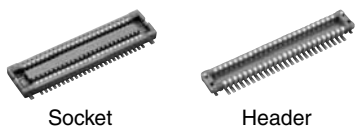


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Compliance with RoHS Directive

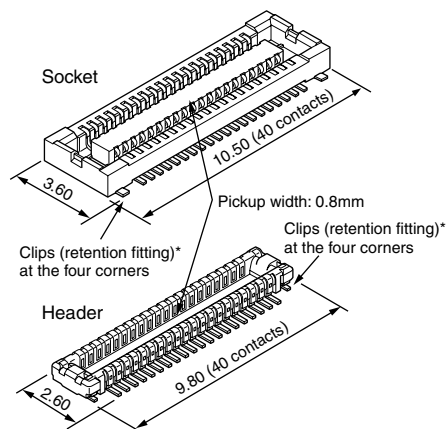
## FEATURES

### 1. Space-saving (3.6 mm widthwise)

The required space is smaller than our F4 series (40-contact type):

- Socket — 27% smaller,
- Header — 38% smaller

The small size contributes to the miniaturization of target equipment.

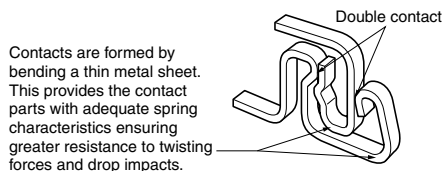


\* Clips for preventing the solder joints from being removed

### 2. Highly reliable

**TOUGH CONTACT** has strong resistance to adverse environments.

1) Our original bellows contact: High resistance to drop impact and twisting forces.



Contacts are formed by bending a thin metal sheet. This provides the contact parts with adequate spring characteristics ensuring greater resistance to twisting forces and drop impacts.

Note: If extra resistance to shock caused by dropping is required, we recommend using our previous F4 Series.

## NARROW-PITCH, THIN AND SLIM CONNECTOR FOR BOARD-TO-FPC CONNECTION

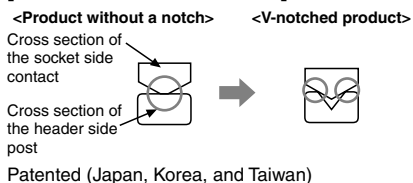
## NARROW PITCH (0.4 mm) CONNECTORS F4S SERIES

2) V-notch + double contact: High resistance to the penetration of foreign matters and flux.

### ● V-notch

By making contact with the edges and thus increasing the contact pressure, this product can eliminate flux and other foreign matters more effectively than conventional products, which also helps to prevent foreign matters from obstructing the contact.

#### [Cross Section of Contacts]



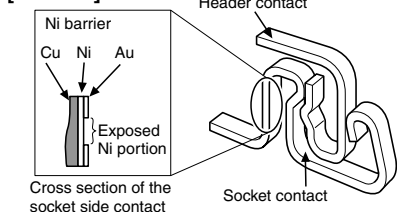
Patented (Japan, Korea, and Taiwan)

3) Ni barrier: High resistance to solder creep.

### ● Ni barrier

The exposed nickel-plated portion of the gold-plated contact prevents solder creep despite the ultra low profile of the contact.

#### [Contact]

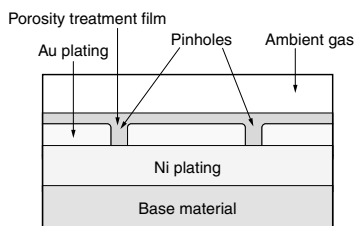


Note: Simultaneous molding of the header contact achieves a construction that prevents solder creep.

4) Porosity treatment: Resistance to corrosion.

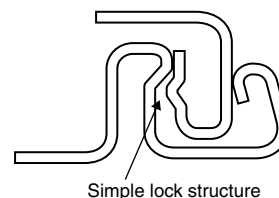
### Porosity treatment

This treatment consists in coating the surface with a very thin film to seal pinholes in the gold plating. We have developed this porosity treatment technology, which ensures contact reliability for thin gold plating comparable to that of thick gold plating.



