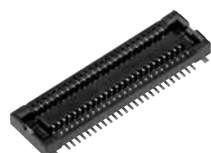


## NARROW-PITCH FOR BOARD-TO-FPC CONNECTION

## NARROW PITCH (0.35 mm) CONNECTORS F35S SERIES



Socket



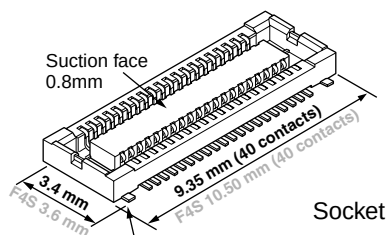
Header

Compliance with RoHS Directive

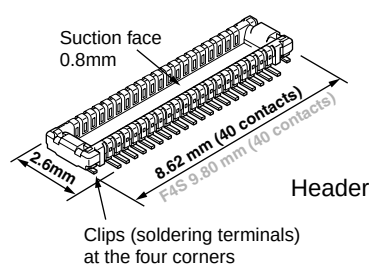
### FEATURES

#### 1. Space-saving design (0.35 mm pitch)

The footprint when mated is down approx. 15% from our existing F4S model (40 contacts), contributing to the functionality enhancement and size reduction of target equipment.



Socket



Header

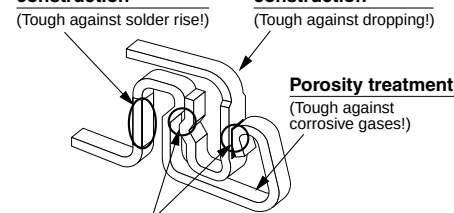
Clips (soldering terminals)  
at the four corners

Clips (soldering terminals)  
at the four corners

#### 2. Strong resistance to adverse environments **TOUGH CONTACT** construction

**Ni barrier construction**  
(Tough against solder rise!)

**Bellows contact construction**  
(Tough against dropping!)



**V notch and Double contact constructions**  
(Tough against foreign particles and flux!)

3. The clips (soldering terminals) at the four corners enhance the mounting strength.

4. The simple lock structure ensures a superior mating/unmating operation feel.

5. The gull-wing-shaped terminals facilitate imaging inspections.

### APPLICATIONS

Particularly suitable for board-to-FPC connections in ultra-compact mobile equipment that requires size and thickness reduction and functionality enhancement

### ORDERING INFORMATION

AXT

7: Narrow Pitch Connector F35S (0.35 mm pitch) Socket

8: Narrow Pitch Connector F35S (0.35 mm pitch) Header

Number of contacts (2 digits)

Mated height

<Socket> / <Header>

1: For mated height 1.0 mm

Functions

2: Without positioning bosses

Surface treatment (Contact portion / Terminal portion)

<Socket>

4: Base: Ni plating, Surface: Au plating (for Ni barrier available)

<Header>

4: Base: Ni plating, Surface: Au plating

AXT7, 8

PRODUCT TYPES 

| Mated height | Number of contacts | Part number |           | Packing      |              |
|--------------|--------------------|-------------|-----------|--------------|--------------|
|              |                    | Socket      | Header    | Inner carton | Outer carton |
| 1.0mm        | 40                 | AXT740124   | AXT840124 | 3,000 pieces | 6,000 pieces |
|              | 50                 | AXT750124   | AXT850124 |              |              |
|              | 60                 | AXT760124   | AXT860124 |              |              |
|              | 70                 | AXT770124   | AXT870124 |              |              |
|              | 80                 | AXT780124   | AXT880124 |              |              |

Notes: 1. Order unit: For mass production: in 1-inner-box (1-reel) units  
Samples for mounting check: in 50-connector units. Please contact our sales office.  
2. The above part numbers are for connectors without positioning bosses, which are standard. When ordering connectors with positioning bosses, please contact our sales office.  
3. Please contact us for connectors having a number of contacts other than those listed above.

