

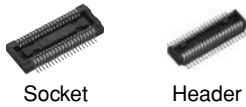
**Panasonic**  
ideas for life

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

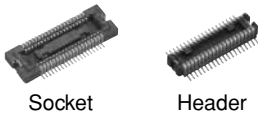
**NARROW PITCH (0.4mm) CONNECTORS P4 SERIES**



• Without retention fitting



• With retention fitting

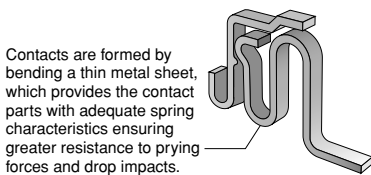


**FEATURES**

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.



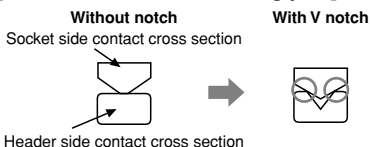
Contacts are formed by bending a thin metal sheet, which provides the contact parts with adequate spring characteristics ensuring greater resistance to prying forces and drop impacts.

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]

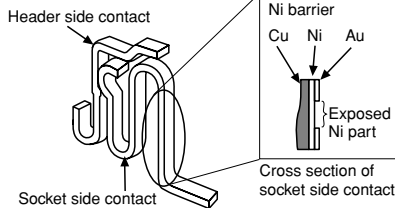


3) Use of Ni barrier construction is standard. Highly effective against solder creeping.

● 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]

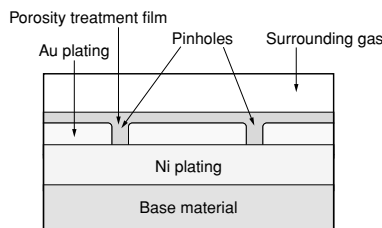


Note: Construction makes solder creeping difficult because header side is formed at the same time.

4) Porosity treatment applied for improved resistance against corrosion.

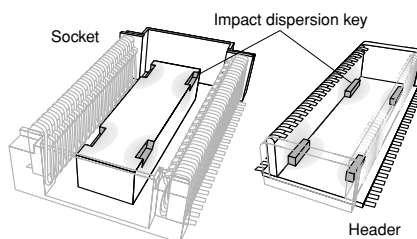
What is porosity treatment?

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.

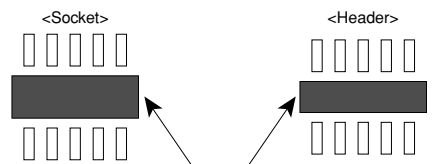


A high level of shock resistance is ensured by dispersing impact over the four locations where the socket indentations and header protrusions are mated together.

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

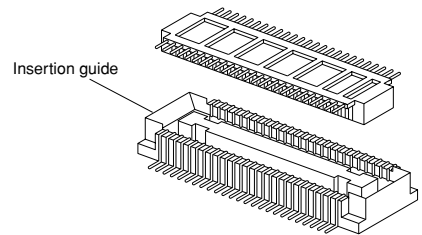
- Without retention fitting: 18 contacts or less
  - With retention fitting: 22 contacts or less
4. Construction makes designing devices easier.

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.

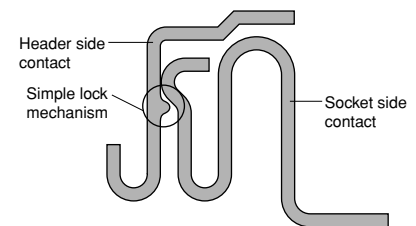


Connector bottom: Create any thru-hole and pattern wiring.

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.



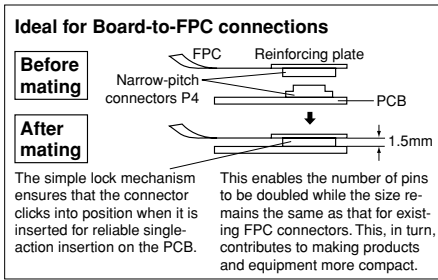
5. Design makes efficient mounting. Features a terminal flatness of 0.08 mm, construction resistant to creeping flux, and design that facilitates visual inspection of the soldered part.

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.