- Improved in insertion/removal durability
- Improved in resistance to corrosion
- Improved in contact reliability for digital signals

3. The simple lock structure gives tactile feedback that ensures a superior mating/unmating operation feel.



### 4. Gull-wing type terminals

The gull-wing type terminals facilitate automatic mounting inspections.

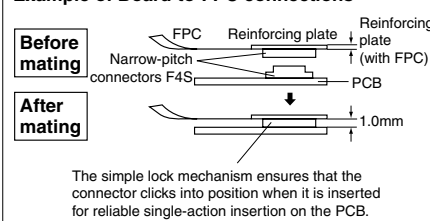
### 5. Connectors for inspection available

Connectors for inspection are available that are ideal for modular unit inspection and inspection in device assembly processes.

## APPLICATIONS

Compact portable devices “Cellular phones, DVC, Digital cameras, etc”

#### Example of Board-to-FPC connections



The simple lock mechanism ensures that the connector clicks into position when it is inserted for reliable single-action insertion on the PCB.

# AXT5, 6

## TABLE OF PRODUCT TYPES

F4S (0.4mm pitch): With clips (retention fitting)\*



Socket Header

☆: Available for sale

| Mated height | Number of contacts |       |
|--------------|--------------------|-------|
|              | 1.0mm              | 1.2mm |
| 10           | ☆                  |       |
| 12           | ☆                  |       |
| 16           | ☆                  |       |
| 18           | ☆                  |       |
| 20           | ☆                  |       |
| 22           | ☆                  |       |
| 24           | ☆                  |       |
| 26           | ☆                  |       |
| 28           | ☆                  |       |
| 30           | ☆                  | ☆     |
| 32           | ☆                  |       |
| 34           | ☆                  |       |
| 36           | ☆                  |       |
| 38           | ☆                  |       |
| 40           | ☆                  | ☆     |
| 42           | ☆                  |       |
| 44           | ☆                  |       |
| 46           | ☆                  |       |
| 48           | ☆                  |       |
| 50           | ☆                  | ☆     |
| 54           | ☆                  |       |
| 60           | ☆                  |       |
| 64           | ☆                  |       |
| 70           | ☆                  |       |
| 80           | ☆                  | ☆     |

## ORDERING INFORMATION

AXT

5: Narrow Pitch Connector F4S (0.4 mm pitch) Socket  
6: Narrow Pitch Connector F4S (0.4 mm pitch) Header

Number of contacts (2 digits)

Mated height

<Socket>

1: For mated height 1.0 mm

2: For mated height 1.2 mm

<Header>

1: For mated height 1.0 mm

2: For mated height 1.2 mm

Functions

<Socket, Header>

1: With positioning bosses

2: Without positioning bosses

Surface treatment (Contact portion / Terminal portion)

<Socket>

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

<Header>

4: Base: Ni plating Surface: Au plating

**PRODUCT TYPES** 

| Mated height | Number of contacts | Part number |           | Packing      |              |
|--------------|--------------------|-------------|-----------|--------------|--------------|
|              |                    | Socket      | Header    | Inner carton | Outer carton |
| 1.0mm        | 10                 | AXT510124   | AXT610124 | 3,000 pieces | 6,000 pieces |
|              | 12                 | AXT512124   | AXT612124 |              |              |
|              | 16                 | AXT516124   | AXT616124 |              |              |
|              | 18                 | AXT518124   | AXT618124 |              |              |
|              | 20                 | AXT520124   | AXT620124 |              |              |
|              | 22                 | AXT522124   | AXT622124 |              |              |
|              | 24                 | AXT524124   | AXT624124 |              |              |
|              | 26                 | AXT526124   | AXT626124 |              |              |
|              | 28                 | AXT528124   | AXT628124 |              |              |
|              | 30                 | AXT530124   | AXT630124 |              |              |
|              | 32                 | AXT532124   | AXT632124 |              |              |
|              | 34                 | AXT534124   | AXT634124 |              |              |
|              | 36                 | AXT536124   | AXT636124 |              |              |
|              | 38                 | AXT538124   | AXT638124 |              |              |
|              | 40                 | AXT540124   | AXT640124 |              |              |
|              | 42                 | AXT542124   | AXT642124 |              |              |
|              | 44                 | AXT544124   | AXT644124 |              |              |
|              | 46                 | AXT546124   | AXT646124 |              |              |
|              | 48                 | AXT548124   | AXT648124 |              |              |
|              | 1.2mm              | 30          | AXT530224 |              |              |
| 40           |                    | AXT540224   | AXT640224 |              |              |
| 50           |                    | AXT550224   | AXT650224 |              |              |
| 80           |                    | AXT580224   | AXT680224 |              |              |

