

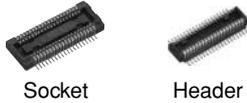
Panasonic
ideas for life

**NARROW-PITCH
CONNECTORS FOR
BOARD-TO-BOARD
AND BOARD-TO-FPC
CONNECTION**

**NARROW PITCH
(0.4mm) CONNECTORS
P4 SERIES**



• Without retention fitting



• With retention fitting

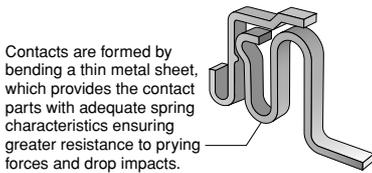


FEATURES

1. 0.4 mm pitch and support for mated heights of up to 1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 3.5 mm, and 4.0 mm.

2. Strong resistance to adverse environments! Utilizes **TOUGH CONTACT** construction for high contact reliability.

1) Contacts are highly resistant to shock caused by dropping and employ our original bellows contact construction.



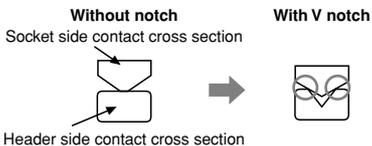
Contacts are formed by bending a thin metal sheet, which provides the contact parts with adequate spring characteristics ensuring greater resistance to prying forces and drop impacts.

2) V notch construction used for excellent resistance against foreign matters.

● What is V notch construction?

By using the edge for the contacting part and increasing contact pressure per unit area, the effectiveness in removing flux and contaminants is increased compared to its predecessor. This is also effective in preventing the trapping of contaminants.

[Cross section of contacting part]

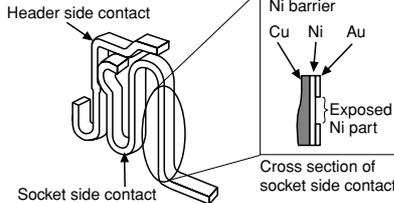


3) Use of Ni barrier construction is standard. Highly effective against solder creeping.

● What is Ni barrier construction?

By providing an exposed nickel part on the gold (Au) plated contact, solder creeping is prevented despite the ultra low profile.

[Contact]

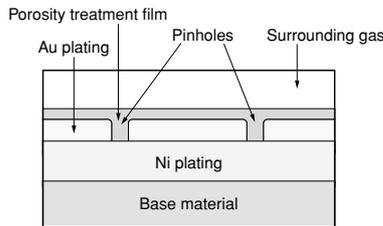


Note: Construction makes solder creeping difficult because header side is formed at the same time.

4) Porosity treatment applied for improved resistance against corrosion.

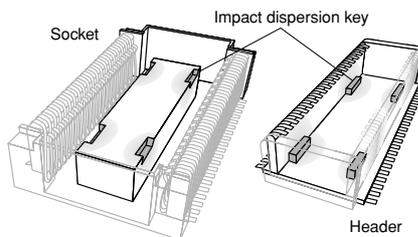
What is porosity treatment?

This treatment consists of coating the surface with a very thin film to seal pinholes in the gold plating. This porosity treatment technology ensures the same contact reliability for thin gold plating as that of thick gold plating.



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

3. It is constructed with impact dispersion keys inside the body to disperse shocks when dropped.

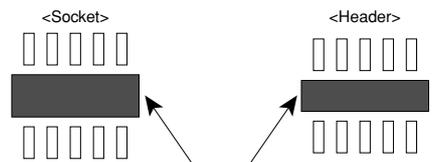


A high level of shock resistance is ensured by dispersing impact over the four locations where the socket indentations and header protrusions are mated together.

Note: The following numbers of contacts are not supported due to suction surface factors.

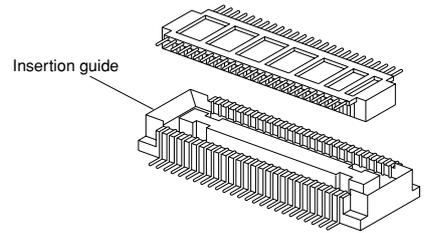
- Without retention fitting: 18 contacts or less
 - With retention fitting: 22 contacts or less
4. Construction makes designing devices easier.

1) The lower connector bottom surface construction prevents contact and shorts between the PCB and metal terminals. This enables freedom in pattern wiring, helping to make PCB's smaller.

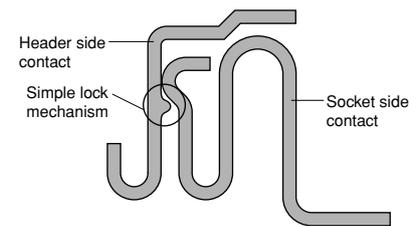


Connector bottom: Create any thru-hole and pattern wiring.

2) Guides are provided to take up any position shift and facilitate insertion.



3) The connector has a simple lock mechanism. Superior mated operation with click feel to indicate that mated is complete.



5. Design makes efficient mounting. Features a terminal flatness of 0.08 mm, construction resistant to creeping flux, and design that facilitates visual inspection of the soldered part.

6. Compliance with RoHS Directive Environmentally friendly, the connectors comply with Europe's RoHS Directive. Cadmium, lead, mercury, hexavalent chromium, PBB and PBDE are not used.

7. 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”

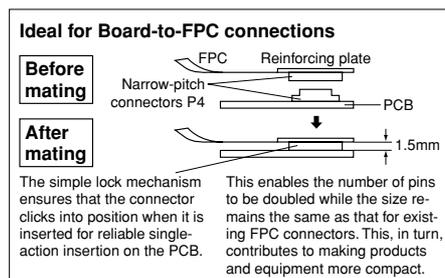
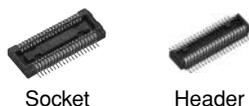


TABLE OF PRODUCT TYPES

P4 (0.4 mm pitch): Without retention fitting



☆: Available for sale

| Mated height | Number of contacts | | | | | |
|--------------|--------------------|-------|-------|-------|-------|-------|
| | 1.5mm | 2.0mm | 2.5mm | 3.0mm | 3.5mm | 4.0mm |
| 14 | ☆ | ☆ | ☆ | | | |
| 16 | ☆ | | | | | |
| 20 | ☆ | ☆ | ☆ | | | |
| 22 | ☆ | | | | | |
| 24 | ☆ | ☆ | ☆ | | | |
| 26 | ☆ | ☆ | | | | |
| 28 | ☆ | | | | | |
| 30 | ☆ | ☆ | ☆ | | | |
| 34 | ☆ | ☆ | | | | |
| 36 | ☆ | | | | | |
| 40 | ☆ | ☆ | ☆ | | | |
| 44 | ☆ | | ☆ | | | |
| 50 | ☆ | ☆ | ☆ | | | |
| 54 | ☆ | | | | | |
| 60 | ☆ | | ☆ | | | |
| 64 | ☆ | | | | | |
| 70 | ☆ | ☆ | ☆ | | | |
| 80 | ☆ | ☆ | | | | |
| 90 | ☆ | | ☆ | | | |
| 100 | ☆ | ☆ | ☆ | | | |

P4 (0.4 mm pitch): With retention fitting



☆: Available for sale

| Mated height | Number of contacts | | | | | |
|--------------|--------------------|-------|-------|-------|-------|-------|
| | 1.5mm | 2.0mm | 2.5mm | 3.0mm | 3.5mm | 4.0mm |
| 10 | ☆ | | | | | |
| 12 | ☆ | | | | | |
| 20 | ☆ | | ☆ | ☆ | ☆ | |
| 22 | ☆ | | | | | |
| 24 | | ☆ | | | | |
| 28 | ☆ | | | | | |
| 30 | ☆ | | | | | |
| 32 | | | ☆ | | | |
| 34 | ☆ | | | | | ☆ |
| 40 | ☆ | | ☆ | ☆ | | |
| 44 | ☆ | | | | | |
| 46 | ☆ | | | | | |
| 50 | ☆ | | ☆ | ☆ | ☆ | ☆ |
| 60 | ☆ | | ☆ | ☆ | ☆ | |
| 80 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| 90 | ☆ | | ☆ | ☆ | | |
| 100 | ☆ | | | | | |

Note: Please contact us regarding numbers of contacts other than those given above.