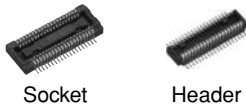
# APPLICATIONS

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



## TABLE OF PRODUCT TYPES

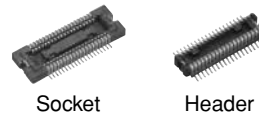
**P4 (0.4 mm pitch): Without retention fitting**



☆: 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\*

\* Only a socket of mated height 3.5 mm and 4.0 mm: 2,000 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.

**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
		<b>TOUGH CONTACT</b>	<b>TOUGH CONTACT</b>	<b>TOUGH CONTACT</b> 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 $\Omega$ (initial)	Using 250V DC megger (applied for 1 min.)
	Contact resistance	Max. 70m $\Omega$	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 $\Omega$ , contact resistance max. 70m $\Omega$	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 $\Omega$ , contact resistance max. 70m $\Omega$	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 $\Omega$ , contact resistance max. 70m $\Omega$	Bath temperature 35 $\pm$ 2°C, saltwater concentration 5 $\pm$ 1%
Lifetime characteristics	Insertion and removal life	50 times	Repeated insertion and removal speed of max. 200 times/hours

## 2. Material and surface treatment

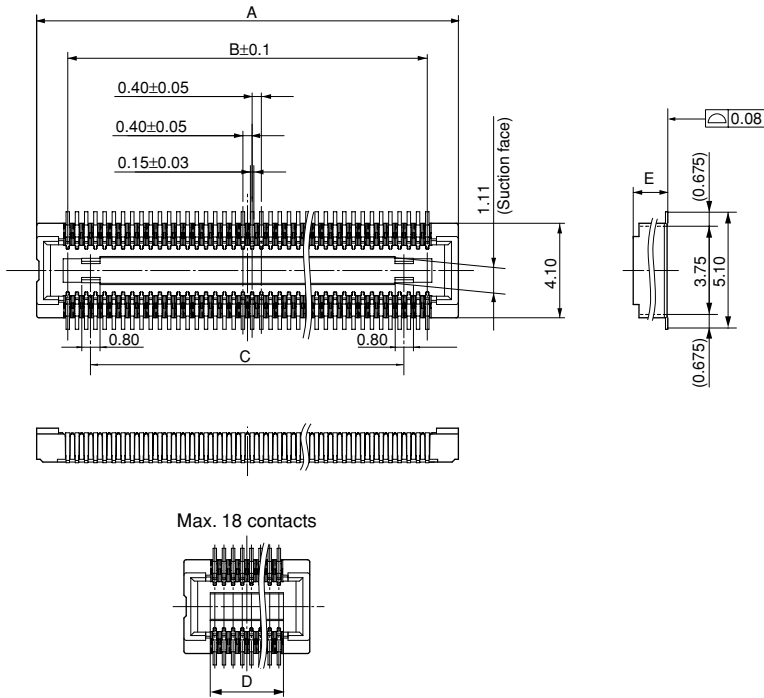
Part name	Material	Surface treatment
Molded portion	Heat-resistant resin (UL94V-0), Black	—
Contact and Post	Copper alloy	Contact portion: Ni plating on base, Au plating on surface Terminal portion: Ni plating on base, Au plating on surface (Except for thick of terminal) However, upper terminal of Ni 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)



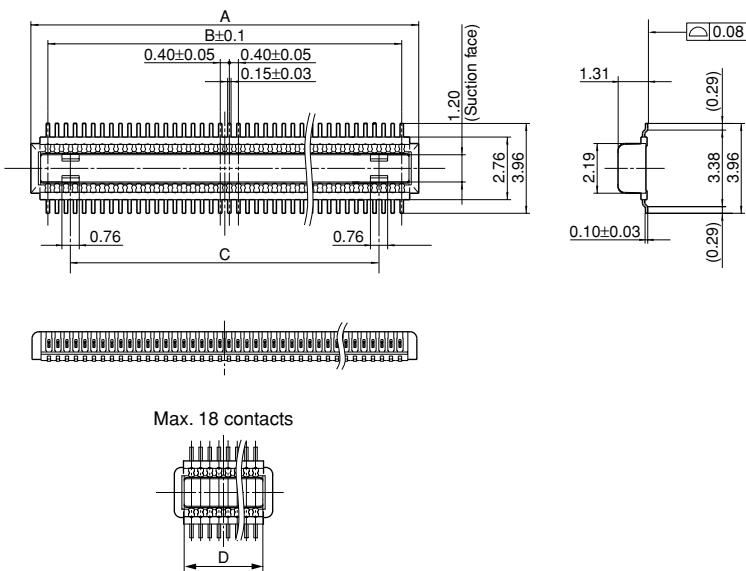
General tolerance:  $\pm 0.2$

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")



