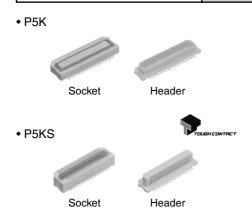
Panasonic

ideas for life

NARROW-PITCH CONNECTORS FOR BOARD-TO-BOARD CONNECTION

NARROW PITCH



Note) The external appearance and PC board pattern differs for the P5K and P5KS series.

FEATURES

1. The product lineup consists of 3.0 mm, 3.5 mm, 4.0 mm, 4.5 mm, 5.0 mm, 5.5 mm, 6.0 mm, 6.5 mm, 7.0 mm, 8.0 mm, and 9.0 mm.

| Type | Mated height | Notes |
|------|--|---|
| P5K | 3 mm, 3.5 mm | The external |
| P5KS | 4 mm, 4.5 mm, 5 mm, 5.5 mm, 6 mm, 6.5 mm, 7 mm, 8 mm, 9 mm | The external appearance and PC board pattern differs for the P5K and P5KS series. |

2. Strong resistance to adverse environments! Utilizes TDUGH CONTRET construction for high contact reliability.

| TDL | JGH CONTRET | P5K | P5KS |
|---------------|------------------------------|-----|------------|
| S | Bellows contact construction | 0 | 0 |
| uction | V notch construction | _ | O Note) |
| constructions | Ni barrier construction | _ | O Note) |
| 4 | Porosity treatment | 0 | 0 |

Note: P5KS will support V notch and Ni barrier from November, 2005, and will have TOUGH CONTACT construction.

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

· What is meant by "bellows type" contact?

Rather than two broken-out surfaces, the contact is formed by the surfaces of two rolled plates. This helps the contact hold up better to repeated insertions and removals, while at the same time achieving highly reliable contact.

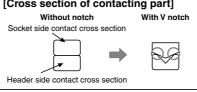
The roll surfaces are in contact with each other. providing high contact reliability

Since the contact is formed by bending thin plate, it has a spring-like quality. This construction helps make it resist ant to dropping and 2) V notch construction used for excellent resistance against foreign matters. (P5KS: Available from Nov. 2005)

• 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]

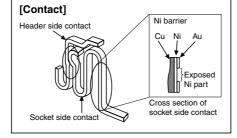


3) Use of Ni barrier construction is standard. Highly effective against solder creeping.

(P5KS: Available from Nov. 2005)

• What is Ni barrier construction?

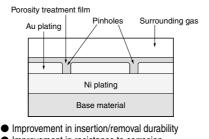
By providing an exposed nickel part on the gold (Au) plated contact, solder creeping is prevented despite the ultra low profile.



4) Porosity treatment applied for improved resistance against corrosion.

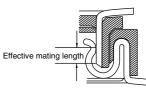
What is porosity treatment?

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 resistance to corrosion
- Improvement in contact reliability for digital signals

3. Even with the low profile, the effective mating length has been extended to ensure that there is some latitude in the mating.

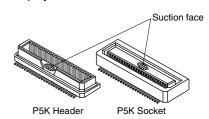


With long effective mating lengths, even if the connection is not perfect, the electrical connection is more than enough for normal operations.

| Туре | Effective mating length |
|------|-------------------------|
| P5K | 0.75 mm |
| P5KS | 1.0 mm |

4. Automatic mounting

1) Suction area for suction-type automatic mounting machines is employed.



5. 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.

APPLICATIONS

1. Mobile phones, PHS, mobile infocommunications terminals, and other small portable devices

2. The 160-contacts connector:

This connector is particularly suited to the motherboard, CPU board, and other multi-pin expansion boards on notebook PCs and other info-communications applications.

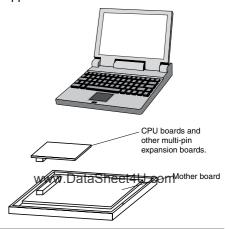
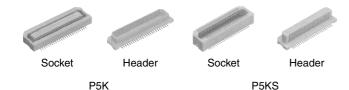


TABLE OF PRODUCT TYPES



| Produc | Product name P5K | | | | | | | P5KS | | TDUGI | H CON | TACT |
|--------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | ted ight | 3.0mm | 3.5mm | 4.0mm | 4.5mm | 5.0mm | 5.5mm | 6.0mm | 6.5mm | 7.0mm | 8.0mm | 9.0mm |
| | 20 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| | 22 | ☆ | ☆ | | | | | | | | | |
| | 24 | | | ☆ | ☆ | | | | | | | |
| | 30 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| ş | 34 | | | | | ☆ | ☆ | | | | | |
| tac | 36 | | | | ☆ | | | | | | | |
| no | 40 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| Number of contacts | 50 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| ber | 60 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| Ē | 70 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| Ź | 80 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| | 100 | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ |
| | 120 | ☆ | ☆ | ☆ | ☆ | | | | | | | |
| | 130 | | | | | | | | ☆ | | | |
| | 160 | | | ☆ | ☆ | | | | | | | |

Notes: 1. The standard type comes without positioning bosses. (Positioning bosses come standard on types with 4.0 mm and 4.5 mm mated height with 120 and 160 contacts, and 6.5 mm mated height with 130 contacts.) Connectors with positioning boss are available for on-demand production. 2. Please consult us for products which have no \dot{x} mark.

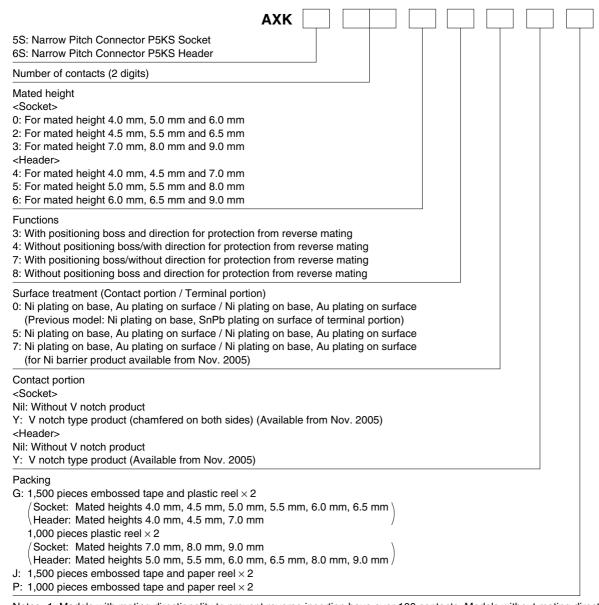
ORDERING INFORMATION

P: 1,000 pieces embossed tape and paper reel \times 2

1. P5K (3.0 mm and 3.5 mm)

| | AXK | | | | |
|--|-----|--------------|-------------|-----|--|
| 5: Narrow Pitch Connector P5K Socket 6: Narrow Pitch Connector P5K Header | | | | | |
| Number of contacts (2 digits) | | | | | |
| Mated height <socket> 1: For mated height 3.0 mm and 3.5 mm <header> 2: For mated height 3.5 mm 3: For mated height 3.0 mm</header></socket> | | | | | |
| Functions 3: With positioning bosses 4: Without positioning bosses | | | | | |
| Surface treatment (Contact portion / Terminal po 5: Ni plating on base, Au plating on surface / Ni | | e, Au platir | ng on surfa | ace | |
| Packing J: 1,500 pieces embossed tape and paper reel | ×2 | | | | |