AXK7, 8

ORDERING INFORMATION

AXK

7: Narrow Pitch Connector P4 (0.4 mm pitch) Socket
8: Narrow Pitch Connector P4 (0.4 mm pitch) Header

Number of contacts (2 digits)

Mated height
<Socket>
1: For mated height 1.5 mm
2: For mated height 2.0 mm
3: For mated height 2.5 mm and 3.0 mm
4: For mated height 3.5 mm
5: For mated height 4.0 mm
<Header>
1: For mated height 1.5 mm, 2.0 mm and 2.5 mm
2: For mated height 3.0 mm, 3.5 mm and 4.0 mm

Functions
1: With retention fitting, with positioning bosses
2: With retention fitting, without positioning bosses
3: Without retention fitting, with positioning bosses
4: Without retention fitting, without positioning bosses

Surface treatment (Contact portion / Terminal portion)
<Socket>
5: Ni plating on base, Au plating on surface
7: Ni plating on base, Au plating on surface (for Ni barrier product available)
<Header>
5: Ni plating on base, Au plating on surface

Other specifications
<Header>
Y: V notch type product
W: V notch and post edge horseshoe bend type product Note*

Packing
G: 3,000 pieces embossed tape and plastic reel × 2*

Note:
The post edge horseshoe bend indicated by the "W" in the tenth digit of the header part number refers to a construction that makes it difficult for the header post edge to deform when the connector is inserted and removed at an angle.

* Only a socket of mated height 3.5 mm and 4.0 mm: 2,000 pieces embossed tape and plastic reel × 2.

PRODUCT TYPES

1. Without retention fitting 

| Mated height | Number of contacts | Part number | | | Packing | |
|--------------|--------------------|----------------------|----------------------|---|--------------|--------------|
| | | Socket | Header | | Inner carton | Outer carton |
| | | <i>TOUGH CONTACT</i> | <i>TOUGH CONTACT</i> | <i>TOUGH CONTACT</i> and Post edge horseshoe bend type (Recommendation) | | |
| 1.5 mm | 14 | AXK714147G | AXK814145YG | AXK814145WG | 3,000 pieces | 6,000 pieces |
| | 16 | AXK716147G | AXK816145YG | AXK816145WG | | |
| | 20 | AXK720147G | AXK820145YG | AXK820145WG | | |
| | 22 | AXK722147G | AXK822145YG | AXK822145WG | | |
| | 24 | AXK724147G | AXK824145YG | AXK824145WG | | |
| | 26 | AXK726147G | AXK826145YG | AXK826145WG | | |
| | 28 | AXK728147G | AXK828145YG | AXK828145WG | | |
| | 30 | AXK730147G | AXK830145YG | AXK830145WG | | |
| | 34 | AXK734147G | AXK834145YG | AXK834145WG | | |
| | 36 | AXK736147G | AXK836145YG | AXK836145WG | | |
| | 40 | AXK740147G | AXK840145YG | AXK840145WG | | |
| | 44 | AXK744147G | AXK844145YG | AXK844145WG | | |
| | 50 | AXK750147G | AXK850145YG | AXK850145WG | | |
| | 54 | AXK754147G | AXK854145YG | AXK854145WG | | |
| | 60 | AXK760147G | AXK860145YG | AXK860145WG | | |
| | 64 | AXK764147G | AXK864145YG | AXK864145WG | | |
| | 70 | AXK770147G | AXK870145YG | AXK870145WG | | |
| | 80 | AXK780147G | AXK880145YG | AXK880145WG | | |
| 90 | AXK790147G | AXK890145YG | AXK890145WG | | | |
| 100 | AXK700147G | AXK800145YG | AXK800145WG | | | |
| 2.0 mm | 14 | AXK714247G | AXK814145YG | AXK814145WG | 3,000 pieces | 6,000 pieces |
| | 20 | AXK720247G | AXK820145YG | AXK820145WG | | |
| | 24 | AXK724247G | AXK824145YG | AXK824145WG | | |
| | 26 | AXK726247G | AXK826145YG | AXK826145WG | | |
| | 30 | AXK730247G | AXK830145YG | AXK830145WG | | |
| | 34 | AXK734247G | AXK834145YG | AXK834145WG | | |
| | 40 | AXK740247G | AXK840145YG | AXK840145WG | | |
| | 50 | AXK750247G | AXK850145YG | AXK850145WG | | |
| | 70 | AXK770247G | AXK870145YG | AXK870145WG | | |
| | 100 | AXK700247G | AXK800145YG | AXK800145WG | | |
| 2.5 mm | 14 | AXK714347G | AXK814145YG | AXK814145WG | 3,000 pieces | 6,000 pieces |
| | 20 | AXK720347G | AXK820145YG | AXK820145WG | | |
| | 24 | AXK724347G | AXK824145YG | AXK824145WG | | |
| | 30 | AXK730347G | AXK830145YG | AXK830145WG | | |
| | 40 | AXK740347G | AXK840145YG | AXK840145WG | | |
| | 44 | AXK744347G | AXK844145YG | AXK844145WG | | |
| | 50 | AXK750347G | AXK850145YG | AXK850145WG | | |
| | 60 | AXK760347G | AXK860145YG | AXK860145WG | | |
| | 70 | AXK770347G | AXK870145YG | AXK870145WG | | |
| | 90 | AXK790347G | AXK890145YG | AXK890145WG | | |
| 100 | AXK700347G | AXK800145YG | AXK800145WG | | | |

- Notes: 1. Regarding ordering units; During production: Please make orders in 1-reel units.
 Samples for mounting confirmation: Available in units of 50 pieces. Please consult us. (See "Regarding sample orders to confirm proper mounting" on page 13.)
 Samples: Small lot orders are possible.
2. The standard type comes without positioning bosses. Connectors with positioning bosses are available on-demand production. For this type of connector, 8th digit of the part number changes from 4 to 3. e.g. Mated height 1.5 mm and 20 contacts for socket without retention fitting: AXK720137G
3. The 10th digit "Y" in the header part number indicates the connector has V notch. (For details, please refer to page 36.)
 "W" indicates a product with V notch and post edge horseshoe bend. ("Post edge horseshoe bend" refers to a construction that makes it difficult for the header post edge to deform when the connector is inserted and removed at an angle.)
 "Products with V notch" and "products with V notch and post edge horseshoe bend" are mating compatible.
4. Connectors of different mated height (3.0 mm, 3.5 mm and 4.0 mm) and different number of contacts are available on-demand production only. Please contact us for more details.