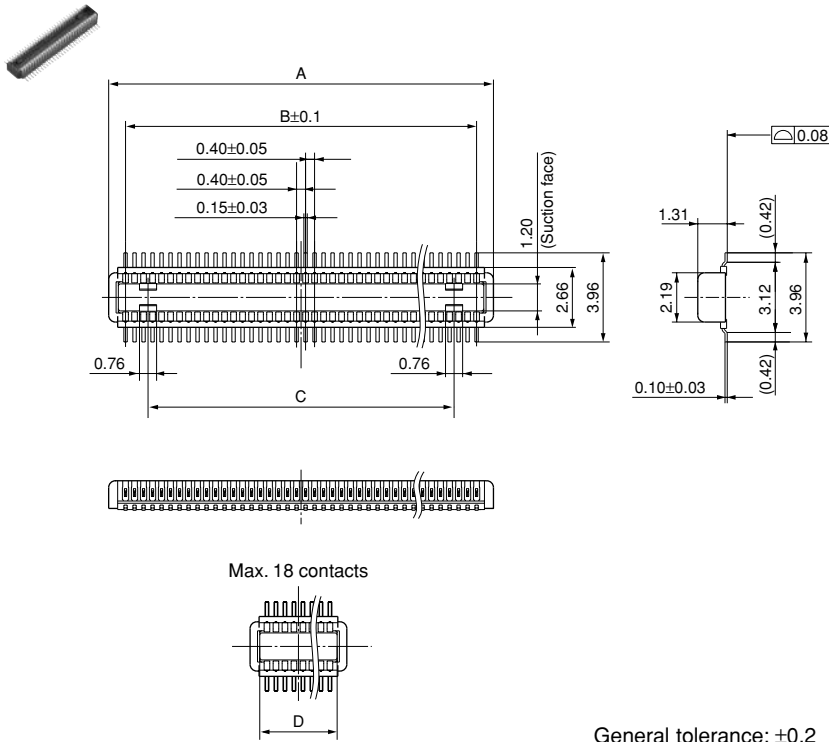
General tolerance:  $\pm 0.2$

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”)



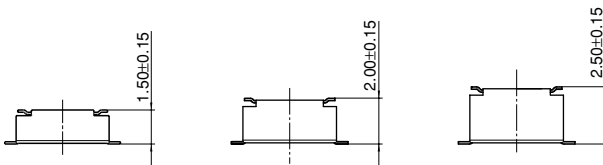
General tolerance: ±0.2

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	—

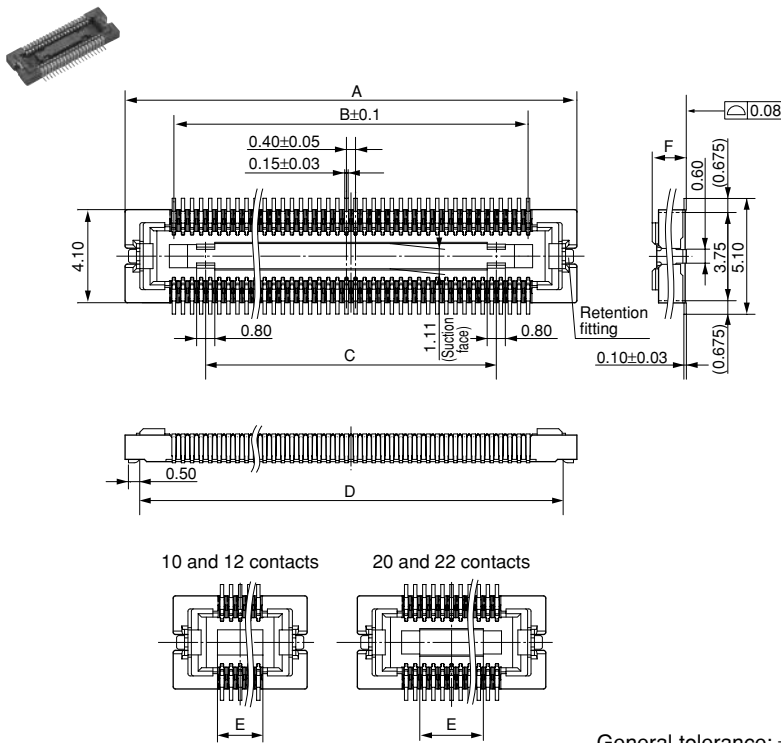
Note: “Products with V notch” and “products with V notch and post edge horseshoe bend” are mating compatible.

