

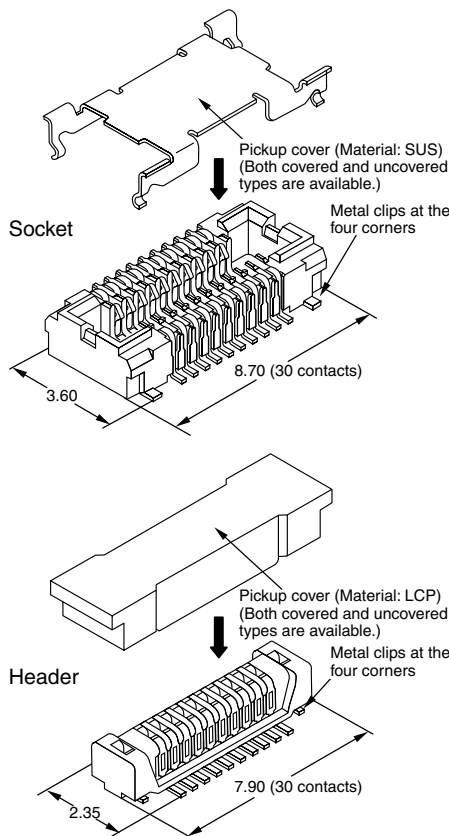
**Compliance with RoHS Directive**

**FEATURES**

**1. Space saving**

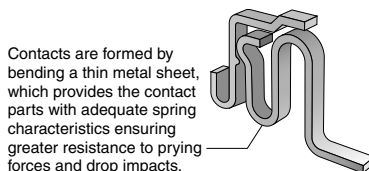
Compared to the currently sold P4 series with retention fitting, 38% space is saved in the socket and 34% space saved in the header.

This will contribute to weight and size savings in devices. (Comparison made with 30 contacts.)



**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.



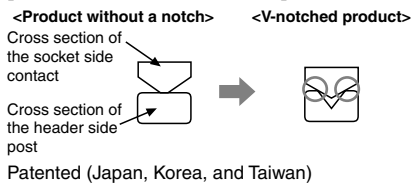
Note: If extra resistance to shock caused by dropping is required, we recommend using our previous P4 Series.

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

**● V-notch**

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

**[Cross Section of Contacts]**

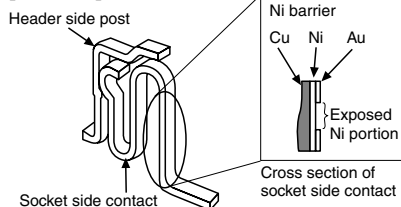


3) Use of Ni barrier construction is standard. Highly effective against solder creeping.

**● Ni barrier**

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

**[Contact]**

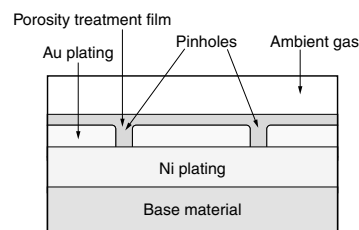


Note: Simultaneous molding of the header contact achieves a construction that prevents solder creep.

4) Porosity treatment applied for improved resistance against corrosion.

**Porosity treatment**

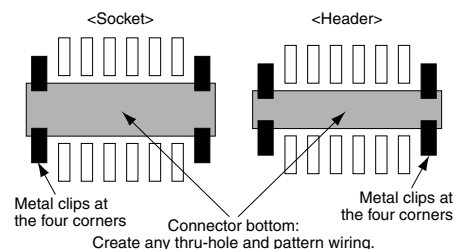
This treatment consists in coating the surface with a very thin film to seal pinholes in the gold plating. We have developed this porosity treatment technology, which ensures contact reliability for thin gold plating comparable to that of thick gold plating.



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

**3. Greater flexibility in connector placement.**

Pattern wiring to the connector bottom is possible because the undersurface of the connector is constructed with a molded covering.



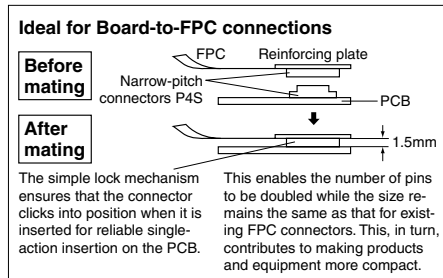
**4. Automatic mounting inspection is facilitated by the gull-wing terminal shape which makes mounting verification easy.**

**5. Connectors for inspection available**  
Connectors are available that are ideal for inspection in module unit inspection and device assembly processes.