2. P5KS (4.0 mm, 4.5 mm, 5.0 mm, 5.5 mm, 6.0 mm, 6.5 mm, 7.0 mm, 8.0 mm and 9.0 mm)



Notes: 1. Models with mating directionality to prevent reverse insertion have over 100 contacts. Models without mating directionality to prevent reverse insertion have less than 100 contacts.

- 2. The plating on the solder terminal portion has changed from SnPb to Au plating from the production lot of December, 2002, in order to eliminate lead.
- 3. Only "J" and "P" are supported as packaging specifications for models without Ni barrier. The packaging specification for Ni barrier models is "G" only.

Models possible for "J" are as follows:

Sockets: Mated heights 4.0 mm, 4.5 mm, 5.0 mm, 5.5 mm, 6.0 mm, and 6.5 mm

Headers: Mated heights 4.0 mm, 4.5 mm, and 7.0 mm

AXK(5(S)/6(S))

PRODUCT TYPES

1. P5K

| Product | Mated | No. of | Par | t No. | Pacl | king | |
|---------|------------|----------|------------|------------|-----------------------|----------------------|-------------------|
| name | height | contacts | Socket | Header | Inner carton (1 reel) | Outer carton | |
| | | 20 | AXK520145J | AXK620345J | | | |
| | | 22 | AXK522145J | AXK622345J | | | |
| | | 30 | AXK530145J | AXK630345J | | | |
| | | 40 | AXK540145J | AXK640345J | | | |
| | 3.0 mm | 50 | AXK550145J | AXK650345J | | | |
| | 3.0 111111 | 60 | AXK560145J | AXK660345J | | | |
| | | 70 | AXK570145J | AXK670345J | | | |
| | | 80 | AXK580145J | AXK680345J | | | |
| | | 100 | AXK500145J | AXK600345J | | | |
| P5K | | | 120 | AXK5A2145J | AXK6A2345J | 1 FOO minage Note 1) | 2 000 piagas Note |
| Pok | | | 20 | AXK520145J | AXK620245J | 1,500 pieces Note 1) | 3,000 pieces Note |
| | | 22 | AXK522145J | AXK622245J | | | |
| | | 30 | AXK530145J | AXK630245J | | | |
| | | 40 | AXK540145J | AXK640245J | | | |
| | 0.5 | 50 | AXK550145J | AXK650245J | | | |
| | 3.5 mm | 60 | AXK560145J | AXK660245J | | | |
| | | 70 | AXK570145J | AXK670245J | | | |
| | | 80 | AXK580145J | AXK680245J | | | |
| | | 100 | AXK500145J | AXK600245J | | | |
| | | | 120 | AXK5A2145J | AXK6A2245J | | |

Notes) 1. For the protection of our environment, orders of J: Inner carton (1 reel) 1,500 pcs. units are recommended to reduce packaging materials. In addition, orders of P: Inner carton (1 reel) 1,000 pcs. units with embossed tape packaging are also available; to order change the suffix "J" to the suffix "P."

2. 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. Change the suffix "J" to the suffix "P".

^{3.} The standard type comes without positioning bosses.

Connectors with positioning bosses are available on-demand production. For P5K type of 8th digit of the part no. changes from 4 to 3. e.g. Mated height 3.0 mm, 20 contacts for sockets: AXK520135P