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)



General tolerance: ±0.2

Dimension table (mm)

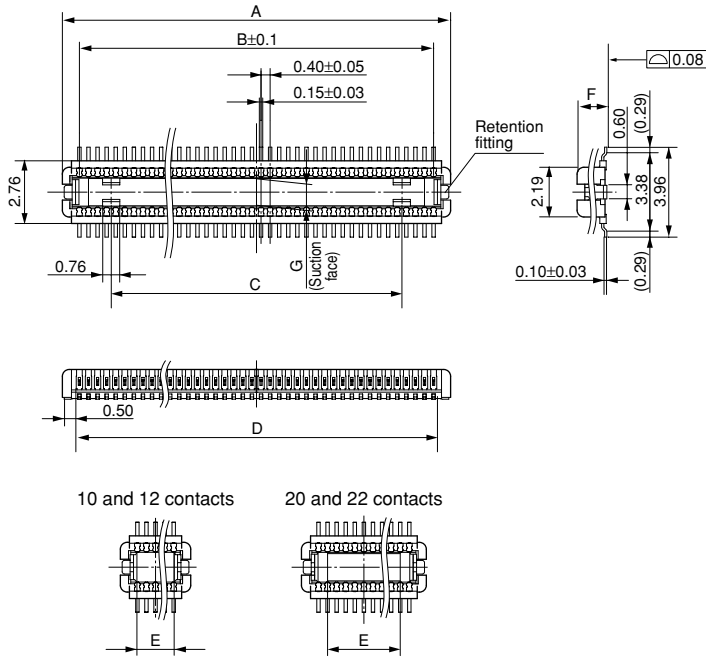
Number of contacts/ dimension	A	B	C	D	E
10	5.90	1.60	—	4.60	2.00
12	6.30	2.00	—	5.00	2.40
20	7.90	3.60	—	6.60	2.40
22	8.30	4.00	—	7.00	2.80
24	8.70	4.40	1.60	7.40	—
28	9.50	5.20	2.40	8.20	—
30	9.90	5.60	2.80	8.60	—
32	10.30	6.00	3.20	9.00	—
34	10.70	6.40	3.60	9.40	—
40	11.90	7.60	4.80	10.60	—
44	12.70	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



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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:  $\pm 0.2$

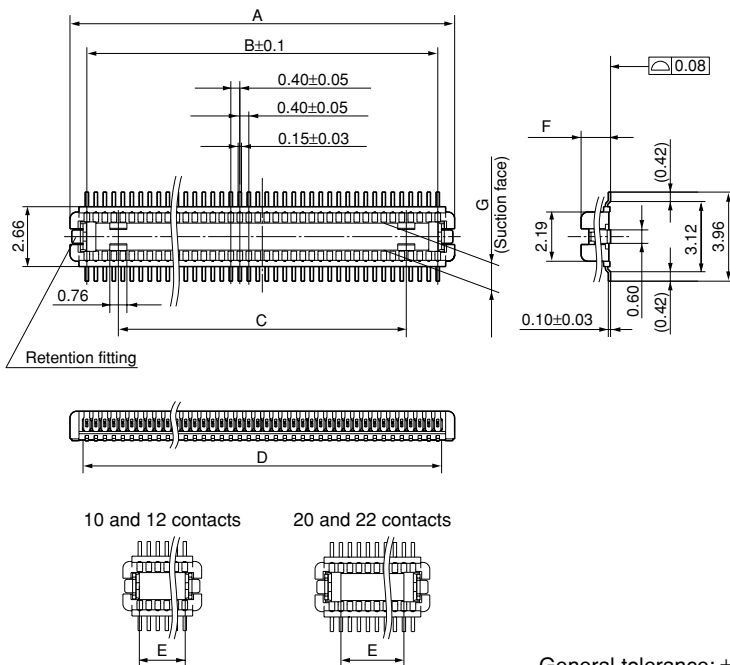
Dimension table (mm)

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:  $\pm 0.2$

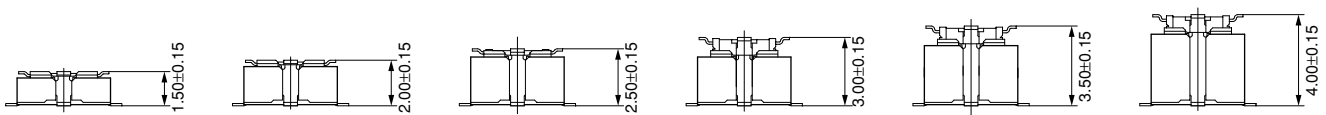
Dimension table (mm)

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.