- 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.  
 Samples: Small lot orders are possible. 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, which are available on demand, please replace "2" in the 8th position of the part number with "1".  
 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  | 0.3A/contact (Max. 5 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. 90mΩ   | 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   |  |
|   | Post holding force                                   | Min. 0.49N/contacts   | Measure the maximum load each contact can withstand without being removed in the axis direction.                   |
| 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. 90mΩ                        | 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. 90mΩ                       | 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. 90mΩ                        | Bath temperature 35±2°C, saltwater concentration 5±1%  |
| H <sub>2</sub> S resistance (header and socket mated) | 48 hours, contact resistance max. 90mΩ               | 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   |  | 50-contact type: Socket: 0.05 g Header: 0.03 g  |  |

# AXT5, 6

## 2. Material and surface treatment

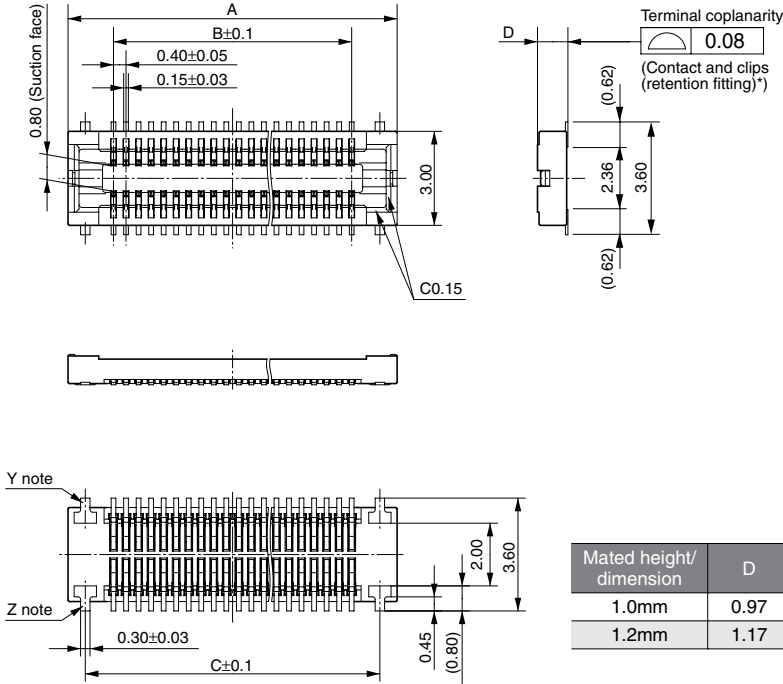
| Part name        | Material            | Surface treatment  |
|------------------|---------------------|--|
| Molded portion   | LCP resin (UL94V-0) | —  |
| Contact and Post | Copper alloy        | Contact portion: Base: Ni plating Surface: Au plating<br>Terminal portion: Base: Ni plating Surface: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

The CAD data of the products with a **CAD Data** mark can be downloaded from: <http://www.mew.co.jp/ac/e>

### Socket (Mated height: 1.0 mm and 1.2 mm)

**CAD Data**



| Mated height/dimension | D    |
|------------------------|------|
| 1.0mm                  | 0.97 |
| 1.2mm                  | 1.17 |

General tolerance: ±0.2

Note: Since the clip (retention fitting)\* has a single-piece construction, sections Y and Z are electrically connected.