2. P5KS

| 2. P5KS | | | | Pari | No. | | Packing | | | |
|-----------------|-----------------|-----------------|--|---|--|---|---|---|-------------------------------------|-------------------------------------|
| Duodiii-t | Motor | No -f | | ocket | He | eader | | | | |
| Product name | Mated height | No. of contacts | Without V notch and Ni barrier product (Paper reel) | TDUGH CONTRET (Paper reel) (Recommendation) | Without V notch and Ni barrier product (Paper reel) | TOUGH CONTRET (Paper reel) (Recommendation) | Inner carton (1 reel) | Outer carton | | |
| | | 20 | AXK5S20045* | AXK5S20047YG (From Nov. 2005) | AXK6S20445* | AXK6S20447YG (From Nov. 2005) | | | | |
| | | 24 | AXK5S24045* | AXK5S24047YG (From Nov. 2005) | AXK6S24445* | AXK6S24447YG (From Nov. 2005) | | | | |
| | | 30 | AXK5S30045* | AXK5S30047YG (From Nov. 2005) | AXK6S30445* | AXK6S30447YG (From Nov. 2005) | | | | |
| | | 40 | AXK5S40045* | AXK5S40047YG (From Nov. 2005) | AXK6S40445* | AXK6S40447YG (From Nov. 2005) | | | | |
| | | 50 | AXK5S50045* | AXK5S50047YG (From Nov. 2005) | AXK6S50445* | AXK6S50447YG (From Nov. 2005) | | | | |
| | 4.0 mm | 60 | AXK5S60045* | AXK5S60047YG (From Nov. 2005) | AXK6S60445* | AXK6S60447YG (From Nov. 2005) | | | | |
| | | 70 | AXK5S70045* | AXK5S70047YG (From Nov. 2005) | AXK6S70445* | AXK6S70447YG (From Nov. 2005) | | | | |
| | | 80 | AXK5S80045* | AXK5S80047YG (From Nov. 2005) | AXK6S80445* | AXK6S80447YG (From Nov. 2005) | | | | |
| | | 100 | AXK5S00045* | AXK5S00047YG (From Nov. 2005) | AXK6S00445* | AXK6S00447YG (From Nov. 2005) | | | | |
| | | 120 | AXK5SA2075* | AXK5SA2077YG (From Nov. 2005) | AXK6SA2475* | AXK6SA2477YG (From Nov. 2005) | Note 2) | Note 2) | | |
| | | | | 160 | AXK5SA6075* | AXK5SA6077YG (From Nov. 2005) | AXK6SA6475* | AXK6SA6477YG (From Nov. 2005) | "Asterisk" mark on end of part No.; | "Asterisk" mark on end of part No.; |
| | | 20 | AXK5S20245* | AXK5S20247YG (From Nov. 2005) | AXK6S20445* | AXK6S20447YG (From Nov. 2005) | J: 1,500 pieces P: 1,000 pieces | J: 3,000 pieces P: 2,000 pieces "G" mark on end of part No.; | | |
| | | 24 | AXK5S24245* | AXK5S24247YG (From Nov. 2005) | AXK6S24445* | AXK6S24447YG (From Nov. 2005) | "G" mark on end of part No.; | | | |
| | | 30 | AXK5S30245* | AXK5S30247YG (From Nov. 2005) | AXK6S30445* | AXK6S30447YG (From Nov. 2005) | 1,500 pieces | 3,000 pieces | | |
| | | 36 | AXK5S36245* | AXK5S36247YG (From Nov. 2005) | AXK6S36445* | AXK6S36447YG (From Nov. 2005) | | | | |
| DEKO | | 40 | AXK5S40245* | AXK5S40247YG (From Nov. 2005) | AXK6S40445* | AXK6S40447YG (From Nov. 2005) | | | | |
| P5KS | 4.5 mm | 50 | AXK5S50245* | AXK5S50247YG (From Nov. 2005) | AXK6S50445* | AXK6S50447YG (From Nov. 2005) | - | | | |
| | 4.5 111111 | 60 | AXK5S60245* | AXK5S60247YG (From Nov. 2005) | AXK6S60445* | AXK6S60447YG (From Nov. 2005) | | | | |
| | | 70 | AXK5S70245* | AXK5S70247YG (From Nov. 2005) | AXK6S70445* | AXK6S70447YG (From Nov. 2005) | | | | |
| | | 80 | AXK5S80245* | AXK5S80247YG (From Nov. 2005) | AXK6S80445* | AXK6S80447YG (From Nov. 2005) | | | | |
| | | 100 | AXK5S00245* | AXK5S00247YG (From Nov. 2005) | AXK6S00445* | AXK6S00447YG (From Nov. 2005) | | | | |
| | | 120 | AXK5SA2275* | AXK5SA2277YG (From Nov. 2005) | AXK6SA2475* | AXK6SA2477YG (From Nov. 2005) | | | | |
| | | 160 | AXK5SA6275* | AXK5SA6277YG (From Nov. 2005) | AXK6SA6475* | AXK6SA6477YG (From Nov. 2005) | | | | |
| | | 20 | AXK5S20045* | AXK5S20047YG (From Nov. 2005) | AXK6S20545P | AXK6S20547YG (From Nov. 2005) | | | | |
| | | 30 | AXK5S30045* | AXK5S30047YG (From Nov. 2005) | AXK6S30545P | AXK6S30547YG (From Nov. 2005) | | | | |
| | | 34 | AXK5S34045* | AXK5S34047YG (From Nov. 2005) | AXK6S34545P | AXK6S34547YG (From Nov. 2005) | Note 2) "Asterisk" mark on | Note 2) "Asterisk" mark on | | |
| | | 40 | AXK5S40045* | AXK5S40047YG (From Nov. 2005) | AXK6S40545P | AXK6S40547YG (From Nov. 2005) | end of part No.; J: 1,500 pieces | end of part No.; J: 3,000 pieces | | |
| | 5.0 mm | 50 | AXK5S50045* | AXK5S50047YG (From Nov. 2005) | AXK6S50545P | AXK6S50547YG (From Nov. 2005) | P: 1,000 pieces | P: 2,000 pieces | | |
| | | 60 | AXK5S60045* | AXK5S60047YG (From Nov. 2005) | AXK6S60545P | AXK6S60547YG (From Nov. 2005) | "G" mark on end of part No.; Socket: 1,500 pieces | "G" mark on end of part No.; Socket: 3,000 pieces | | |
| | | 70 | AXK5S70045* | AXK5S70047YG (From Nov. 2005) | AXK6S70545P | AXK6S70547YG (From Nov. 2005) | Header: 1,000 pieces | Header: 2,000 pieces | | |
| | | 80 | AXK5S80045* | AXK5S80047YG (From Nov. 2005) | AXK6S80545P | AXK6S80547YG (From Nov. 2005) | | | | |
| | | 100 | AXK5S00045* | AXK5S00047YG (From Nov. 2005) | AXK6S00545P | AXK6S00547YG (From Nov. 2005) | | | | |