AXK7, 8

2. With retention fitting **TOUGH CONTACT**

| Mated height | Number of contacts | Part number | | | Packing | |
|--------------|--------------------|----------------------|----------------------|---|--|--|
| | | Socket | Header | | Inner carton | Outer carton |
| | | TOUGH CONTACT | TOUGH CONTACT | TOUGH CONTACT and Post edge horseshoe bend type (Recommendation) | | |
| 1.5 mm | 10 | AXK710127G | AXK810125YG | AXK810125WG | 3,000 pieces | 6,000 pieces |
| | 12 | AXK712127G | AXK812125YG | AXK812125WG | | |
| | 22 | AXK722127G | AXK822125YG | AXK822125WG | | |
| | 28 | AXK728127G | AXK828125YG | AXK828125WG | | |
| | 30 | AXK730127G | AXK830125YG | AXK830125WG | | |
| | 34 | AXK734127G | AXK834125YG | AXK834125WG | | |
| | 40 | AXK740127G | AXK840125YG | AXK840125WG | | |
| | 44 | AXK744127G | AXK844125YG | AXK844125WG | | |
| | 46 | AXK746127G | AXK846125YG | AXK846125WG | | |
| | 50 | AXK750127G | AXK850125YG | AXK850125WG | | |
| | 60 | AXK760127G | AXK860125YG | AXK860125WG | | |
| | 80 | AXK780127G | AXK880125YG | AXK880125WG | | |
| | 90 | AXK790127G | AXK890125YG | AXK890125WG | | |
| | 100 | AXK700127G | AXK800125YG | AXK800125WG | | |
| 2.0 mm | 24 | AXK724227G | AXK824125YG | AXK824125WG | 3,000 pieces | 6,000 pieces |
| | 80 | AXK780227G | AXK880125YG | AXK880125WG | | |
| 2.5 mm | 20 | AXK720327G | AXK820125YG | AXK820125WG | 3,000 pieces | 6,000 pieces |
| | 32 | AXK732327G | AXK832125YG | AXK832125WG | | |
| | 40 | AXK740327G | AXK840125YG | AXK840125WG | | |
| | 50 | AXK750327G | AXK850125YG | AXK850125WG | | |
| | 60 | AXK760327G | AXK860125YG | AXK860125WG | | |
| | 80 | AXK780327G | AXK880125YG | AXK880125WG | | |
| | 90 | AXK790327G | AXK890125YG | AXK890125WG | | |
| 3.0 mm | 20 | AXK720327G | AXK820225YG | AXK820225WG (From Oct. 2005) | 3,000 pieces | 6,000 pieces |
| | 40 | AXK740327G | AXK840225YG | AXK840225WG (From Oct. 2005) | | |
| | 50 | AXK750327G | AXK850225YG | AXK850225WG (From Oct. 2005) | | |
| | 60 | AXK760327G | AXK860225YG | AXK860225WG (From Oct. 2005) | | |
| | 80 | AXK780327G | AXK880225YG | AXK880225WG (From Oct. 2005) | | |
| | 90 | AXK790327G | AXK890225YG | AXK890225WG (From Oct. 2005) | | |
| 3.5 mm | 20 | AXK720427G | AXK820225YG | AXK820225WG (From Oct. 2005) | Socket: 2,000 pieces Header: 3,000 pieces | Socket: 4,000 pieces Header: 6,000 pieces |
| | 50 | AXK750427G | AXK850225YG | AXK850225WG (From Oct. 2005) | | |
| | 60 | AXK760427G | AXK860225YG | AXK860225WG (From Oct. 2005) | | |
| | 80 | AXK780427G | AXK880225YG | AXK880225WG (From Oct. 2005) | | |
| 4.0 mm | 34 | AXK734527G | AXK834225YG | AXK834225WG (From Oct. 2005) | Socket: 2,000 pieces Header: 3,000 pieces | Socket: 4,000 pieces Header: 6,000 pieces |
| | 50 | AXK750527G | AXK850225YG | AXK850225WG (From Oct. 2005) | | |
| | 80 | AXK780527G | AXK880225YG | AXK880225WG (From Oct. 2005) | | |

- Notes: 1. Regarding ordering units; During production: Please make orders in 1-reel units.
 Samples for mounting confirmation: Available in units of 50 pieces. Please consult us. (See "Regarding sample orders to confirm proper mounting" on page 13.)
 Samples: Small lot orders are possible.
2. The standard type comes without positioning bosses.
 Connectors with positioning bosses are available on-demand production. For this type of connector, 8th digit of the part number changes from 2 to 1. e.g. Mated height 1.5 mm and 10 contacts for socket with retention fitting: AXK710117G
3. The 10th digit "Y" in the header part number indicates the connector has V notch. (For details, please refer to page 36.)
 "W" indicates a product with V notch and post edge horseshoe bend. ("Post edge horseshoe bend" refers to a construction that makes it difficult for the header post edge to deform when the connector is inserted and removed at an angle.)
 "Products with V notch" and "products with V notch and post edge horseshoe bend" are mating compatible.
4. Different number of contacts are available on-demand production only. Please contact us for more details.

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. | Detection current: 1mA |
| | Insulation resistance | Min. 1,000M Ω (initial) | Using 250V DC megger (applied for 1 min.) |
| | Contact resistance | Max. 70m Ω | Measured based on the HP4338B measurement method of JIS C 5402 |
| Mechanical characteristics | Composite insertion force | Max. 0.981N {100gf}/contacts \times contacts (initial) | |
| | Composite removal force | Min. 0.0588N {6gf}/contacts \times contacts (Mated height 1.5 mm, without removal and retention fitting) Min. 0.118N {12gf}/contacts \times contacts (Mated height 1.5 mm, except without removal and retention fitting) | |
| | Post holding force | Min. 0.981N {100gf}/contacts | Measures the maximum load in the post axial direction until removal |
| Environmental characteristics | Ambient temperature | -55°C to +85°C | No freezing at low temperatures |
| | Soldering heat resistance | Max. peak temperature of 245°C | Infrared reflow soldering |
| | | 300°C within 5 sec. 350°C within 3 sec. | Soldering iron |
| | Thermal shock resistance (header and socket mated) | 5 cycles, insulation resistance min. 100M Ω , contact resistance max. 70m Ω | Sequence 1. -55 \pm 3°C, 30 minutes 2. ~, Max. 5 minutes 3. 85 \pm 3°C, 30 minutes 4. ~, Max. 5 minutes |
| | Humidity resistance (header and socket mated) | 120 hours, insulation resistance min. 100M Ω , contact resistance max. 70m Ω | Bath temperature 40 \pm 2°C, humidity 90 to 95% R.H. |
| | Saltwater spray resistance (header and socket mated) | 24 hours, insulation resistance min. 100M Ω , contact resistance max. 70m Ω | Bath temperature 35 \pm 2°C, saltwater concentration 5 \pm 1% |
| Lifetime characteristics | Insertion and removal life | 48 hours, contact resistance max. 70m Ω | Bath temperature 40 \pm 2°C, gas concentration 3 \pm 1 ppm, humidity 75 to 80% R.H. |
| | | 50 times | Repeated insertion and removal speed of max. 200 times/hours |
| Unit weight | | Mated height 1.5mm, 20 contacts; Socket: 0.04g Header: 0.02g | |