SPECIFICATIONS

1. Characteristics

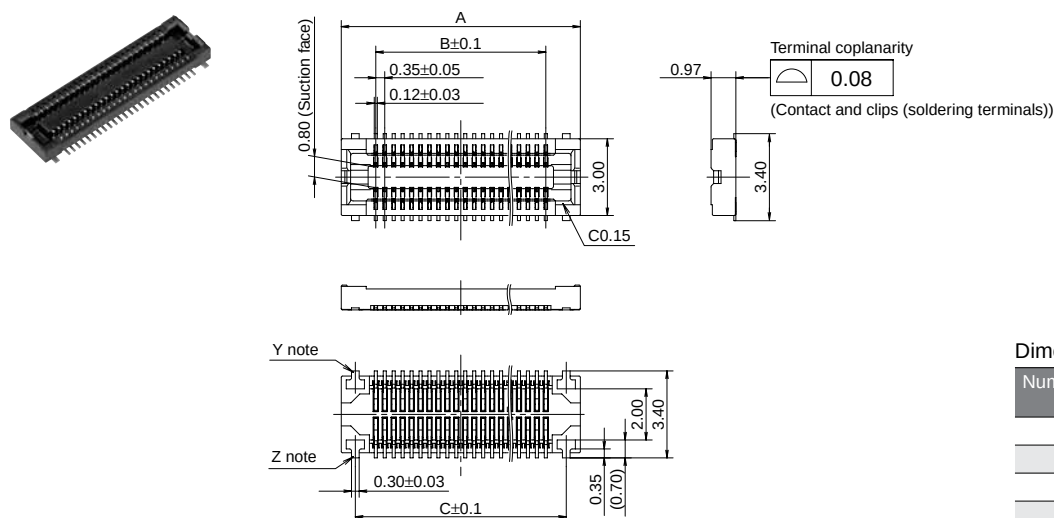
| Item                          |                                                       | Specifications                                                                                  | Conditions                                                                                                         |
|-------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Electrical characteristics    | Rated current                                         | 0.25A/contact (Max. 4 A at total contacts)                                                      |                                                                                                                    |
|                               | Rated voltage                                         | 60V AC/DC                                                                                       |                                                                                                                    |
|                               | Breakdown voltage                                     | 150V AC for 1 min.                                                                              | No short-circuiting or damage at a detection current of 1 mA when the specified voltage is applied for one minute. |
|                               | Insulation resistance                                 | Min. 1.000MΩ (initial)                                                                          | Using 250V DC megger (applied for 1 min.)                                                                          |
|                               | Contact resistance                                    | Max. 100mΩ                                                                                      | Based on the contact resistance measurement method specified by JIS C 5402.                                        |
| Mechanical characteristics    | Composite insertion force                             | Max. 0.981N/contacts × contacts (initial)                                                       |                                                                                                                    |
|                               | Composite removal force                               | Min. 0.165N/contacts × contacts                                                                 |                                                                                                                    |
|                               | Contact holding force (Socket contact)                | Min. 0.49N/contacts                                                                             | Measuring the maximum force. As the contact is axially pull out.                                                   |
| Environmental characteristics | Ambient temperature                                   | −55°C to +85°C                                                                                  | No freezing at low temperatures. No dew condensation.                                                              |
|                               | Soldering heat resistance                             | Peak temperature: 260°C or less (on the surface of the PC board around the connector terminals) | Infrared reflow soldering                                                                                          |
|                               |                                                       | 300°C within 5 sec. 350°C within 3 sec.                                                         | Soldering iron                                                                                                     |
|                               | Storage temperature                                   | −55°C to +85°C (product only)<br>−40°C to +50°C (emboss packing)                                | No freezing at low temperatures. No dew condensation.                                                              |
|                               | Thermal shock resistance (header and socket mated)    | 5 cycles, insulation resistance min. 100MΩ, contact resistance max. 100mΩ                       | Sequence<br>1. −55.0°C, 30 minutes<br>2. ~, Max. 5 minutes<br>3. 85.0°C, 30 minutes<br>4. ~, Max. 5 minutes        |
|                               | Humidity resistance (header and socket mated)         | 120 hours, insulation resistance min. 100MΩ, contact resistance max. 100mΩ                      | Bath temperature 40±2°C, humidity 90 to 95% R.H.                                                                   |
|                               | Saltwater spray resistance (header and socket mated)  | 24 hours, insulation resistance min. 100MΩ, contact resistance max. 100mΩ                       | Bath temperature 35±2°C, saltwater concentration 5±1%                                                              |
|                               | H <sub>2</sub> S resistance (header and socket mated) | 48 hours, contact resistance max. 100mΩ                                                         | Bath temperature 40±2°C, gas concentration 3±1 ppm, humidity 75 to 80% R.H.                                        |
| Lifetime characteristics      | Insertion and removal life                            | 50 times                                                                                        | Repeated insertion and removal speed of max. 200 times/hours                                                       |
| Unit weight                   |                                                       | 40-contact type: Socket: 0.04 g Header: 0.02 g                                                  |                                                                                                                    |

