



FEATURES

- 1. Compliant with USB 2.0-OTG (Transmission speed: 480 Mbps)**
- 2. 7.7 mm deep space-saving size**
Since the depth is 7.7 mm, the occupied space is approx.

15% smaller than competing standard connectors (depth: approx 9.0 mm).

- 3. Reinforced fixing strength between the body and shell**

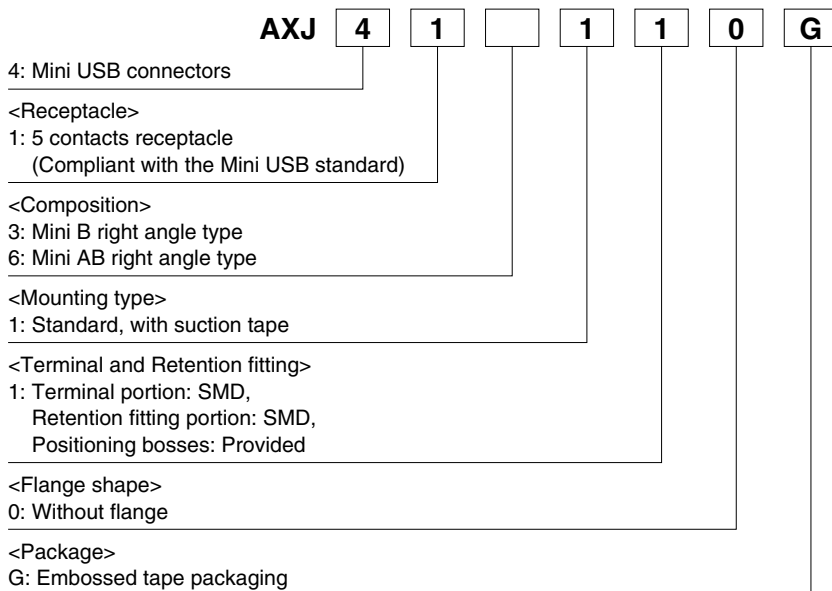
The high strength allows for the forcible insertion of a plug.

APPLICATIONS

- 1. DSC, PMP, DVC, IC recorders**
- 2. Mobile phones, PDA, smart phones**
- 3. Compact PC peripherals (e.g. external HDD, memory card readers)**
- 4. Game machines**

Compliance with RoHS Directive

ORDERING INFORMATION



PRODUCT TYPES

| Type | | Terminal shape | Positioning bosses | Flange | Part number | Packing quantity | |
|---|-----------------------------|--|--------------------|----------------|-------------|-------------------------|--------------|
| | | | | | | Inner carton (Embossed) | Outer carton |
| 5 contacts receptacle (Compliant with the Mini USB standard) | Mini B Right angle type | Terminal position: SMD Clips (retention fitting): SMD | Provided | Without flange | AXJ413110G | 1,200 | 6,000 |
| | Mini AB Right angle type | | | | | | |