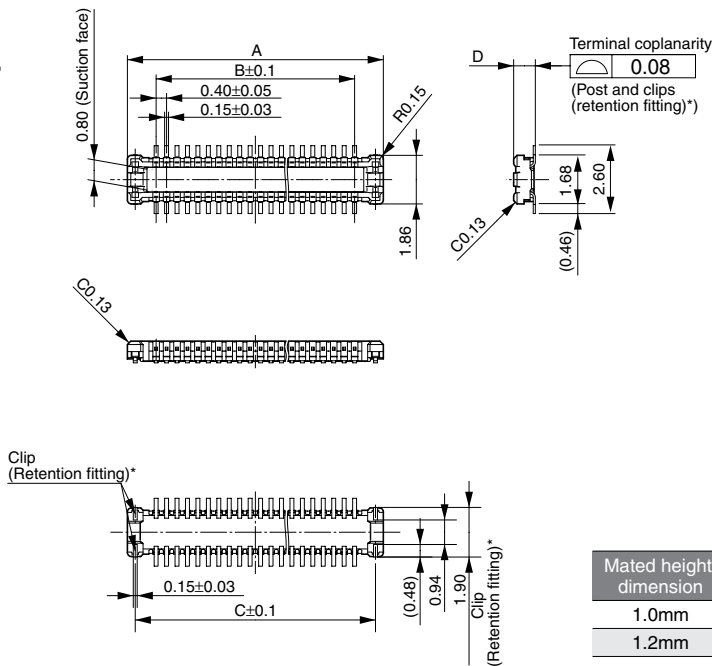
### Dimension table (mm)

| Number of contacts/dimension | A    | B    | C    |
|------------------------------|------|------|------|
| 10                           | 4.5  | 1.6  | 3.4  |
| 12                           | 4.9  | 2.0  | 3.8  |
| 16                           | 5.7  | 2.8  | 4.6  |
| 18                           | 6.1  | 3.2  | 5.0  |
| 20                           | 6.5  | 3.6  | 5.4  |
| 22                           | 6.9  | 4.0  | 5.8  |
| 24                           | 7.3  | 4.4  | 6.2  |
| 26                           | 7.7  | 4.8  | 6.6  |
| 28                           | 8.1  | 5.2  | 7.0  |
| 30                           | 8.5  | 5.6  | 7.4  |
| 32                           | 8.9  | 6.0  | 7.8  |
| 34                           | 9.3  | 6.4  | 8.2  |
| 36                           | 9.7  | 6.8  | 8.6  |
| 38                           | 10.1 | 7.2  | 9.0  |
| 40                           | 10.5 | 7.6  | 9.4  |
| 42                           | 10.9 | 8.0  | 9.8  |
| 44                           | 11.3 | 8.4  | 10.2 |
| 46                           | 11.7 | 8.8  | 10.6 |
| 48                           | 12.1 | 9.2  | 11.0 |
| 50                           | 12.5 | 9.6  | 11.4 |
| 54                           | 13.3 | 10.4 | 12.2 |
| 60                           | 14.5 | 11.6 | 13.4 |
| 64                           | 15.3 | 12.4 | 14.2 |
| 70                           | 16.5 | 13.6 | 15.4 |
| 80                           | 18.5 | 15.6 | 17.4 |

\* Clips for preventing the solder joints from being removed

### Header (Mated height: 1.0 mm and 1.2 mm)

**CAD Data**



| Mated height/dimension | D    |
|------------------------|------|
| 1.0mm                  | 0.83 |
| 1.2mm                  | 1.01 |