2. Material and surface treatment

| Part name        | Material            | Surface treatment                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Molded portion   | LCP resin (UL94V-0) | —                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Contact and Post | Copper alloy        | Contact portion: Base: Ni plating, Surface: Au plating<br>Terminal portion: Base: Ni plating, Surface: Au plating (except the terminal tips)<br>The socket terminals close to the portion to be soldered have nickel barriers (exposed nickel portions).<br>Clips (soldering terminals): Sockets: Base: Ni plating, Surface: Pd+Au flash plating (except the terminal tips)<br>Headers: Base: Ni plating, Surface: Au plating (except the terminal tips) |

# DIMENSIONS (Unit: mm)

## Socket (Mated height: 1.0 mm)



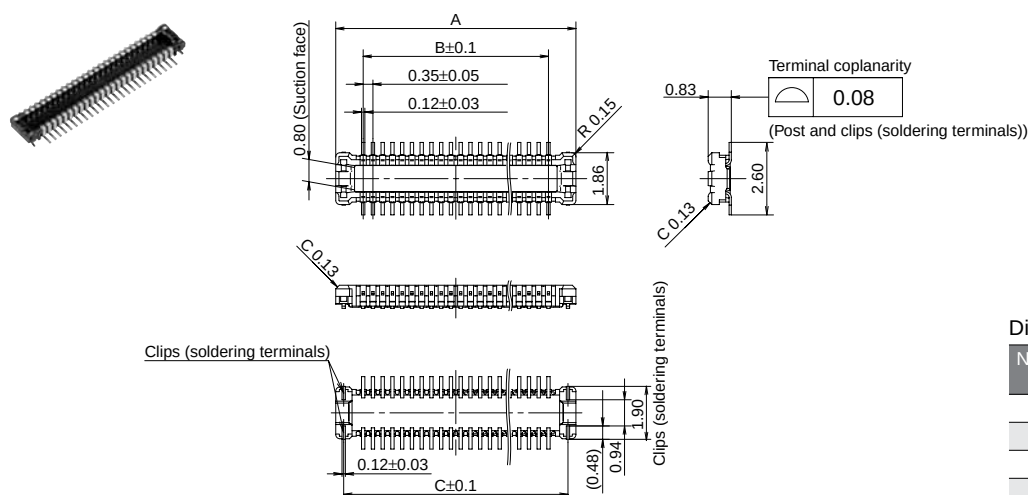
Dimension table (mm)

| Number of contacts/<br>dimension | A     | B     | C     |
|----------------------------------|-------|-------|-------|
| 40                               | 9.35  | 6.65  | 8.25  |
| 50                               | 11.10 | 8.40  | 10.00 |
| 60                               | 12.85 | 10.15 | 11.75 |
| 70                               | 14.60 | 11.90 | 13.50 |
| 80                               | 16.35 | 13.65 | 15.25 |

General tolerance:  $\pm 0.2$

Note: Since the clips (soldering terminals) are built into the body, the sections Y and Z are electrically connected.

## Header (Mated height: 1.0 mm)

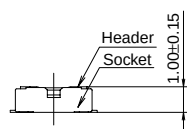


Dimension table (mm)

| Number of contacts/<br>dimension | A     | B     | C     |
|----------------------------------|-------|-------|-------|
| 40                               | 8.62  | 6.65  | 8.05  |
| 50                               | 10.37 | 8.40  | 9.80  |
| 60                               | 12.12 | 10.15 | 11.55 |
| 70                               | 13.87 | 11.90 | 13.30 |
| 80                               | 15.62 | 13.65 | 15.05 |