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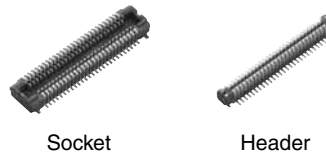
## APPLICATIONS

Compact portable devices "Cellular phones, DVC, Digital cameras, etc"



## TABLE OF PRODUCT TYPES

P4S (0.4mm pitch): With retention fitting



☆: Available for sale

Mated height	Number of contacts		
	1.5mm	2.5mm	3.0mm
10	☆		
16	☆		
20	☆	☆	☆
22	☆		
24	☆		
26	☆		
28	☆		
30	☆	☆	☆
32	☆		
34	☆		
36	☆		
38	☆		
40	☆		
42			☆
44	☆		
50	☆		
54	☆		
56	☆	☆	☆
60	☆	☆	☆
70	☆		
80	☆	☆	☆
90	☆		
100	☆	☆	☆
120			☆

Note: The standard type comes without positioning bosses. Connectors with positioning boss are available for on-demand production.

## ORDERING INFORMATION

AXT       **4**

3: Narrow Pitch Connector P4S (0.4 mm pitch) Socket  
 4: Narrow Pitch Connector P4S (0.4 mm pitch) Header

Number of contacts (2 digits)

Mated height  
 <Socket>  
 1: For mated height 1.5 mm  
 2: For mated height 2.5 mm and 3.0 mm  
 <Header>  
 1: For mated height 1.5 mm and 2.5 mm  
 3: For mated height 3.0 mm

Functions  
 <Socket/Header>  
 1: No pickup cover, with positioning bosses  
 2: No pickup cover, without positioning bosses  
 5: With pickup cover, with positioning bosses  
 6: With pickup cover, without positioning bosses

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

**PRODUCT TYPES** 

Mated height	Number of contacts	Part number		Packing	
		Socket	Header	Inner carton	Outer carton
1.5mm	10	AXT310124	AXT410124	3,000 pieces	6,000 pieces
	16	AXT316124	AXT416124		
	20	AXT320124	AXT420124		
	22	AXT322124	AXT422124		
	24	AXT324124	AXT424124		
	26	AXT326124	AXT426124		
	28	AXT328124	AXT428124		
	30	AXT330124	AXT430124		
	32	AXT332124	AXT432124		
	34	AXT334124	AXT434124		
	36	AXT336124	AXT436124		
	38	AXT338124	AXT438124		
	40	AXT340124	AXT440124		
	44	AXT344124	AXT444124		
	50	AXT350124	AXT450124		
	54	AXT354124	AXT454124		
	56	AXT356124	AXT456124		
	60	AXT360124	AXT460124		
70	AXT370124	AXT470124			
80	AXT380124	AXT480124			
90	AXT390124	AXT490124			
100	AXT300124	AXT400124			
2.5mm	20	AXT320224	AXT420124	3,000 pieces	6,000 pieces
	30	AXT330224	AXT430124		
	56	AXT356224	AXT456124		
	60	AXT360224	AXT460124		
	80	AXT380224	AXT480124		
100	AXT300224	AXT400124			
3.0mm	20	AXT320224	AXT420324	3,000 pieces	6,000 pieces
	30	AXT330224	AXT430324		
	42	AXT342224	AXT442324		
	56	AXT356224	AXT456324		
	60	AXT360224	AXT460324		
	80	AXT380224	AXT480324		
	100	AXT300224	AXT400324		
120	AXT3A2224	AXT4A2324			

- 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 19.)  
 Samples: Small lot orders are possible. Please consult us.
- If you require the pickup cover, change the eighth digit of the part number from "2" to "6" in your order. Note that the pickup cover is not available for some types depending on the number of contacts. Check the latest product specifications.
  - The standard type comes without positioning bosses. Connectors with positioning bosses are available on-demand production.  
 If no pickup cover is required, change the eighth digit of the part number from "2" to "1" in your order. If you require the pickup cover, change the eighth digit of the part number from "2" to "5" in your order.
  - Connectors of different mated height and different number of contacts are available on-demand production only. Please contact us for more details.