2. Material and surface treatment

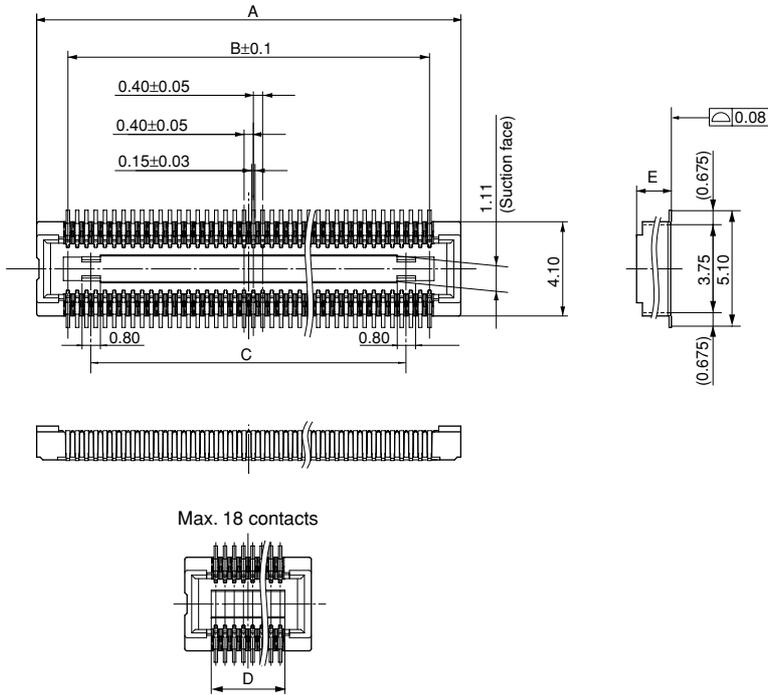
| Part name | Material | Surface treatment |
|---------------------------|---------------------------------------|---|
| Molded portion | Heat-resistant resin (UL94V-0), Black | — |
| Contact and Post | Copper alloy | Contact portion: Ni plating on base, Au plating on surface Terminal portion: Ni plating on base, Au plating on surface (Except for thick of terminal) However, upper terminal of Ni barrier production: Exposed over Ni The area adjacent to the terminal of the sockets on models with Ni barrier is exposed to Ni on base. |
| Retention fitting portion | Copper alloy | Ni plating on base, Sn plating on surface (Except for front terminal) |

AXK7, 8

DIMENSIONS (mm)

1. Without Retention Fitting

Socket (Mated height: 1.5 mm, 2.0 mm, and 2.5 mm)



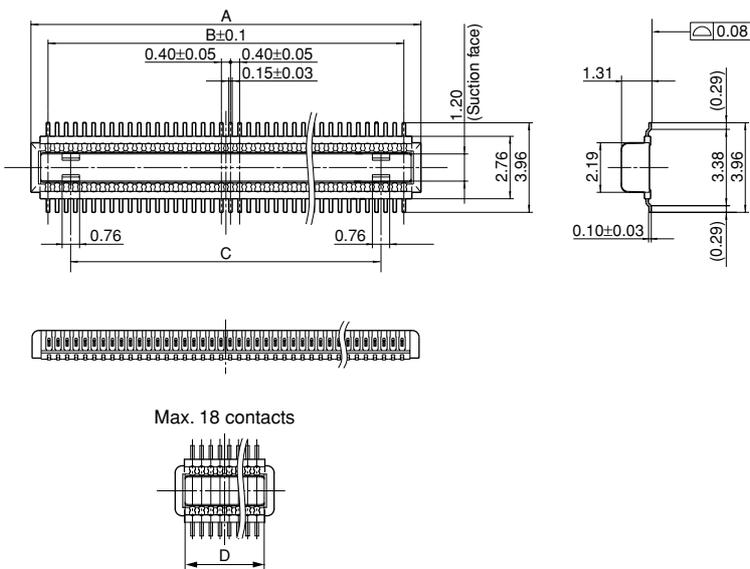
General tolerance: ± 0.2

Dimension table (mm)

| Number of contacts/ dimension | A | B | C | D |
|----------------------------------|------|------|------|-----|
| 14 | 5.1 | 2.4 | — | 2.8 |
| 16 | 5.5 | 2.8 | — | 3.2 |
| 20 | 6.3 | 3.6 | 1.6 | — |
| 22 | 6.7 | 4.0 | 2.0 | — |
| 24 | 7.1 | 4.4 | 2.4 | — |
| 26 | 7.5 | 4.8 | 2.8 | — |
| 28 | 7.9 | 5.2 | 3.2 | — |
| 30 | 8.3 | 5.6 | 3.6 | — |
| 34 | 9.1 | 6.4 | 4.4 | — |
| 36 | 9.5 | 6.8 | 4.8 | — |
| 40 | 10.3 | 7.6 | 5.6 | — |
| 44 | 11.1 | 8.4 | 6.4 | — |
| 50 | 12.3 | 9.6 | 7.6 | — |
| 54 | 13.1 | 10.4 | 8.4 | — |
| 60 | 14.3 | 11.6 | 9.6 | — |
| 64 | 15.1 | 12.4 | 10.4 | — |
| 70 | 16.3 | 13.6 | 11.6 | — |
| 80 | 18.3 | 15.6 | 13.6 | — |
| 90 | 20.3 | 17.6 | 15.6 | — |
| 100 | 22.3 | 19.6 | 17.6 | — |

| Mated height/dimension | E |
|------------------------|------|
| 1.5mm | 1.50 |
| 2.0mm | 1.92 |
| 2.5mm | 2.42 |

Header (Mated height: 1.5 mm, 2.0 mm, and 2.5 mm "products with V notch")



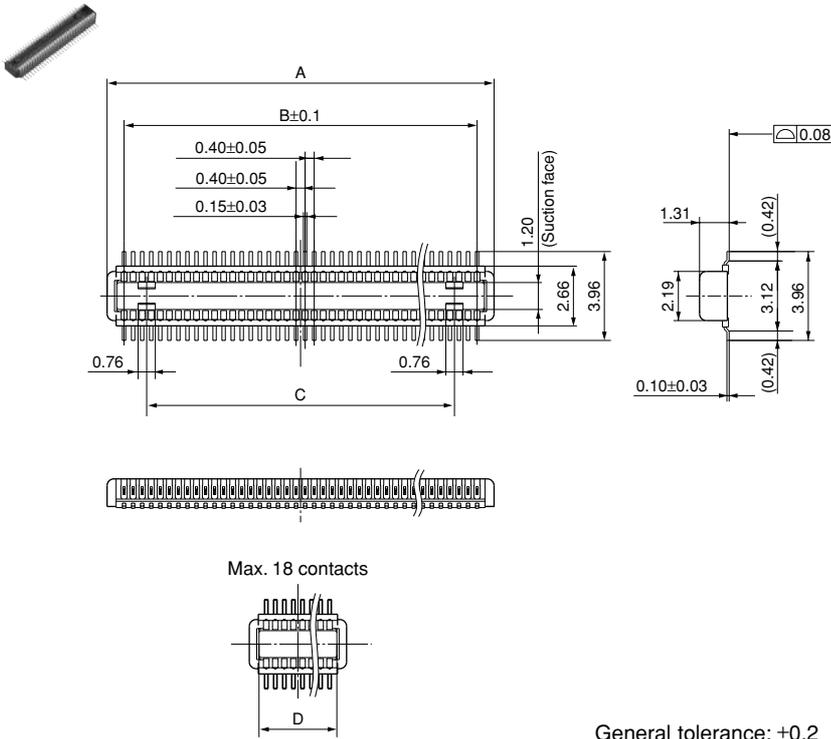
General tolerance: ± 0.2

Dimension table (mm)

| Number of contacts/ dimension | A | B | C | D |
|----------------------------------|------|------|------|------|
| 14 | 3.9 | 2.4 | — | 3.04 |
| 16 | 4.3 | 2.8 | — | 3.44 |
| 20 | 5.1 | 3.6 | 1.6 | — |
| 22 | 5.5 | 4.0 | 2.0 | — |
| 24 | 5.9 | 4.4 | 2.4 | — |
| 26 | 6.3 | 4.8 | 2.8 | — |
| 28 | 6.7 | 5.2 | 3.2 | — |
| 30 | 7.1 | 5.6 | 3.6 | — |
| 34 | 7.9 | 6.4 | 4.4 | — |
| 36 | 8.3 | 6.8 | 4.8 | — |
| 40 | 9.1 | 7.6 | 5.6 | — |
| 44 | 9.9 | 8.4 | 6.4 | — |
| 50 | 11.1 | 9.6 | 7.6 | — |
| 54 | 11.9 | 10.4 | 8.4 | — |
| 60 | 13.1 | 11.6 | 9.6 | — |
| 64 | 13.9 | 12.4 | 10.4 | — |
| 70 | 15.1 | 13.6 | 11.6 | — |
| 80 | 17.1 | 15.6 | 13.6 | — |
| 90 | 19.1 | 17.6 | 15.6 | — |
| 100 | 21.1 | 19.6 | 17.6 | — |

Note: "Products with V notch" and "products with V notch and post edge horseshoe bend" are mating compatible.

