 25 cycles of: a) - 55°C 30 minutes b) +85°C 30 minutes (Based upon MIL-STD-202 Method 107 Cond. A-1) | Appearance | No Damage |
| | | | Contact Resistance | 20mΩ Max. |
| 6-3-5 | 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 | 20mΩ Max. |
| 6-3-6 | Hydrogen Sulfide Gas | Concentration: 3 ± 1ppm. Temperature: 40 ± 2°C Relative Humidity: 80±5% 96 hours | Appearance | No Damage |
| | | | Contact Resistance | 20mΩ Max. |
| 6-3-7 | NH ₃ Gas | 40 minutes exposure to NH ₃ gas evaporating from 28% Ammonia solution. | Appearance | No Damage |
| | | | Contact Resistance | 20mΩ Max. |
| 6-3-8 | Solderability | Soldering Time: 3~5 sec. Solder Temperature: 245 ± 5°C | Solder Wetting | 95% of immersed area must show no voids, pin holes |
| 6-3-9 | Resistance to Soldering Heat | Normal materials Soldering Time:3~5 sec. Solder Temperature: 250± 5°C | Appearance | No Damage |
| | | High temperature resistant materials Soldering Time:3~5 sec. Solder Temperature: 260 ± 5°C | | |



PRODUCT SPECIFICATION

PRODUCT SERIES NAME: A2006-U SERIES

PAGE : 6/6

7. INSERTION AND WITHDRAWAL FORCE

unit:N

| Number of Circuits (W-B) | Insertion (Max.) | Withdrawal (Min.) | |
|-----------------------------|------------------|-------------------|-------|
| | 1 th | 1 th | 30 th |
| 2x4P | 25 | 1 | 1 |
| 2x5P | 28 | 3 | 2 |
| 2x6P | 31 | 4 | 2 |
| 2x7P | 34 | 6 | 3 |
| 2x8P | 37 | 7 | 3 |
| 2x9P | 40 | 9 | 4 |
| 2x10P | 43 | 10 | 4 |
| 2x11P | 46 | 12 | 5 |
| 2x12P | 49 | 13 | 5 |
| 2x13P | 52 | 15 | 6 |
| 2x14P | 55 | 16 | 6 |
| 2x15P | 58 | 18 | 7 |
| 2x16P | 61 | 19 | 7 |
| 2x17P | 64 | 21 | 8 |
| 2x18P | 67 | 22 | 8 |
| 2x19P | 70 | 24 | 9 |
| 2x20P | 73 | 25 | 9 |