SPECIFICATIONS

1. Characteristics

| | Item | Specifications | Conditions |
|-------------------------------|-------------------------------------|--|--|
| Electrical characteristics | Rated current | 1.0A | |
| | Rated voltage | 30V DC/AC | |
| | Contact resistance | Max. 50mΩ | EIA-364-23 (Inductive resistance to wire is not included) |
| | Insulation resistance | Min. 100MΩ | EIA-364-21 Using 100V DC megger |
| | Breakdown voltage | 100V AC (Dielectric breakdown must not occur during a 1 min. application) | EIA-364-20 Detection current: 1mA |
| | Electrostatic capacity | Max. 2pF | EIA-364-30 (Measure it between the adjacent terminals of the unmated connector at a frequency of 1 kHz.) |
| Mechanical characteristics | Composite insertion force (initial) | Max. 35N {3.57kgf} | EIA-364-13 Insert and remove a plug at a speed of 12.5 mm/min. |
| | Composite removal force (initial) | Min. 7N {0.714kgf} | |
| Environmental characteristics | Ambient temperature | -55°C to 85°C | No freezing or condensation in low temperatures |
| | Storage temperature | -55°C to 85°C (-40°C to 50°C for packaging materials) | No freezing or condensation in low temperatures |
| | Vibration resistance | Discontinuity: Max. 1μs Contact resistance: Max. 50mΩ Appearance: No abnormality | EIA-364-28 Apply vibration in three directions including the mating axis that are perpendicular to one another for 15 minutes respectively with a 100 mA DC current applied. Cord length: 100mm Fix the cord end. |
| | Impact resistance | Discontinuity: Max. 1μs Contact resistance: Max. 50mΩ Appearance: No abnormality | EIA-364-27 Acceleration: 294m/s ² (30G) Duration: 11 ms, Application directions: 6 surfaces (X, Y, and Z directions) Number of applications: 3 times respectively (Total: 18 times) Cord length: 100mm Fix the cord end. |
| | Heat resistance (mated) | 250 hours Contact resistance: Max. 50mΩ Withstand voltage: 100V AC dielectric breakdown must not occur during a one-minute application. Insulation resistance: Min. 100MΩ Appearance: No abnormality | EIA-364-17 Temperature: 85±2°C |
| | Low temperature resistance (mated) | 96 hours Contact resistance: Max. 50mΩ Withstand voltage: 100V AC dielectric breakdown must not occur during a one-minute application. Insulation resistance: Min. 100MΩ Appearance: No abnormality | Temperature: -55±2°C |
| | Humidity resistance (mated) | 7 cycles Contact resistance: Max. 50mΩ Withstand voltage: 100V AC dielectric breakdown must not occur during a one-minute application. Insulation resistance: Min. 100MΩ Appearance: No abnormality | EIA-364-31 Method III |
| | Temperature cycle test (mated) | 10 cycles Contact resistance: Max. 50mΩ Withstand voltage: 100V AC dielectric breakdown must not occur during a one-minute application. Insulation resistance: Min. 100MΩ Appearance: No abnormality | Sequence 1. -55±3°C, 30 minutes 2. ~, Max. 5 minutes 3. 85±2°C, 30 minutes 4. ~, Max. 5 minutes |
| | Saltwater spray resistance (mated) | 48 hours Contact resistance: Max. 100mΩ Appearance: No abnormality | Bath temperature: 35±2°C Saltwater concentration: 5±1% Wash the connector with water at room temperature after the test, and then dry it at room temperature. |
| | Hydrogen sulfide | 96 hours Contact resistance: Max. 100mΩ Appearance: No abnormality | Temperature :40±2°C Humidity: 75 to 80% Gas concentration: 3±1ppm |
| | Soldering temperature resistance | Reflow soldering | Peak temperature: Max. 260°C |
| Manual soldering | | 300±10°C: Max. 5 s 350±10°C: Max. 3 s | |

2. Material and surface treatment

| | Part name | Material | Surface treatment |
|-------------|-----------------------|--------------------------------|---|
| | Resin-molding portion | Heat-resistant resin (UL94V-0) | — |
| Metal parts | Contact | Copper alloy | Contact portion: Ni plating on base, Au plating on surface Terminal portion: Ni plating on base, Sn plating on surface |
| | Shell | Copper alloy | Ni plating on base, Sn plating on surface |
| | Pickup tape | Heat-resistant resin | — |

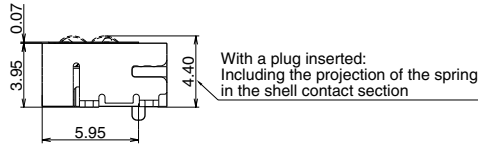
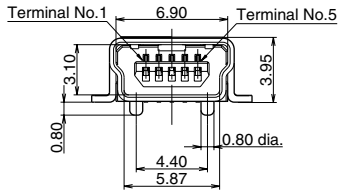
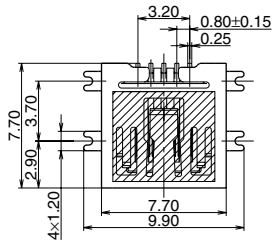
AXJ4

DIMENSIONS

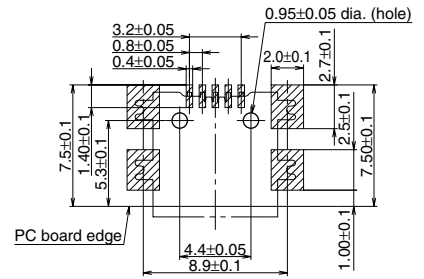
mm General tolerance: ± 0.3

1. Mini B Right angle type

AXJ413110G

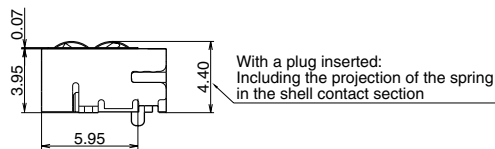
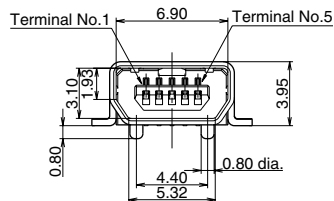
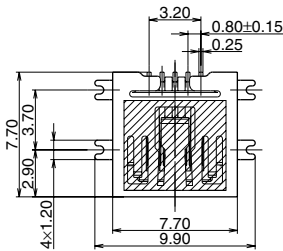