Header (Mated height: 1.5 mm, 2.0 mm, and 2.5 mm “products with V notch and post edge horseshoe bend”)

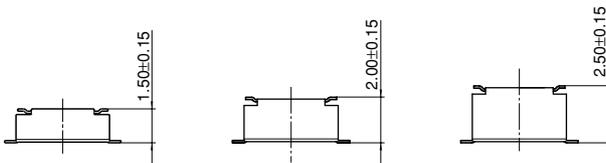


Dimension table (mm)

| Number of contacts/ dimension | A | B | C | D |
|----------------------------------|------|------|------|------|
| 14 | 3.9 | 2.4 | — | 3.04 |
| 16 | 4.3 | 2.8 | — | 3.44 |
| 20 | 5.1 | 3.6 | 1.6 | — |
| 22 | 5.5 | 4.0 | 2.0 | — |
| 24 | 5.9 | 4.4 | 2.4 | — |
| 26 | 6.3 | 4.8 | 2.8 | — |
| 28 | 6.7 | 5.2 | 3.2 | — |
| 30 | 7.1 | 5.6 | 3.6 | — |
| 34 | 7.9 | 6.4 | 4.4 | — |
| 36 | 8.3 | 6.8 | 4.8 | — |
| 40 | 9.1 | 7.6 | 5.6 | — |
| 44 | 9.9 | 8.4 | 6.4 | — |
| 50 | 11.1 | 9.6 | 7.6 | — |
| 54 | 11.9 | 10.4 | 8.4 | — |
| 60 | 13.1 | 11.6 | 9.6 | — |
| 64 | 13.9 | 12.4 | 10.4 | — |
| 70 | 15.1 | 13.6 | 11.6 | — |
| 80 | 17.1 | 15.6 | 13.6 | — |
| 90 | 19.1 | 17.6 | 15.6 | — |
| 100 | 21.1 | 19.6 | 17.6 | — |

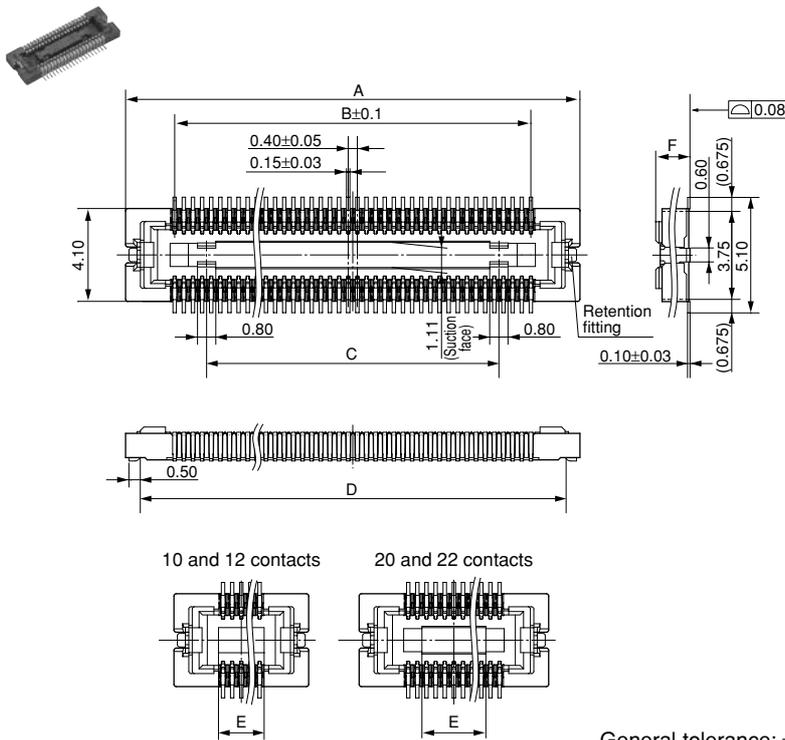
Note: “Products with V notch” and “products with V notch and post edge horseshoe bend” are mating compatible.

Socket and Header are mated



2. With Retention Fitting

Socket (Mated height: 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm and 4.0mm)



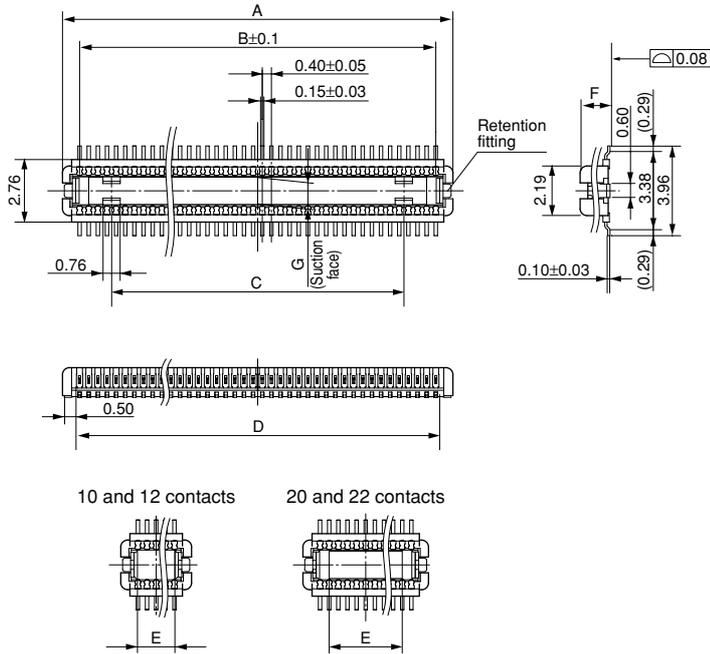
Dimension table (mm)

| Number of contacts/ dimension | A | B | C | D | E |
|----------------------------------|-------|-------|-------|-------|------|
| 10 | 5.90 | 1.60 | — | 4.60 | 2.00 |
| 12 | 6.30 | 2.00 | — | 5.00 | 2.40 |
| 20 | 7.90 | 3.60 | — | 6.60 | 2.40 |
| 22 | 8.30 | 4.00 | — | 7.00 | 2.80 |
| 24 | 8.70 | 4.40 | 1.60 | 7.40 | — |
| 28 | 9.50 | 5.20 | 2.40 | 8.20 | — |
| 30 | 9.90 | 5.60 | 2.80 | 8.60 | — |
| 32 | 10.30 | 6.00 | 3.20 | 9.00 | — |
| 34 | 10.70 | 6.40 | 3.60 | 9.40 | — |
| 40 | 11.90 | 7.60 | 4.80 | 10.60 | — |
| 44 | 12.70 | 8.40 | 5.60 | 11.40 | — |
| 46 | 13.10 | 8.80 | 6.00 | 11.80 | — |
| 50 | 13.90 | 9.60 | 6.80 | 12.60 | — |
| 60 | 15.90 | 11.60 | 8.80 | 14.60 | — |
| 80 | 19.90 | 15.60 | 12.80 | 18.60 | — |
| 90 | 21.90 | 17.60 | 14.80 | 20.60 | — |
| 100 | 23.90 | 19.60 | 16.80 | 22.60 | — |

| Mated height/dimension | F |
|------------------------|------|
| 1.5mm | 1.50 |
| 2.0mm | 1.92 |
| 2.5mm, 3.0mm | 2.42 |
| 3.5mm | 2.92 |
| 4.0mm | 3.42 |