| | | | | Part | t No. | | Packing | | | | | |
|-----------------|-----------------|-----------------|--|----------------------------------|--|----------------------------------|---|---|---------------------------------|------------------------------------|-------------|----------------------------------|
| Dundund | N4-4I | Nf | So | ocket | He | eader | | | | | | |
| Product name | Mated height | No. of contacts | Without V notch and Ni barrier product (Paper reel) | (Paper reel) (Recommendation) | Without V notch and Ni barrier product (Paper reel) | (Paper reel) (Recommendation) | Inner carton (1 reel) | Outer carton | | | | |
| | | 20 | AXK5S20245* | AXK5S20247YG (From Nov. 2005) | AXK6S20545P | AXK6S20547YG (From Nov. 2005) | | | | | | |
| | | 30 | AXK5S30245* | AXK5S30247YG (From Nov. 2005) | AXK6S30545P | AXK6S30547YG (From Nov. 2005) | | | | | | |
| | | 34 | AXK5S34245* | AXK5S34247YG (From Nov. 2005) | AXK6S34545P | AXK6S34547YG (From Nov. 2005) | | | | | | |
| | | 40 | AXK5S40245* | AXK5S40247YG (From Nov. 2005) | AXK6S40545P | AXK6S40547YG (From Nov. 2005) | | | | | | |
| | 5.5 mm | 50 | AXK5S50245* | AXK5S50247YG (From Nov. 2005) | AXK6S50545P | AXK6S50547YG (From Nov. 2005) | | | | | | |
| | | 60 | AXK5S60245* | AXK5S60247YG (From Nov. 2005) | AXK6S60545P | AXK6S60547YG (From Nov. 2005) | | | | | | |
| | | 70 | AXK5S70245* | AXK5S70247YG (From Nov. 2005) | AXK6S70545P | AXK6S70547YG (From Nov. 2005) | | | | | | |
| | | 80 | AXK5S80245* | AXK5S80247YG (From Nov. 2005) | AXK6S80545P | AXK6S80547YG (From Nov. 2005) | | | | | | |
| | | 100 | AXK5S00245* | AXK5S00247YG (From Nov. 2005) | AXK6S00545P | AXK6S00547YG (From Nov. 2005) | | | | | | |
| | | 20 | AXK5S20045* | AXK5S20047YG (From Nov. 2005) | AXK6S20645P | AXK6S20647YG (From Nov. 2005) | | | | | | |
| | | 30 | AXK5S30045* | AXK5S30047YG (From Nov. 2005) | AXK6S30645P | AXK6S30647YG (From Nov. 2005) | N 0\ | N | | | | |
| | | 40 | AXK5S40045* | AXK5S40047YG (From Nov. 2005) | AXK6S40645P | AXK6S40647YG (From Nov. 2005) | Note 2) "Asterisk" mark on end of part No.; | Note 2) "Asterisk" mark on end of part No.; | | | | |
| | 6.0 mm | 0.0 | 0.0 | 50 | AXK5S50045* | AXK5S50047YG (From Nov. 2005) | AXK6S50645P | AXK6S50647YG (From Nov. 2005) | J: 1,500 pieces P: 1,000 pieces | J: 3,000 pieces P: 2,000 pieces | | |
| | | 60 | AXK5S60045* | AXK5S60047YG (From Nov. 2005) | AXK6S60645P | AXK6S60647YG (From Nov. 2005) | "G" mark on end of | "G" mark on end of | | | | |
| | | 70 | AXK5S70045* | AXK5S70047YG (From Nov. 2005) | AXK6S70645P | AXK6S70647YG (From Nov. 2005) | part No.; Socket: 1,500 pieces Header: 1,000 pieces | part No.; Socket: 3,000 pieces Header: 2,000 pieces | | | | |
| | | 80 | AXK5S80045* | AXK5S80047YG (From Nov. 2005) | AXK6S80645P | AXK6S80647YG (From Nov. 2005) | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | |
| P5KS | | 100 | AXK5S00045* | AXK5S00047YG (From Nov. 2005) | AXK6S00645P | AXK6S00647YG (From Nov. 2005) | _ | | | | | |
| FJNJ | | 20 | AXK5S20245* | AXK5S20247YG (From Nov. 2005) | AXK6S20645P | AXK6S20647YG (From Nov. 2005) | | | | | | |
| | | | 30 | AXK5S30245* | AXK5S30247YG (From Nov. 2005) | AXK6S30645P | AXK6S30647YG (From Nov. 2005) | | | | | |
| | | | | | | | | 40 | AXK5S40245* | AXK5S40247YG (From Nov. 2005) | AXK6S40645P | AXK6S40647YG (From Nov. 2005) |
| | | 50 | AXK5S50245* | AXK5S50247YG (From Nov. 2005) | AXK6S50645P | AXK6S50647YG (From Nov. 2005) | | | | | | |
| | 6.5 mm | 60 | AXK5S60245* | AXK5S60247YG (From Nov. 2005) | AXK6S60645P | AXK6S60647YG (From Nov. 2005) | | | | | | |
| | | 70 | AXK5S70245* | AXK5S70247YG (From Nov. 2005) | AXK6S70645P | AXK6S70647YG (From Nov. 2005) | | | | | | |
| | | 80 | AXK5S80245* | AXK5S80247YG (From Nov. 2005) | AXK6S80645P | AXK6S80647YG (From Nov. 2005) | | | | | | |
| | | 100 | AXK5S00245* | AXK5S00247YG (From Nov. 2005) | AXK6S00645P | AXK6S00647YG (From Nov. 2005) | | | | | | |
| | | 130 | AXK5SA3275* | AXK5SA3277YG (From Nov. 2005) | AXK6SA3675P | AXK6SA3677YG (From Nov. 2005) | | | | | | |
| | | 20 | AXK5S20340P | AXK5S20347YG (From Nov. 2005) | AXK6S20445* | AXK6S20447YG (From Nov. 2005) | | | | | | |
| | | 30 | AXK5S30340P | AXK5S30347YG (From Nov. 2005) | AXK6S30445* | AXK6S30447YG (From Nov. 2005) | Note 2) | Note 2) | | | | |
| | | 40 | AXK5S40340P | AXK5S40347YG (From Nov. 2005) | AXK6S40445* | AXK6S40447YG (From Nov. 2005) | "Asterisk" mark on end of part No.; | "Asterisk" mark on end of part No.; | | | | |
| | 7.0 mm | 50 | AXK5S50340P | AXK5S50347YG (From Nov. 2005) | AXK6S50445* | AXK6S50447YG (From Nov. 2005) | J: 1,500 pieces P: 1,000 pieces | J: 3,000 pieces P: 2,000 pieces | | | | |
| | | 60 | AXK5S60340P | AXK5S60347YG (From Nov. 2005) | AXK6S60445* | AXK6S60447YG (From Nov. 2005) | "G" mark on end of part No.; | "G" mark on end of part No.; | | | | |
| | | 70 | AXK5S70340P | AXK5S70347YG (From Nov. 2005) | AXK6S70445* | AXK6S70447YG (From Nov. 2005) | Socket: 1,000 pieces Header: 1,500 pieces | Socket: 2,000 pieces Header: 3,000 pieces | | | | |
| | | 80 | AXK5S80340P | AXK5S80347YG (From Nov. 2005) | AXK6S80445* | AXK6S80447YG (From Nov. 2005) | · | · | | | | |
| | | 100 | AXK5S00340P | AXK5S00347YG (From Nov. 2005) | AXK6S00445* | AXK6S00447YG (From Nov. 2005) | | | | | | |