Recommended PC board pattern (TOP VIEW)

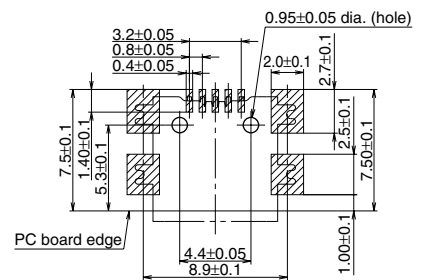


2. Mini AB Right angle type

AXJ416110G

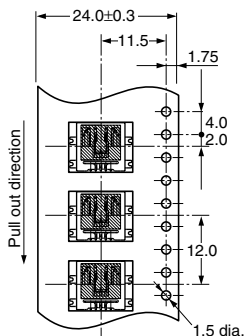


Recommended PC board pattern (TOP VIEW)

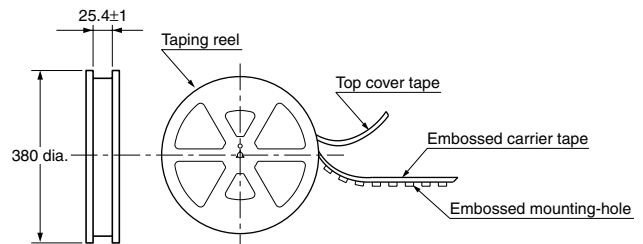


EMBOSSED TAPE DIMENSIONS (unit: mm)

• Tape dimensions (Conforming to JIS C 0806-3 1999)



• Reel dimensions (Conforming to EIAJ ET-7200B)



NOTES

1. Use of a cover is recommended when using this device in order to prevent scraps, dust, dirt, etc., from getting inside of the receptacle.

2. PC board design

Please refer to the recommended PC board pattern to ensure the strength of soldered portion of terminals.

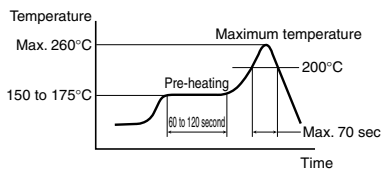
3. Soldering

1) Manual soldering

- Please set up temperature and applied time of soldering iron as indicated in specification sheet.
- Please use soldering iron after confirming removal of dispersed solder flux on the contact surface by use of magnifying glass after each soldering.
- Please properly clean soldering iron.

2) Reflow soldering

- Screen printing is recommended for cream solder printing.
- Screen thickness of 0.15mm is recommended for cream solder printing.
- When applying different thickness of screen, please consult us.
- Depending upon size of connector, self alignments may not be expected. Please pay attention to align terminals and soldered pads.
- The following diagram shows the recommended reflow soldering temperature profile.



- The temperature measured on the PC board surface near connector terminals.
 - After reflow soldering, in case of PC board surface the reverse side using reflow soldering, for example an adhesive and so on connector of fixed disposition.
- 3) Rework of soldering portion
- Rework is one time.
 - In case of soldering rework of bridges. Please use a flat-head soldering iron and don't use supplementary solder flux.
 - Please use the soldering iron under specification's temperature

4. Since excessive force on the terminals will cause deformation and the integrity of the soldering will be lost during reflow soldering, avoid dropping or rough handling of the product.

5. PC board warpage should be controlled less than 0.03mm to entire length of the connector.

6. Repeated bending of terminals and holding parts can result in terminals breaking.

7. Regarding after soldering connectors on PC boards

- After mounting connectors on PC boards, do not apply excessive loads to the connector by piling up the boards.
- Please do not add the force to the connector during assembled connector on PC board.

8. This connector has metal shell for preventing EMI, when designing an enclosure the followings should be considered. Guide for plug entrance should be arranged in order to prevent distorted insertions. Provide a cover to reinforce the metal shell portions of the receptacle.

9. We recommend the use of a purified-water-based solution for cleaning the PC board. If you use an alcohol-based solution, the surface of the molded part may be whitened. In addition, please carefully monitor the contamination degree of the solution to prevent the solution from re-contaminating the connector contacts.

10. Others

To prevent insulation deterioration of PC board after soldering, please avoid adhesion coating agent to terminals in case of coating.

For other details, please verify with the product specification sheets.

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