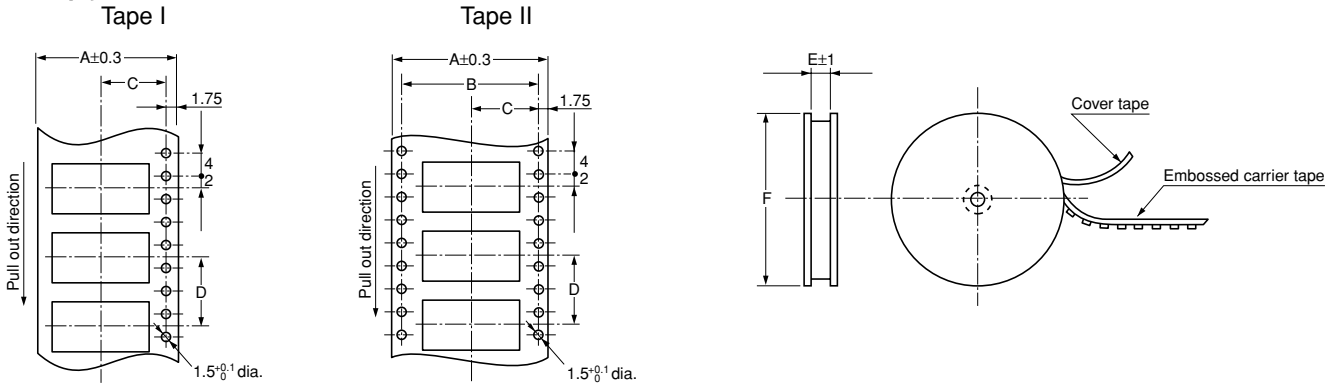


**EMBOSSED TAPE DIMENSIONS** (unit:mm, Common for respective contact type, socket and header)

• 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**

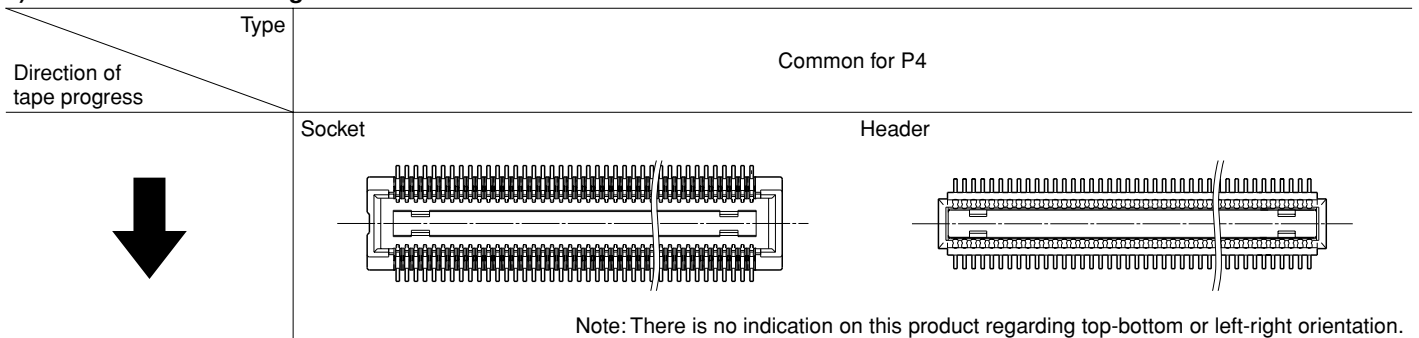
Mated height	Number of contacts	Type of taping	A	B	C	D	E	F	Quantity per reel
Common for socket and header: 1.5 mm, 2.0 mm and 2.5 mm	Max. 18	Tape I	16.0	—	7.5	8.0	17.4	$\phi 380$	3,000
	20 to 70	Tape I	24.0	—	11.5	8.0	25.4	$\phi 380$	3,000
	80 to 100	Tape II	32.0	28.4	14.2	8.0	33.4	$\phi 380$	3,000