| | | | | Part | No. | | Pack | ing | | | | | | |
|---------------------------|-----------------|-----------------|--|---|--|---|-----------------------|--------------|-------------|----------------------------------|-------------|----------------------------------|--|--|
| Duadwat Materia | | | Se | ocket | He | eader | | | | | | | | |
| Product Mated name height | Mated height | No. of contacts | Without V notch and Ni barrier product (Paper reel) | TDUGH CONTRCT (Paper reel) (Recommendation) | Without V notch and Ni barrier product (Paper reel) | TOUGH CONTRET (Paper reel) (Recommendation) | Inner carton (1 reel) | Outer carton | | | | | | |
| | | 20 | AXK5S20340P | AXK5S20347YG (From Nov. 2005) | AXK6S20545P | AXK6S20547YG (From Nov. 2005) | | | | | | | | |
| | | 30 | AXK5S30340P | AXK5S30347YG (From Nov. 2005) | AXK6S30545P | AXK6S30547YG (From Nov. 2005) | | | | | | | | |
| | | 40 | AXK5S40340P | AXK5S40347YG (From Nov. 2005) | AXK6S40545P | AXK6S40547YG (From Nov. 2005) | | | | | | | | |
| | 0.0 | 50 | AXK5S50340P | AXK5S50347YG (From Nov. 2005) | AXK6S50545P | AXK6S50547YG (From Nov. 2005) | | | | | | | | |
| | 8.0 mm | 60 | AXK5S60340P | AXK5S60347YG (From Nov. 2005) | AXK6S60545P | AXK6S60547YG (From Nov. 2005) | | | | | | | | |
| | | 70 | AXK5S70340P | AXK5S70347YG (From Nov. 2005) | AXK6S70545P | AXK6S70547YG (From Nov. 2005) | | | | | | | | |
| | | 80 | AXK5S80340P | AXK5S80347YG (From Nov. 2005) | AXK6S80545P | AXK6S80547YG (From Nov. 2005) | | | | | | | | |
| P5KS | | 100 | AXK5S00340P | AXK5S00347YG (From Nov. 2005) | AXK6S00545P | AXK6S00547YG (From Nov. 2005) | 1 000 pieses | 0.000 ninga | | | | | | |
| P3N3 | | 20 | AXK5S20340P | AXK5S20347YG (From Nov. 2005) | AXK6S20645P | AXK6S20647YG (From Nov. 2005) | 1,000 pieces | 2,000 pieces | | | | | | |
| | | | | | | | | 30 | AXK5S30340P | AXK5S30347YG (From Nov. 2005) | AXK6S30645P | AXK6S30647YG (From Nov. 2005) | | |
| | | 40 | AXK5S40340P | AXK5S40347YG (From Nov. 2005) | AXK6S40645P | AXK6S40647YG (From Nov. 2005) | | | | | | | | |
| 9.0 mm | 0.0 mm | 50 | AXK5S50340P | AXK5S50347YG (From Nov. 2005) | AXK6S50645P | AXK6S50647YG (From Nov. 2005) | | | | | | | | |
| | 60 | AXK5S60340P | AXK5S60347YG (From Nov. 2005) | AXK6S60645P | AXK6S60647YG (From Nov. 2005) | | | | | | | | | |
| | | 70 | AXK5S70340P | AXK5S70347YG (From Nov. 2005) | AXK6S70645P | AXK6S70647YG (From Nov. 2005) | | | | | | | | |
| | | 80 | AXK5S80340P | AXK5S80347YG (From Nov. 2005) | AXK6S80645P | AXK6S80647YG (From Nov. 2005) | | | | | | | | |
| | | 100 | AXK5S00340P | AXK5S00347YG (From Nov. 2005) | AXK6S00645P | AXK6S00647YG (From Nov. 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. For models without V notch and Ni barrier, change the suffix "J" to the suffix "P," or place a "P" where the "*" is located.
For V notch and Ni barrier models add "G" at the end of the part number.

2. The standard type comes without positioning bosses (However, mated heights of 4 mm or higher and 120 pins or more comes standard with bosses). Connectors with positioning bosses are available for on-demand production. For P5KS type of 9th digit of the part no. changes from 4 to 3. e.g. Mated height 4.0 mm, 20 contacts for sockets: AXK5S20037G

SPECIFICATIONS

1. Characteristics

| | | | Specifications | | | |
|-------------------------------|---|---|---|----------------|---|---|
| | Item | 3mm, 3.5mm type | 4mm, 4.5mm, 5mm, 5.5mm, 6mm, 6.5mm type | 7mm, | 8mm, 9mm type | Conditions |
| | Rated current | 0.5A/terminal (Max. 10A) | 0.5A/teri | ninal (Max. 1 | 6A) | |
| | Rated voltage | | 60V AC/DC | | | |
| Electrical | Breakdown voltage | | 150V AC for 1 min. | | | Detection current: 1mA |
| characteristics | Insulation resistance | | Min. 1000M Ω | | | Using 500V DC megger |
| | Contact resistance | Max | 60mΩ | | Max. 80mΩ | Measured based on the HP4338 measurement method of JIS C 5402 |
| | Composite insertion force | Ма | x. 0.785N {80gf} × no. of cont | acts (initial) | | |
| Mechanical characteristics | Composite removal force | | Min. 0.0588N $\{6gf\} \times no. of c$ | contacts | | |
| onaracionstics | Post holding force | | Measures the maximum load in the post axial direction until removal | | | |
| | Ambient temperature | | No freezing at low temperatures | | | |
| | Soldering heat | | Infrared reflow soldering | | | |
| | resistance | | Soldering iron | | | |
| | Thermal shock resistance (header and socket mated) | j , | istance min. 100M Ω , ance max. 60m Ω | 5 cycles, | insulation resistance min. 100M Ω , contact resistance max. 80m Ω | Sequence 1. –55-\(\frac{9}{6}\)°C, 30 minutes 2. ~, Max. 5 minutes 3. 85'\(\frac{3}{6}\)°C, 30 minutes 4. ~, Max. 5 minutes |
| Environmental characteristics | Humidity resistance (header and socket mated) | | istance min. 100M Ω , ance max. 60m Ω | 120 hours, | insulation resistance min. 100M Ω , contact resistance max. 80m Ω | Bath temperature 40±2°C, humidity 90 to 95% R.H. |
| | Saltwater spray resistance (header and socket mated) | | istance min. 100M Ω , ance max. 60m Ω | 24 hours, | insulation resistance min. 100M Ω , contact resistance max. $80m\Omega$ | Bath temperature 35±2°C, saltwarter concentration 5±1% |
| | H ₂ S resistance (header and socket mated) | 48 hours, contact resistance max. $60mΩ$ 48 hours, contact resistance max. $80mΩ$ | | | | 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 | | P5K 3mm 30 contacts P5KS 4mm 30 contacts | Socket: 0.17g Header: 0. Socket: 0.18g Header: 0. | | | |