AXK7, 8

Header (Mated height: 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm, 4.0mm
"products with V notch")



10 and 12 contacts

20 and 22 contacts

General tolerance: ± 0.2

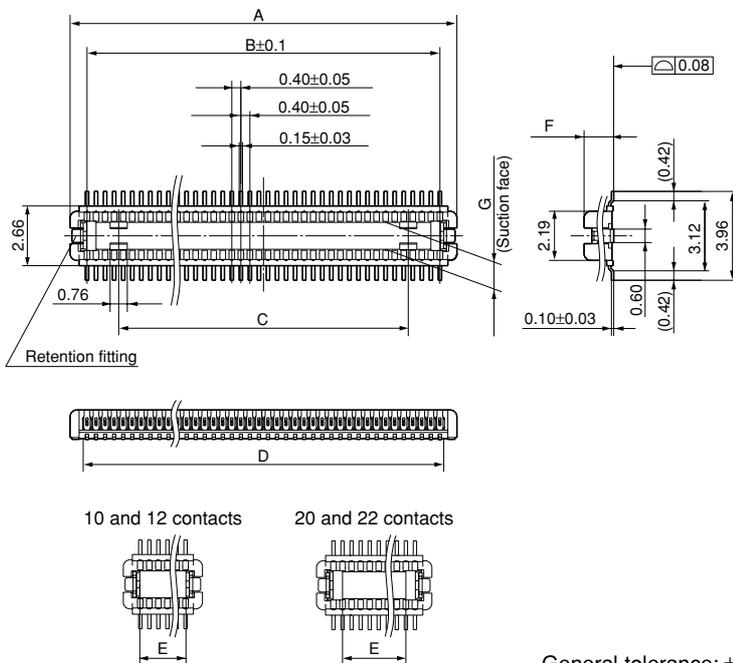
Dimension table (mm)

| Number of contacts/ dimension | A | B | C | D | E |
|----------------------------------|-------|-------|-------|-------|------|
| 10 | 3.10 | 1.60 | — | 1.94 | 1.64 |
| 12 | 3.50 | 2.00 | — | 2.34 | 2.04 |
| 20 | 5.10 | 3.60 | — | 3.94 | 2.80 |
| 22 | 5.50 | 4.00 | — | 4.34 | 3.20 |
| 24 | 5.90 | 4.40 | 1.60 | 4.74 | — |
| 28 | 6.70 | 5.20 | 2.40 | 5.54 | — |
| 30 | 7.10 | 5.60 | 2.80 | 5.94 | — |
| 32 | 7.50 | 6.00 | 3.20 | 6.34 | — |
| 34 | 7.90 | 6.40 | 3.60 | 6.74 | — |
| 40 | 9.10 | 7.60 | 4.80 | 7.94 | — |
| 44 | 9.90 | 8.40 | 5.60 | 8.74 | — |
| 46 | 10.30 | 8.80 | 6.00 | 9.14 | — |
| 50 | 11.10 | 9.60 | 6.80 | 9.94 | — |
| 60 | 13.10 | 11.60 | 8.80 | 11.94 | — |
| 80 | 17.10 | 15.60 | 12.80 | 15.94 | — |
| 90 | 19.10 | 17.60 | 14.80 | 17.94 | — |
| 100 | 21.10 | 19.60 | 16.80 | 19.94 | — |

| Mated height/dimension | F | G |
|------------------------|------|------|
| 1.5mm, 2.0mm, 2.5mm | 1.31 | 1.20 |
| 3.0mm, 3.5mm, 4.0mm | 2.26 | 1.20 |

Note: "Products with V notch" and "products with V notch and post edge horseshoe bend" are mating compatible.

Header (Mated height: 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm, 4.0mm
"products with V notch and post edge horseshoe bend")



10 and 12 contacts

20 and 22 contacts

General tolerance: ± 0.2

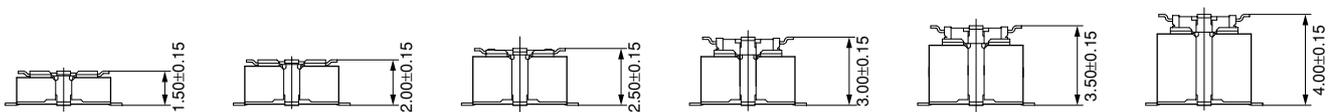
Dimension table (mm)

| Number of contacts/ dimension | A | B | C | D | E |
|----------------------------------|-------|-------|-------|-------|------|
| 10 | 3.10 | 1.60 | — | 1.94 | 1.64 |
| 12 | 3.50 | 2.00 | — | 2.34 | 2.04 |
| 20 | 5.10 | 3.60 | — | 3.94 | 2.80 |
| 22 | 5.50 | 4.00 | — | 4.34 | 3.20 |
| 24 | 5.90 | 4.40 | 1.60 | 4.74 | — |
| 28 | 6.70 | 5.20 | 2.40 | 5.54 | — |
| 30 | 7.10 | 5.60 | 2.80 | 5.94 | — |
| 32 | 7.50 | 6.00 | 3.20 | 6.34 | — |
| 34 | 7.90 | 6.40 | 3.60 | 6.74 | — |
| 40 | 9.10 | 7.60 | 4.80 | 7.94 | — |
| 44 | 9.90 | 8.40 | 5.60 | 8.74 | — |
| 46 | 10.30 | 8.80 | 6.00 | 9.14 | — |
| 50 | 11.10 | 9.60 | 6.80 | 9.94 | — |
| 60 | 13.10 | 11.60 | 8.80 | 11.94 | — |
| 80 | 17.10 | 15.60 | 12.80 | 15.94 | — |
| 90 | 19.10 | 17.60 | 14.80 | 17.94 | — |
| 100 | 21.10 | 19.60 | 16.80 | 19.94 | — |

| Mated height/dimension | F | G |
|------------------------|------|------|
| 1.5mm, 2.0mm, 2.5mm | 1.31 | 1.20 |
| 3.0mm, 3.5mm, 4.0mm | 2.26 | 1.26 |

Note: "Products with V notch" and "products with V notch and post edge horseshoe bend" are mating compatible.

Socket and Header are mated.