**2. With Retention Fitting**

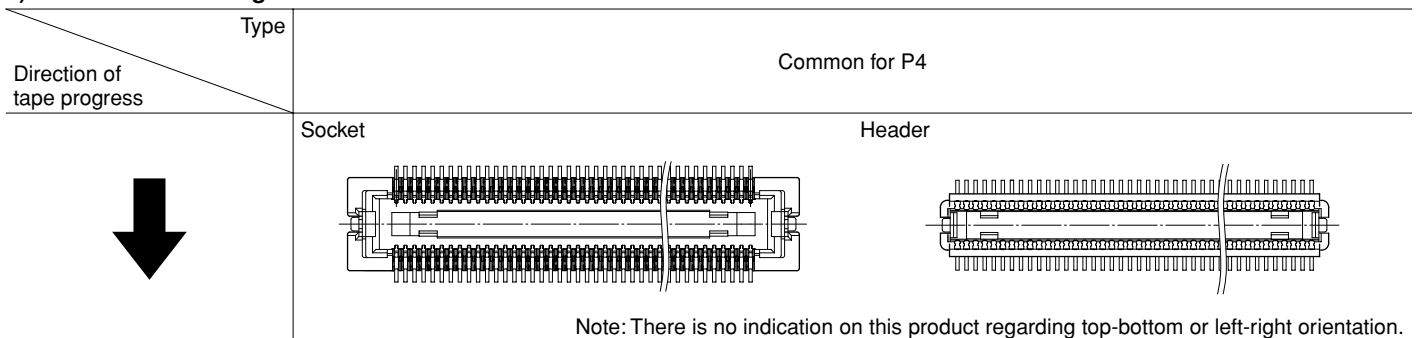
Mated height	Number of contacts		Type of taping	A	B	C	D	E	F	Quantity per reel
	Socket	Header								
Common for socket and header: 1.5 mm, 2.0 mm, 2.5 mm, and 3.0 mm Header: 3.5mm and 4.0 mm	Max. 18	Max. 18	Tape I	16.0	—	7.5	8.0	17.4	$\phi 380$	3,000
	20 to 60	20 to 70	Tape I	24.0	—	11.5	8.0	25.4	$\phi 380$	3,000
	70 to 90	80 to 100	Tape II	32.0	28.4	14.2	8.0	33.4	$\phi 380$	3,000
	100	—	Tape II	44.0	40.4	20.2	8.0	45.4	$\phi 380$	3,000
Socket: 3.5mm and 4.0 mm	Max. 18		Tape I	16.0	—	7.5	8.0	17.4	$\phi 380$	2,000
	20 to 60		Tape I	24.0	—	11.5	8.0	25.4	$\phi 380$	2,000
	70 to 90		Tape II	32.0	28.4	14.2	8.0	33.4	$\phi 380$	2,000
	100		Tape II	44.0	40.4	20.2	8.0	45.4	$\phi 380$	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

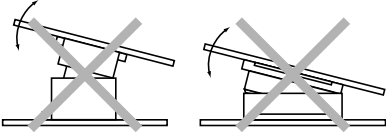
Product name	P4 for inspection	P4 for inspection with retention fitting
Number of contacts	10	☆
	12	☆
	14	☆
	16	☆
	20	☆
	22	☆
	24	☆
	26	☆
	28	☆
	30	☆
	34	☆
	36	☆
	40	☆
	42	☆
	44	☆
	46	☆
	50	☆
	54	☆
	60	☆
	70	☆
80	☆	
90	☆	
100	☆	

Notes:

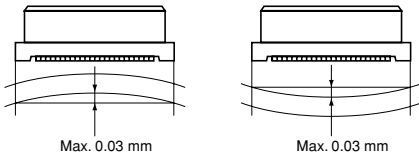
1. You can use with each mated height in common.
2. Please inquire about numbers of contacts other than those given above.
3. Please inquire with us regarding delivery times.
4. Please keep the minimum unit for ordering no less than 50 pieces per lot.
5. Please inquire for further information.

**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.

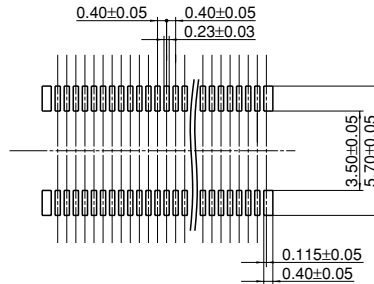
The figures to the right are recommended metal mask patterns.