2. Material and surface treatment

| Part name | Mated height 3mm, 3.5mm, 4mm, 4.5mm, 5mm, 5.5mm, 6mm, 6.5mm, 7mm, 8mm, 9mm | | | |
|----------------|--|---|--|--|
| Part name | Material | Surface treatment | | |
| Molded portion | Heat-resistant resin (UL94V-0) | _ | | |
| Contact/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, the area adjacent to the terminal on Ni barrier models is exposed to Ni on base. | | |

DIMENSIONS

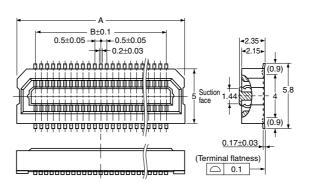
P5K: Mated height 3mm, 3.5mm type

Socket



Dimension table (mm)

| Α | В |
|-------|---|
| 8.20 | 4.50 |
| 8.70 | 5.00 |
| 10.70 | 7.00 |
| 13.20 | 9.50 |
| 15.70 | 12.00 |
| 18.20 | 14.50 |
| 20.70 | 17.00 |
| 23.20 | 19.50 |
| 28.20 | 24.50 |
| 33.20 | 29.50 |
| | 8.20 8.70 10.70 13.20 15.70 18.20 20.70 23.20 28.20 |



mm General tolerance: ±0.2

mm General tolerance: ±0.2

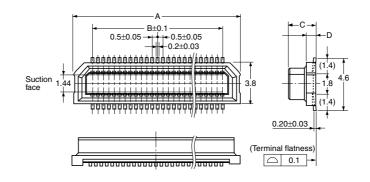


Header



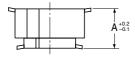
Dimension table (mm)

| No. of contacts | Α | В |
|-----------------|-------|-------|
| 20 | 8.20 | 4.50 |
| 22 | 8.70 | 5.00 |
| 30 | 10.70 | 7.00 |
| 40 | 13.20 | 9.50 |
| 50 | 15.70 | 12.00 |
| 60 | 18.20 | 14.50 |
| 70 | 20.70 | 17.00 |
| 80 | 23.20 | 19.50 |
| 100 | 28.20 | 24.50 |
| 120 | 33.20 | 29.50 |
| | | |



| Mated height | С | D |
|--------------|-----|------|
| 3.0 mm | 2.4 | 0.85 |
| 3.5 mm | 2.9 | 1.35 |

• Socket and header are mated



| Mated height | Α |
|--------------|-----|
| 3.0 mm | 3.0 |
| 3.5 mm | 3.5 |

Note) P5KS series (mated heights 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm, 7.0mm, 8.0mm, and 9.0mm) cannot be mated to this type.

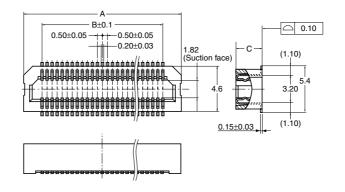
P5KS: Mated height 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm, 7.0mm, 8.0mm, 9.0mm type

Socket



Dimension table (mm)

| No. of contacts | Α | В |
|-----------------|-------|-------|
| 20 | 8.20 | 4.50 |
| 24 | 9.20 | 5.50 |
| 30 | 10.70 | 7.00 |
| 34 | 11.70 | 8.00 |
| 36 | 12.20 | 8.50 |
| 40 | 13.20 | 9.50 |
| 50 | 15.70 | 12.00 |
| 60 | 18.20 | 14.50 |
| 70 | 20.70 | 17.00 |
| 80 | 23.20 | 19.50 |
| 100 | 28.20 | 24.50 |



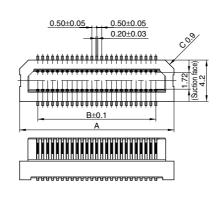
| Mated height | С |
|------------------------|------|
| 4.0 mm, 5.0 mm, 6.0 mm | 3.05 |
| 4.5 mm, 5.5 mm, 6.5 mm | 3.55 |
| 7.0 mm, 8.0 mm, 9.0 mm | 6.05 |

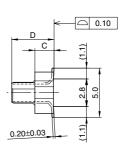
Header



Dimension table (mm)

| No. of contacts | Α | В |
|-----------------|-------|-------|
| 20 | 8.20 | 4.50 |
| 24 | 9.20 | 5.50 |
| 30 | 10.70 | 7.00 |
| 34 | 11.70 | 8.00 |
| 36 | 12.20 | 8.50 |
| 40 | 13.20 | 9.50 |
| 50 | 15.70 | 12.00 |
| 60 | 18.20 | 14.50 |
| 70 | 20.70 | 17.00 |
| 80 | 23.20 | 19.50 |
| 100 | 28.20 | 24.50 |
| | | |





| Mated height | С | D |
|------------------------|------|-----|
| 4.0 mm, 4.5 mm, 7.0 mm | 0.95 | 3.3 |
| 5.0 mm, 5.5 mm, 8.0 mm | 1.95 | 4.3 |
| 6.0 mm, 6.5 mm, 9.0 mm | 2.95 | 5.3 |

mm General tolerance: ±0.2

Socket and header are mated



Note) P5K series (mated heights 3.0mm, 3.5mm) cannot be mated to this type.

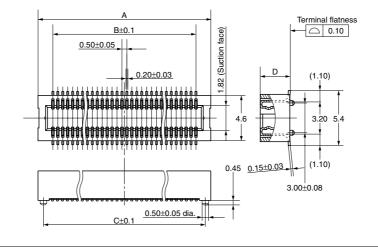
| Mated height | Н |
|--------------|-----|
| 4.0 mm | 4.0 |
| 4.5 mm | 4.5 |
| 5.0 mm | 5.0 |
| 5.5 mm | 5.5 |
| 6.0 mm | 6.0 |
| 6.5 mm | 6.5 |
| 7.0 mm | 7.0 |
| 8.0 mm | 8.0 |
| 9.0 mm | 9.0 |

P5KS: Mated height 4.0mm, 4.5mm for 120 contacts and 160 contacts types, 6.5mm for 130 contacts type

Socket



| No. of contacts | Α | В | С |
|-----------------|-------|-------|-------|
| 120 | 32.50 | 29.50 | 32.00 |
| 130 | 35.00 | 32.00 | 34.50 |
| 160 | 42.50 | 39.50 | 42.00 |

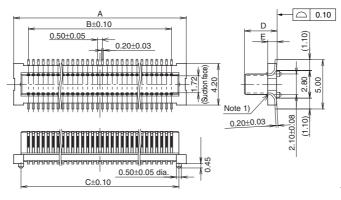


| Mated height | D |
|----------------|------|
| 4.0 mm | 3.05 |
| 4.5 mm, 6.5 mm | 3.55 |