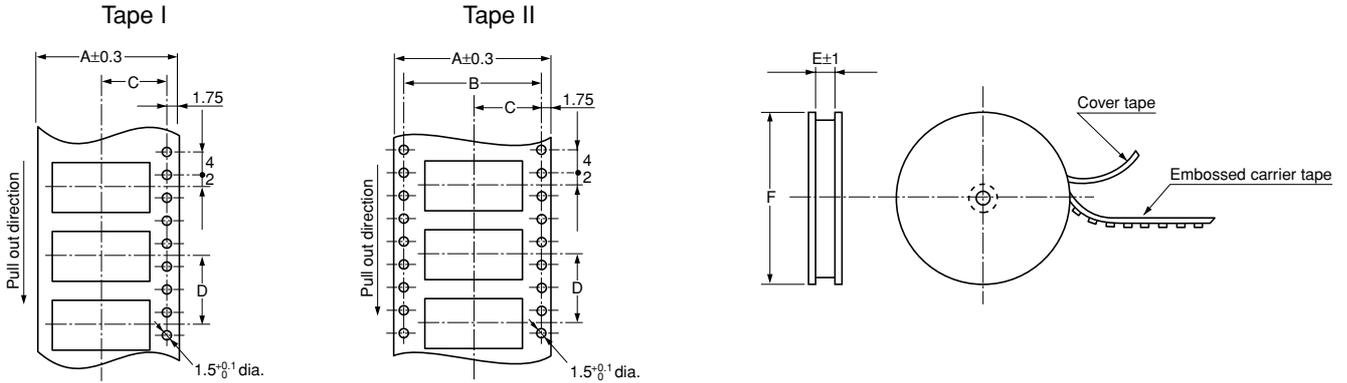


EMBOSSED TAPE DIMENSIONS (unit:mm, Common for respective contact type, socket and header)

• Tape dimensions (Conforming to JIS C 0806-1990.

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

However, some tapes have mounting hole pitches that do not comply with the standard.)



Dimension table (mm)

1. Without Retention Fitting

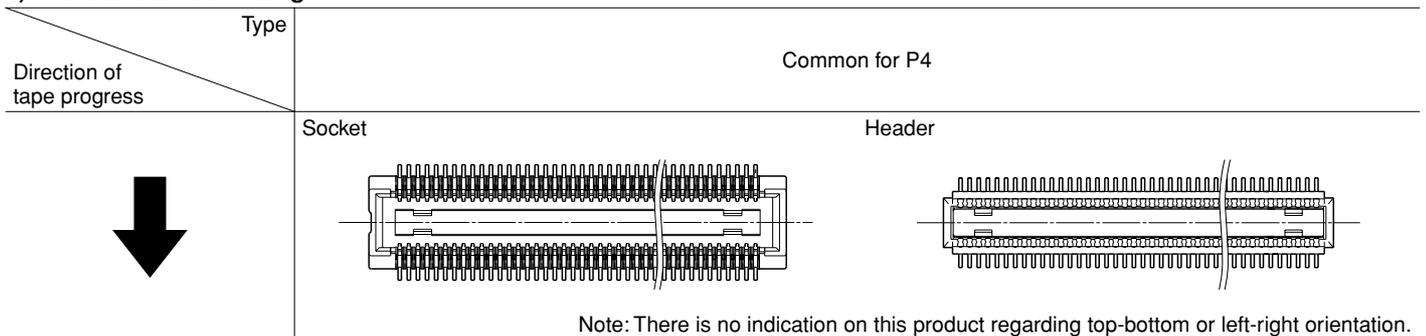
| Mated height | Number of contacts | Type of taping | A | B | C | D | E | F | Quantity per reel |
|--|--------------------|----------------|------|------|------|-----|------|------|-------------------|
| Common for socket and header: 1.5 mm, 2.0 mm and 2.5 mm | Max. 18 | Tape I | 16.0 | — | 7.5 | 8.0 | 17.4 | φ380 | 3,000 |
| | 20 to 70 | Tape I | 24.0 | — | 11.5 | 8.0 | 25.4 | φ380 | 3,000 |
| | 80 to 100 | Tape II | 32.0 | 28.4 | 14.2 | 8.0 | 33.4 | φ380 | 3,000 |

2. With Retention Fitting

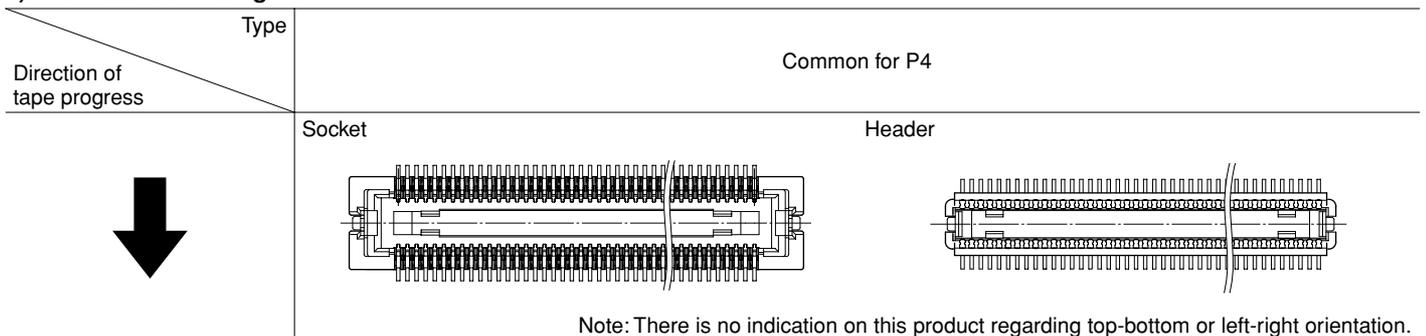
| Mated height | Number of contacts | | Type of taping | A | B | C | D | E | F | Quantity per reel |
|---|--------------------|-----------|----------------|------|------|------|-----|------|------|-------------------|
| | Socket | Header | | | | | | | | |
| Common for socket and header: 1.5 mm, 2.0 mm, 2.5 mm, and 3.0 mm Header: 3.5mm and 4.0 mm | Max. 18 | Max. 18 | Tape I | 16.0 | — | 7.5 | 8.0 | 17.4 | φ380 | 3,000 |
| | 20 to 60 | 20 to 70 | Tape I | 24.0 | — | 11.5 | 8.0 | 25.4 | φ380 | 3,000 |
| | 70 to 90 | 80 to 100 | Tape II | 32.0 | 28.4 | 14.2 | 8.0 | 33.4 | φ380 | 3,000 |
| | 100 | — | Tape II | 44.0 | 40.4 | 20.2 | 8.0 | 45.4 | φ380 | 3,000 |
| Socket: 3.5mm and 4.0 mm | Max. 18 | | Tape I | 16.0 | — | 7.5 | 8.0 | 17.4 | φ380 | 2,000 |
| | 20 to 60 | | Tape I | 24.0 | — | 11.5 | 8.0 | 25.4 | φ380 | 2,000 |
| | 70 to 90 | | Tape II | 32.0 | 28.4 | 14.2 | 8.0 | 33.4 | φ380 | 2,000 |
| | 100 | | Tape II | 44.0 | 40.4 | 20.2 | 8.0 | 45.4 | φ380 | 2,000 |

3. Connector orientation with respect to direction of progress of embossed tape

1) Without retention fitting



2) With retention fitting



Narrow Pitch Connector P4 (0.4 mm pitches) for Inspection Usage

CONNECTOR FOR INSPECTION USAGE APPLICATIONS WITH 3,000 INSERTION AND REMOVAL TIMES



Socket



Header

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 standard type.

Since shape is the same as 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.)