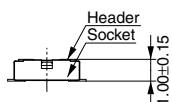
General tolerance: ±0.2

### Dimension table (mm)

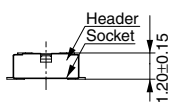
| Number of contacts/dimension | A    | B    | C    |
|------------------------------|------|------|------|
| 10                           | 3.8  | 1.6  | 3.2  |
| 12                           | 4.2  | 2.0  | 3.6  |
| 16                           | 5.0  | 2.8  | 4.4  |
| 18                           | 5.4  | 3.2  | 4.8  |
| 20                           | 5.8  | 3.6  | 5.2  |
| 22                           | 6.2  | 4.0  | 5.6  |
| 24                           | 6.6  | 4.4  | 6.0  |
| 26                           | 7.0  | 4.8  | 6.4  |
| 28                           | 7.4  | 5.2  | 6.8  |
| 30                           | 7.8  | 5.6  | 7.2  |
| 32                           | 8.2  | 6.0  | 7.6  |
| 34                           | 8.6  | 6.4  | 8.0  |
| 36                           | 9.0  | 6.8  | 8.4  |
| 38                           | 9.4  | 7.2  | 8.8  |
| 40                           | 9.8  | 7.6  | 9.2  |
| 42                           | 10.2 | 8.0  | 9.6  |
| 44                           | 10.6 | 8.4  | 10.0 |
| 46                           | 11.0 | 8.8  | 10.4 |
| 48                           | 11.4 | 9.2  | 10.8 |
| 50                           | 11.8 | 9.6  | 11.2 |
| 54                           | 12.6 | 10.4 | 12.0 |
| 60                           | 13.8 | 11.6 | 13.2 |
| 64                           | 14.6 | 12.4 | 14.0 |
| 70                           | 15.8 | 13.6 | 15.2 |
| 80                           | 17.8 | 15.6 | 17.2 |

\* Clips for preventing the solder joints from being removed

• Socket and Header are mated



Mated height: 1.0 mm



Mated height: 1.2 mm

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

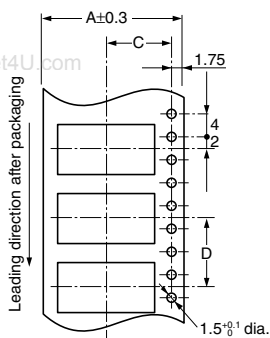
• Specifications for taping

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

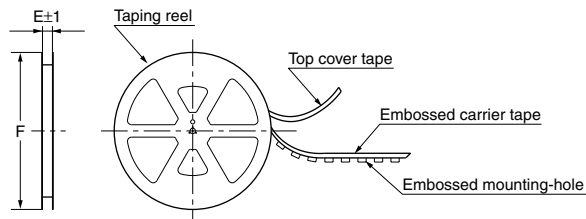
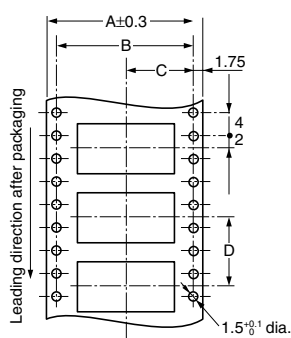
• Specifications for the plastic reel

(In accordance with EIAJET-7200B.)

Tape I



Tape II



• Dimension table (Unit: mm)

| Type/Mated height              | Number of contacts | Type of taping | A    | B    | C    | D   | E    | F        | Quantity per reel |
|--------------------------------|--------------------|----------------|------|------|------|-----|------|----------|-------------------|
| Common for sockets and headers | 24 or less         | Tape I         | 16.0 | 7.5  | —    | 8.0 | 17.4 | 380 dia. | 3,000             |
|                                | 26 to 70           | Tape I         | 24.0 | 11.5 | —    | 8.0 | 25.4 | 380 dia. | 3,000             |
|                                | 80                 | Tape II        | 32.0 | 28.4 | 14.2 | 8.0 | 33.4 | 380 dia. | 3,000             |

• Connector orientation with respect to embossed tape feeding direction

| Direction of tape progress | Type   | Common for F4S |  |
|----------------------------|--------|----------------|--|
|                            | Socket | Header         |  |
|                            |        |                |  |

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



Socket



Header

## TABLE OF PRODUCT TYPES

☆: Available for sale

| Product name | F4S for inspection |
|--------------|--------------------|
| 10           | ☆                  |
| 12           | ☆                  |
| 16           | ☆                  |
| 18           | ☆                  |
| 20           | ☆                  |
| 22           | ☆                  |
| 24           | ☆                  |
| 26           | ☆                  |
| 28           | ☆                  |
| 30           | ☆                  |
| 32           | ☆                  |
| 34           | ☆                  |
| 36           | ☆                  |
| 38           | ☆                  |
| 40           | ☆                  |
| 42           | ☆                  |
| 44           | ☆                  |
| 46           | ☆                  |
| 48           | ☆                  |
| 50           | ☆                  |
| 54           | ☆                  |
| 60           | ☆                  |
| 64           | ☆                  |
| 70           | ☆                  |
| 80           | ☆                  |

Number of contacts

Notes:

1. Please inquire about numbers of contacts other than those given above.
2. Please inquire with us regarding delivery times.
3. Please keep the minimum unit for ordering no less than 50 pieces per lot.
4. Please inquire for further information.