• Header



| No. of contacts | Α | В | С |
|-----------------|-------|-------|-------|
| 120 | 32.50 | 29.50 | 31.00 |
| 130 | 35.00 | 32.00 | 33.50 |
| 160 | 42.50 | 39.50 | 41.00 |



| Mated height | D | Е |
|----------------|------|------|
| 4.0 mm, 4.5 mm | 3.30 | 0.95 |
| 6.5 mm | 5.30 | 2.95 |

· Socket and header are mated



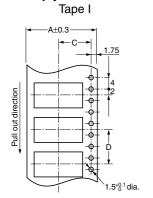
| Mated height | Н |
|--------------|-----|
| 4.0 mm | 4.0 |
| 4.5 mm | 4.5 |
| 6.5 mm | 6.5 |

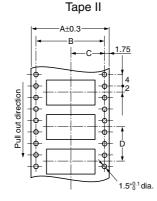
Notes) 1. Inquiry separately for diagrams of the embossed tape and cautions for use.

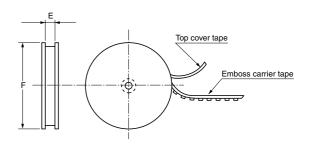
2. Be sure to ask for proper specifications and drawings before actual use.

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

- Tape dimensions (Conforming to JIS C 0806-1990. However, some tapes have mounting hole pitches that do not comply with the standard.)
- Plastic reel dimensions (Conforming to EIAJ ET-7200B)/
 Paper reel dimensions (Conforming to JIS C 0806-1990)







Dimension table (mm)

(1) Suffix: G (1 reel, 1,500 pieces or 1,000 pieces embossed tape and plastic reel package)

| Type | Mated height | No. of contacts | Type of taping | Α | В | С | D | Е | F | Quantity per reel |
|------|--|-----------------|----------------|------|------|------|------|--------|----------|-------------------|
| | Socket: 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm Header: 4.0mm, 4.5mm, 7.0mm | 20 to 50 | Tape I | 24.0 | _ | 11.5 | 12.0 | 25.4±1 | 380 dia. | |
| | | 60 to 70 | Tape II | 32.0 | 28.4 | 14.2 | 12.0 | 33.4±1 | 380 dia. | 1,500 pcs. |
| | | 80 to 100 | Tape II | 44.0 | 40.4 | 20.2 | 12.0 | 45.4±1 | 380 dia. | |
| P5KS | | 120 to 160 | Tape II | 56.0 | 52.4 | 26.2 | 12.0 | 57.4±1 | 380 dia. | |
| P3N3 | Socket: 7.0mm, 8.0mm, 9.0mm Header: 5.0mm, 5.5mm, 6.0mm, 6.5mm, 8.0mm, 9.0mm | 20 to 50 | Tape I | 24.0 | _ | 11.5 | 12.0 | 25.4±1 | 380 dia. | |
| | | 60 to 70 | Tape II | 32.0 | 28.4 | 14.2 | 12.0 | 33.4±1 | 380 dia. | 1,000 pcs. |
| | | 80 to 100 | Tape II | 44.0 | 40.4 | 20.2 | 12.0 | 45.4±1 | 380 dia. | |
| | | 130 | Tape II | 56.0 | 52.4 | 26.2 | 12.0 | 57.4±1 | 380 dia. | |

(2) Suffix: J (1 reel, 1,500 pieces embossed tape and paper reel package)

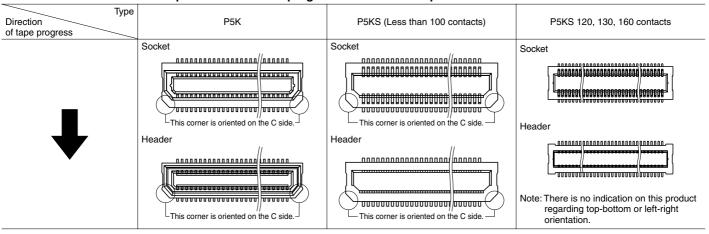
| Type | Mated height | No. of contacts | Type of taping | Α | В | С | D | E | F | Quantity per reel |
|------|---|-----------------|----------------|------|------|------|------|----------|----------|-------------------|
| P5K | Socket and header are common 3.0mm, 3.5mm | 20 to 50 | Tape I | 24.0 | _ | 11.5 | 12.0 | 24.4 0 | 370 dia. | 1,500 pcs. |
| | | 60 to 70 | Tape II | 32.0 | 28.4 | 14.2 | 12.0 | 32.4 +2 | 370 dia. | |
| Pok | | 80 to 100 | Tape II | 44.0 | 40.4 | 20.2 | 12.0 | 44.4+2 | 370 dia. | |
| | | 120 | Tape II | 56.0 | 52.4 | 26.2 | 12.0 | 56.4+2 | 370 dia. | |
| P5KS | Socket: 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm Header: 4.0mm, 4.5mm, 7.0mm | 20 to 50 | Tape I | 24.0 | _ | 11.5 | 12.0 | 24.4 0 | 370 dia. | 1,500 pcs. |
| | | 60 to 70 | Tape II | 32.0 | 28.4 | 14.2 | 12.0 | 32.4+2 | 370 dia. | |
| | | 80 to 100 | Tape II | 44.0 | 40.4 | 20.2 | 12.0 | 44.4 0 4 | 370 dia. | |
| | | 120 to 160 | Tape II | 56.0 | 52.4 | 26.2 | 12.0 | 56.4 0 | 370 dia. | |