TABLE OF PRODUCT TYPES

☆: Available for sale

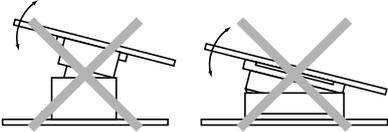
| Product name | P4 for inspection | P4 for inspection with retention fitting |
|--------------------|-------------------|--|
| Number of contacts | 10 | ☆ |
| | 12 | ☆ |
| | 14 | ☆ |
| | 16 | ☆ |
| | 20 | ☆ |
| | 22 | ☆ |
| | 24 | ☆ |
| | 26 | ☆ |
| | 28 | ☆ |
| | 30 | ☆ |
| | 34 | ☆ |
| | 36 | ☆ |
| | 40 | ☆ |
| | 42 | ☆ |
| | 44 | ☆ |
| | 46 | ☆ |
| | 50 | ☆ |
| | 54 | ☆ |
| | 60 | ☆ |
| | 70 | ☆ |
| 80 | ☆ | |
| 90 | ☆ | |
| 100 | ☆ | |

Notes:

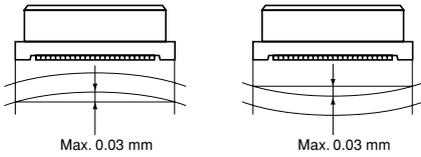
1. You can use with each mated height in common.
2. Please inquire about numbers of contacts other than those given above.
3. Please inquire with us regarding delivery times.
4. Please keep the minimum unit for ordering no less than 50 pieces per lot.
5. Please inquire for further information.

NOTES

1. As shown below, excess force during insertion may result in damage to the connector or removal of the solder. Please be careful. Also, to prevent connector damage please confirm the correct position before mating connectors.



2. Keep the PC board warp no more than 0.03 mm in relation to the overall length of the connector.



3. PC Boards and Recommended Metal Mask Patterns

Connectors are mounted with high density, with a pitch interval of 0.4 to 0.5 mm.

In order to reduce solder bridge and other issues make sure the proper levels of solder are used.

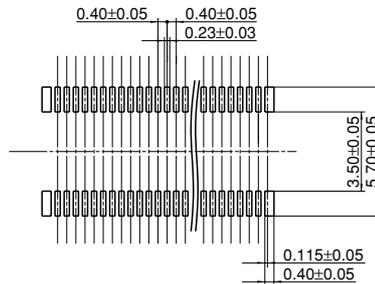
The figures to the right are recommended metal mask patterns.

Please use them as a reference.

1) Without retention fitting

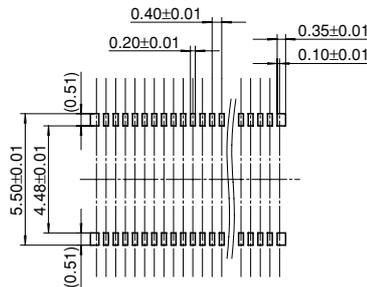
Socket

Recommended PC board pattern (TOP VIEW)



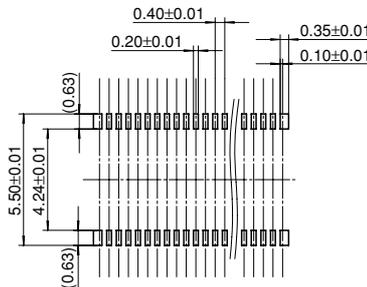
Recommended metal mask pattern

Metal mask thickness: Here, 150 μm
(Opening area ratio: 40 %)



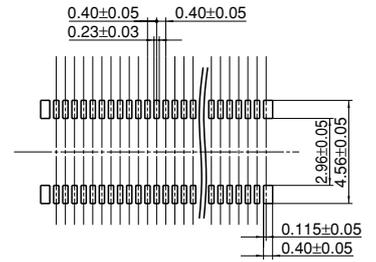
Recommended metal mask pattern

Metal mask thickness: Here, 120 μm
(Opening area ratio: 50 %)



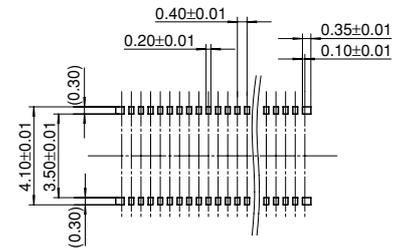
Header

Recommended PC board pattern (TOP VIEW)



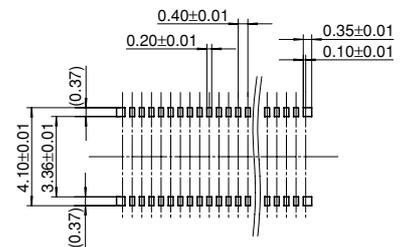
Recommended metal mask pattern

Metal mask thickness: Here, 150 μm
(Opening area ratio: 32 %)



Recommended metal mask pattern

Metal mask thickness: Here, 120 μm
(Opening area ratio: 40 %)

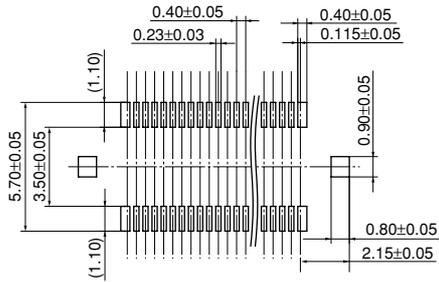


AXK7, 8

2) With retention fitting

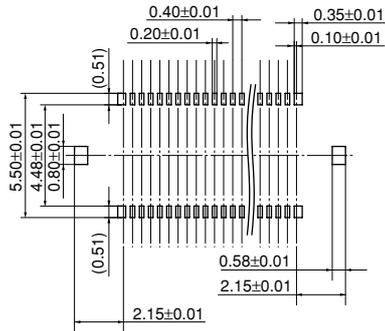
Socket

Recommended PC board pattern (TOP VIEW)



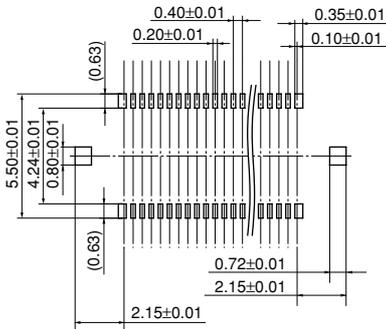
Recommended metal mask pattern

Metal mask thickness: Here, 150 μ m
(Terminal portion opening area ratio: 40 %)
(Metal portion opening area ratio: 65 %)



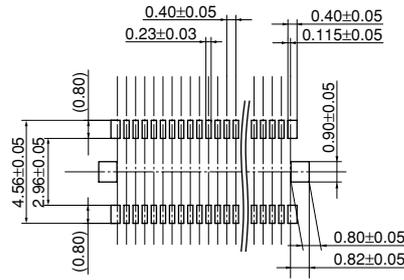
Recommended metal mask pattern

Metal mask thickness: Here, 120 μ m
(Terminal portion opening area ratio: 50 %)
(Metal portion opening area ratio: 80 %)



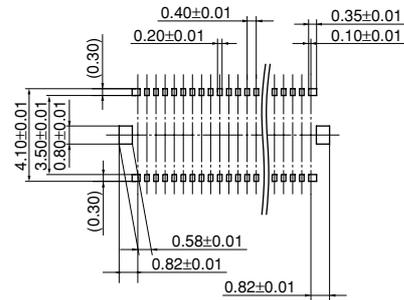
Header

Recommended PC board pattern (TOP VIEW)



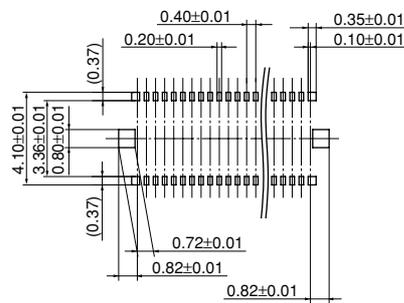
Recommended metal mask pattern

Metal mask thickness: Here, 150 μ m
(Terminal portion opening area ratio: 32 %)
(Metal portion opening area ratio: 65 %)



Recommended metal mask pattern

Metal mask thickness: Here, 120 μ m
(Terminal portion opening area ratio: 40 %)
(Metal portion opening area ratio: 80 %)



Regarding general notes, please refer to page 12.

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