General tolerance:  $\pm 0.2$

## • Socket and Header are mated



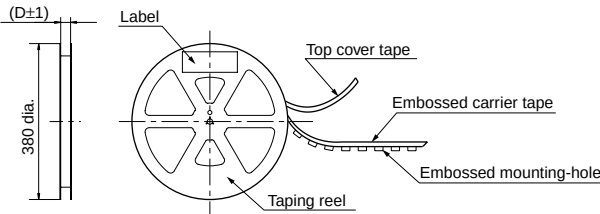
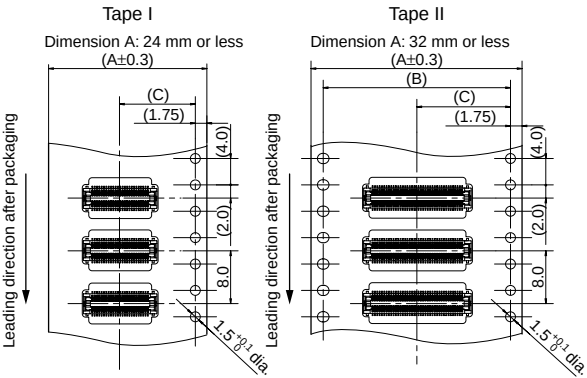
EMBOSSSED TAPE DIMENSIONS (Unit: mm) (Common to all sockets and headers)

• Specifications for taping

(In accordance with JIS C 0806-1990. However, not applied to the mounting-hole pitch of some connectors.)

• Specifications for the plastic reel

(In accordance with EIAJET-7200B.)



• Dimension table (Unit: mm)

| Type/Mated height                        | Number of contacts | Type of taping | A    | B    | C    | D    | Quantity per reel |
|------------------------------------------|--------------------|----------------|------|------|------|------|-------------------|
| Common for sockets and headers:<br>1.0mm | 40 to 70           | Tape I         | 24.0 | —    | 11.5 | 25.4 | 3,000             |
|                                          | 80                 | Tape II        | 32.0 | 28.4 | 14.2 | 33.4 | 3,000             |

• Connector orientation with respect to embossed tape feeding direction

| Direction<br>of tape progress | Type | Common for F35S |        |
|-------------------------------|------|-----------------|--------|
|                               |      | Socket          | Header |
|                               |      |                 |        |

Note: There is no indication on this product regarding top-bottom or left-right orientation.

NOTES

1. Regarding the design of PC board patterns

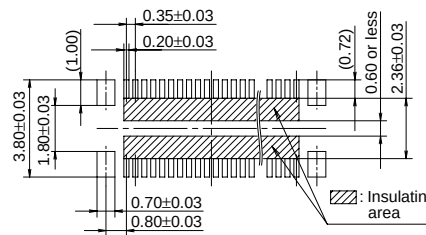
Conduct the recommended foot pattern design, in order to preserve the mechanical strength of terminal solder areas.

2. Recommended PC board and metal mask patterns

Appropriate control of solder amount is required to minimize solder bridges and other defects for connectors with 0.35-mm, 0.4-mm or 0.5-mm pitch terminals, which require high-density mounting. Refer to the right-hand drawing for recommended patterns.

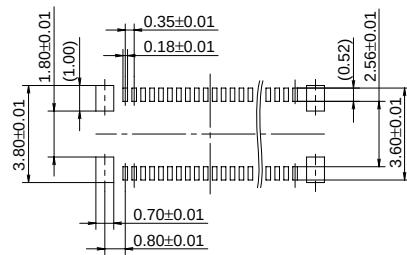
• Socket (Mated height: 1.0 mm)

Recommended PC board pattern (TOP VIEW)



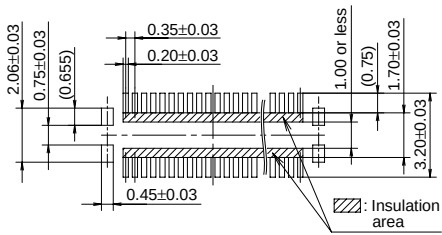
Recommended metal mask opening pattern

Metal mask thickness: When 120μm  
(Terminal opening ratio: 65%)  
(Metal-part opening ratio: 100%)



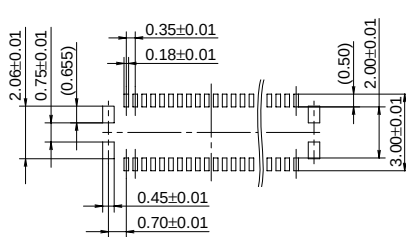
• Header (Mated height: 1.0 mm)

Recommended PC board pattern (TOP VIEW)



Recommended metal mask opening pattern

Metal mask thickness: When 120μm  
(Terminal opening ratio: 60%)  
(Metal-part opening ratio: 100%)



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