(3) Suffix: P (1 reel, 1,000 pieces embossed tape and paper reel package)

| Туре | Mated height | No. of contacts | Type of taping | Α | В | С | D | Е | F | Quantity per reel |
|------|--|-----------------|----------------|------|------|------|------|---------|----------|-------------------|
| P5K | Socket and header are common 3.0mm, 3.5mm | 20 to 50 | Tape I | 24.0 | _ | 11.5 | 12.0 | 24.4 +2 | 330 dia. | |
| | | 60 to 70 | Tape II | 32.0 | 28.4 | 14.2 | 12.0 | 32.4+2 | 330 dia. | |
| | | 80 to 100 | Tape II | 44.0 | 40.4 | 20.2 | 12.0 | 44.4 0 | 330 dia. | |
| | | 120 | Tape II | 56.0 | 52.4 | 26.2 | 12.0 | 56.4+2 | 330 dia. | |
| P5KS | Socket: 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm Header: 4.0mm, 4.5mm, 5.0mm, 5.5mm, 7.0mm, 8.0mm | 20 to 50 | Tape I | 24.0 | _ | 11.5 | 12.0 | 24.4 +2 | 330 dia. | |
| | | 60 to 70 | Tape II | 32.0 | 28.4 | 14.2 | 12.0 | 32.4 +2 | 330 dia. | 1,000 pcs. |
| | | 80 to 100 | Tape II | 44.0 | 40.4 | 20.2 | 12.0 | 44.4 +2 | 330 dia. | |
| | | 120 to 160 | Tape II | 56.0 | 52.4 | 26.2 | 12.0 | 56.4+2 | 330 dia. | |
| | Socket: 7.0mm, 8.0mm, 9.0mm Header: 6.0mm, 6.5mm, 9.0mm | 20 to 50 | Tape I | 24.0 | _ | 11.5 | 12.0 | 24.4 0 | 370 dia. | |
| | | 60 to 70 | Tape II | 32.0 | 28.4 | 14.2 | 12.0 | 32.4+2 | 370 dia. | |
| | | 80 to 100 | Tape II | 44.0 | 40.4 | 20.2 | 12.0 | 44.4 0 | 370 dia. | |
| | | 130 | Tape II | 56.0 | 52.4 | 26.2 | 12.0 | 56.4 0 | 370 dia. | |

AXK(5(S)/6(S))

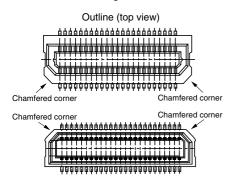
Connector orientation with respect to direction of progress of embossed tape

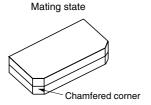


NOTES

1. Prevention of reverse mating

Other than 120, 130, 160 contacts type, the socket and header are protected from reverse mating by a molded resin key. Excessive mating force may damage the key, so be sure to match chamfered corners when mating.



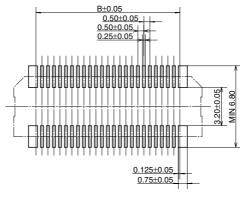


2. PC Boards and Recommended Metal Mask Patterns

Connectors are mounted with high density, with a pitch interval of 0.4 to 0.5 mm. It is therefore necessary to make sure that the right levels of solder are used, in order to reduce solder bridge and other issues. The figures to the right are recommended metal mask patterns. Please use them as a reference.

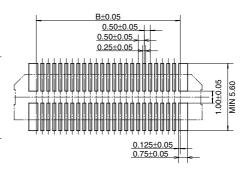
P5K Socket

Recommended PC board pattern (TOP VIEW)

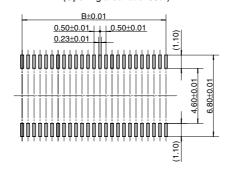


P5K Header

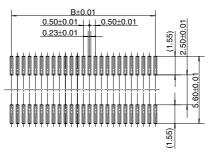
Recommended PC board pattern (TOP VIEW)



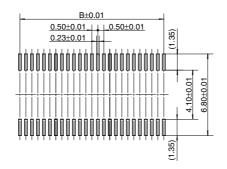
Recommended metal mask pattern Metal mask thickness: Here, 150 µm (Opening area ratio: 56%)



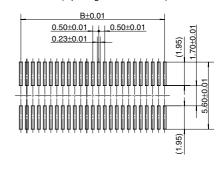
Recommended metal mask pattern Metal mask thickness: Here, 150 µm (Opening area ratio: 62%)



Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Opening area ratio: 69%)



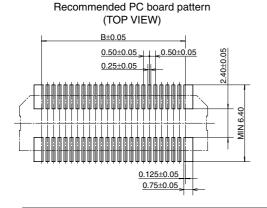
Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Opening area ratio: 78%)



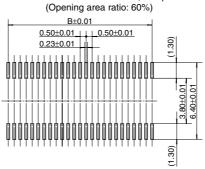
^{*} See the dimension table on page 70 for more information on the B dimension of the socket and header.

P5KS: Mated height 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm, 7.0mm, 8.0mm, 9.0mm type

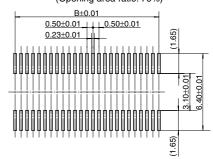
Socket



Recommended metal mask pattern Metal mask thickness: Here, 150 µm (Opening area ratio: 60%)



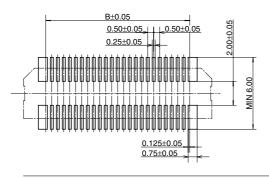
Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Opening area ratio: 76%)



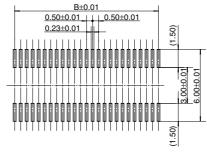
* See the dimension table on page 71 for more information on the B dimension.

Header

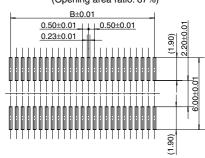
Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 µm (Opening area ratio: 69%)



Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Opening area ratio: 87%)

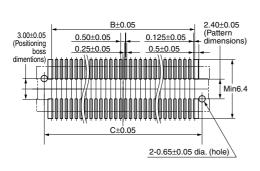


* See the dimension table on page 71 for more information on the B dimension.

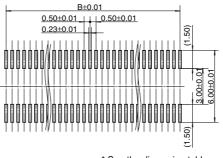
P5KS: Mated height 4.0mm, 4.5mm for 120 contacts and 160 contacts types, 6.5mm for 130 contacts type

Socket

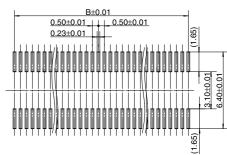
Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 µm (Opening area ratio: 60%)



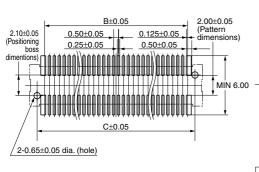
Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Opening area ratio: 76%)



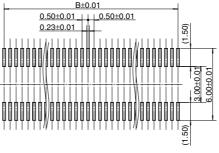
* See the dimension table on page 72 for more information on the B and C dimensions.

Header

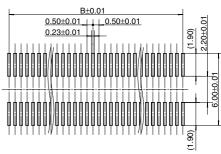
Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 µm (Opening area ratio: 69%)



Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Opening area ratio: 87%)



* See the dimension table on page 72 for more information on the B and C dimensions.

Regarding general notes, please refer to page 12.

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