Please use them as a reference.

1) Without retention fitting

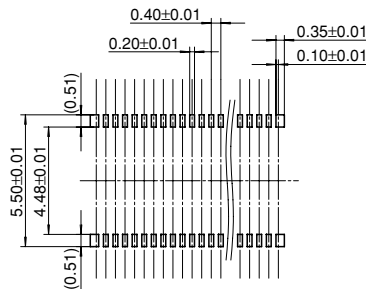
Socket

Recommended PC board pattern (TOP VIEW)



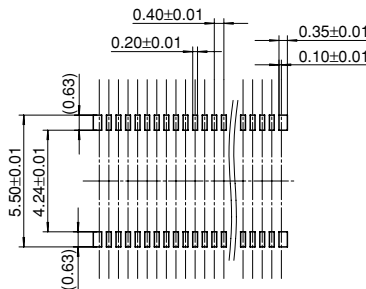
Recommended metal mask pattern

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



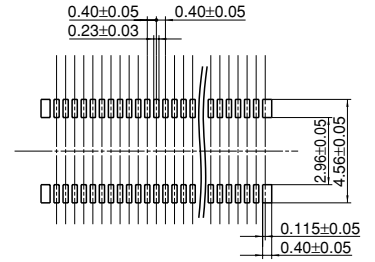
Recommended metal mask pattern

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



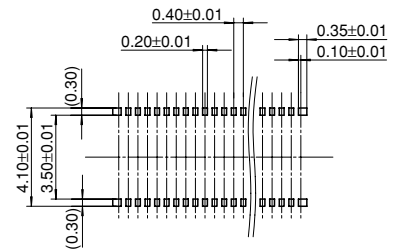
Header

Recommended PC board pattern (TOP VIEW)



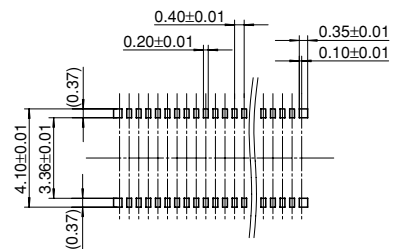
Recommended metal mask pattern

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



Recommended metal mask pattern

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

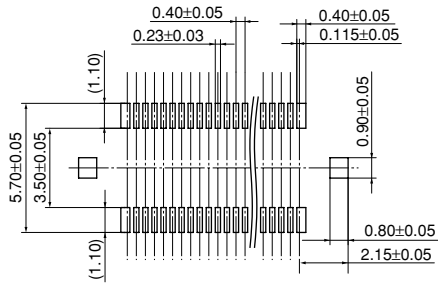


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## 2) With retention fitting

### Socket

Recommended PC board pattern (TOP VIEW)

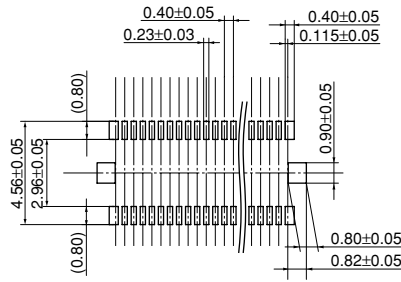


### Recommended metal mask pattern

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

### Header

Recommended PC board pattern (TOP VIEW)

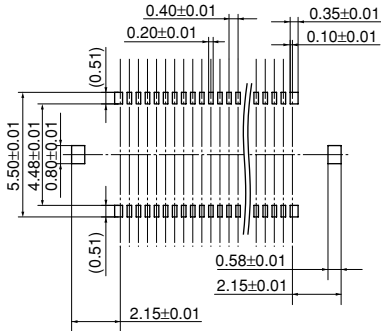


### Recommended metal mask pattern

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

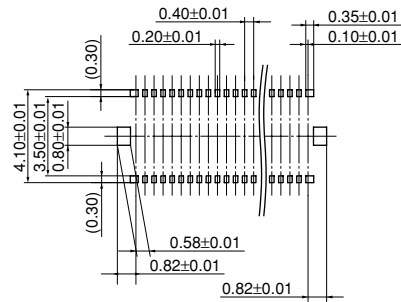
Regarding general notes, please refer to page 12.

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



### Recommended metal mask pattern

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



### Recommended metal mask pattern

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