**Compliance with RoHS Directive**

www.DataSheet4U.com

## FEATURES

### 1. 3,000 insertion and removals (when as recommended)

From the 50 insertion and removals of standard type, up to 3,000 insertion and removals (with recommended insertion and removal) are possible for use in inspection.

Ideal for inspection of module units and inspection during the device assembly process

### 2. Same external dimensions and foot pattern as mated height 1.0mm standard type.

Since shape is the same as mated height 1.0mm standard type, inspection is possible without interfering with devices in the vicinity of standard connectors.

### 3. Improved mating

Insertion and removal have become easier due to a reduction in the mating retention force required by the simple locking structure and also in the amount of force needed for insertion and removal. (We cannot warrant anything regarding mating retention.)

## PRODUCT TYPES

| Specifications |                            | Part No.  | Specifications |                            | Part No.  |
|----------------|----------------------------|-----------|----------------|----------------------------|-----------|
| Socket         | With positioning bosses    | AXT5E**16 | Header         | With positioning bosses    | AXT6E**16 |
|                | Without positioning bosses | AXT5E**26 |                | Without positioning bosses | AXT6E**26 |

Note: When placing an order, substitute the "\*" (asterisk) in the above part number with the number of contacts for the required connector.

## NOTES

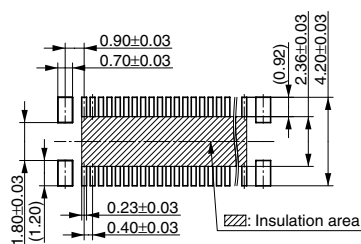
1. If extra resistance to drop impact is required, we recommend using our F4 series.

### 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 0.4-mm or 0.5-mm pitch terminals, which require high-density mounting. Refer to the right-hand drawing for recommended patterns.

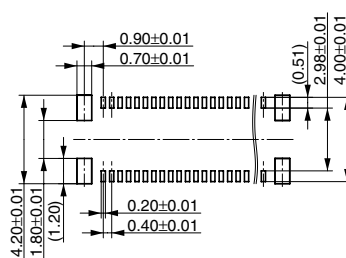
#### • Socket

Recommended PC board pattern (TOP VIEW)



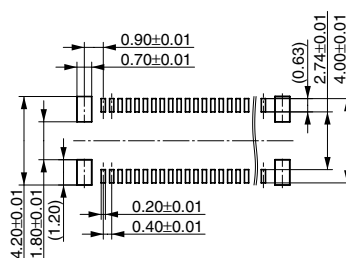
Recommended metal mask opening pattern

Metal mask thickness: When 150μm  
(Terminal opening ratio: 48%)  
(Metal-part opening ratio: 100%)



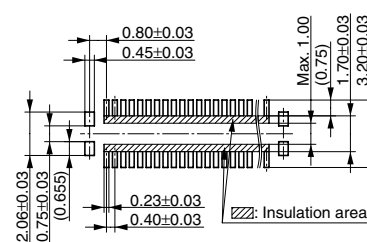
Recommended metal mask opening pattern

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



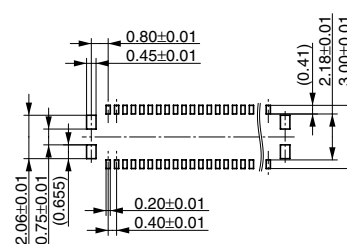
#### • Header

Recommended PC board pattern (TOP VIEW)



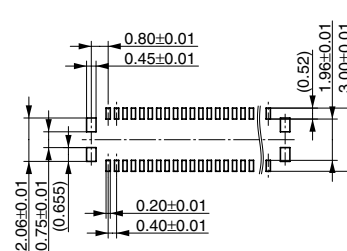
Recommended metal mask opening pattern

Metal mask thickness: When 150μm  
(Terminal opening ratio: 48%)  
(Metal-part opening ratio: 100%)



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.