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## 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.	Rated voltage is applied for one minute and check for short circuit or damage with a detection current of 1mA.
	Insulation resistance	Min. 1,000M $\Omega$ (initial)	Using 250V DC megger (applied for 1 min.)
	Contact resistance	Max. 90m $\Omega$	Based on the contact resistance measurement method specified by JIS C 5402.
Environmental characteristics	Ambient temperature	-55°C to +85°C	No freezing at low temperatures
	Soldering heat resistance	Max. peak temperature of 260°C (on the surface of the PC board around the connector terminals)	Infrared reflow soldering
		300°C within 5 sec. or 350°C within 3 sec.	Soldering iron
	Storage temperature	-55°C to +85°C (product only) -40°C to +50°C (emboss packing)	No freezing at low temperatures
	Thermal shock resistance (header and socket mated)	5 cycles, insulation resistance min. 100M $\Omega$ , contact resistance max. 90m $\Omega$	Sequence 1. -55 $\frac{3}{3}$ °C, 30 minutes 2. ~, Max. 5 minutes 3. 85 $\frac{3}{3}$ °C, 30 minutes 4. ~, Max. 5 minutes
	Humidity resistance (header and socket mated)	120 hours, insulation resistance min. 100M $\Omega$ , contact resistance max. 90m $\Omega$	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. 90m $\Omega$	Temperature 35 $\pm$ 2°C, saltwater concentration 5 $\pm$ 1%
H <sub>2</sub> S resistance (header and socket mated)	48 hours, contact resistance max. 90m $\Omega$	Temperature 40 $\pm$ 2°C, gas concentration 3 $\pm$ 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

### 2. Material and surface treatment

Part name	Material	Surface treatment
Molded portion	LCP resin (UL94V-0)	—
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 front edge of terminal) However, the area adjacent to the socket terminal is exposed to Ni on base. Retention fitting portion; Socket: Ni plating on base, Pd + Au flash plating on surface (Expect for front edge of terminal) Header: Ni plating on base, Au plating on surface (Expect for front edge of terminal)

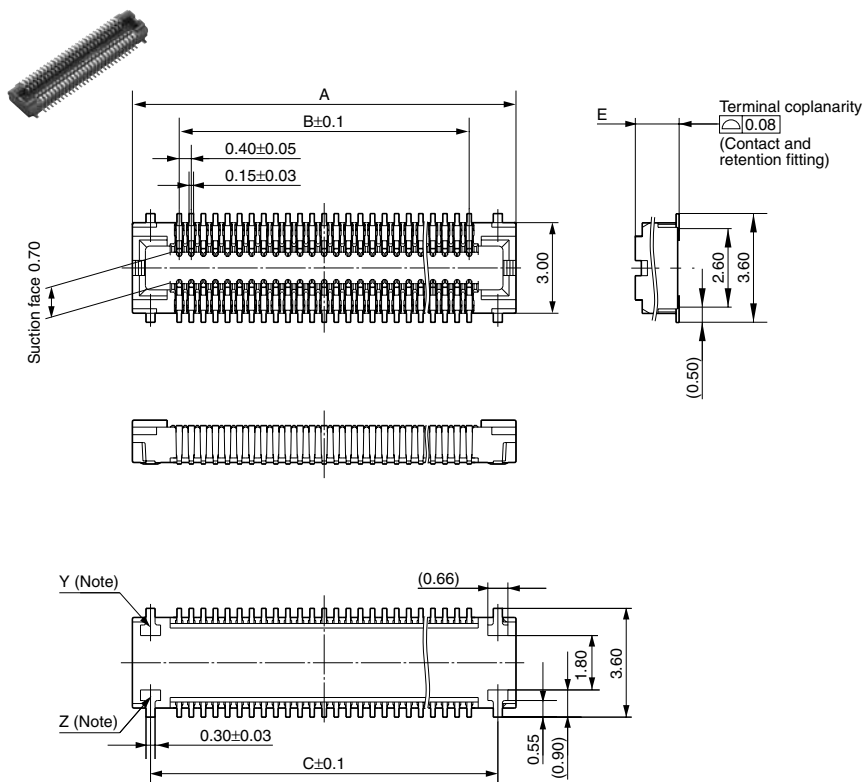
## DIMENSIONS (Unit: mm)

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

### 1. Socket (Mated height: 1.5mm, 2.5mm, 3.0mm)

- Without pickup cover

#### CAD Data



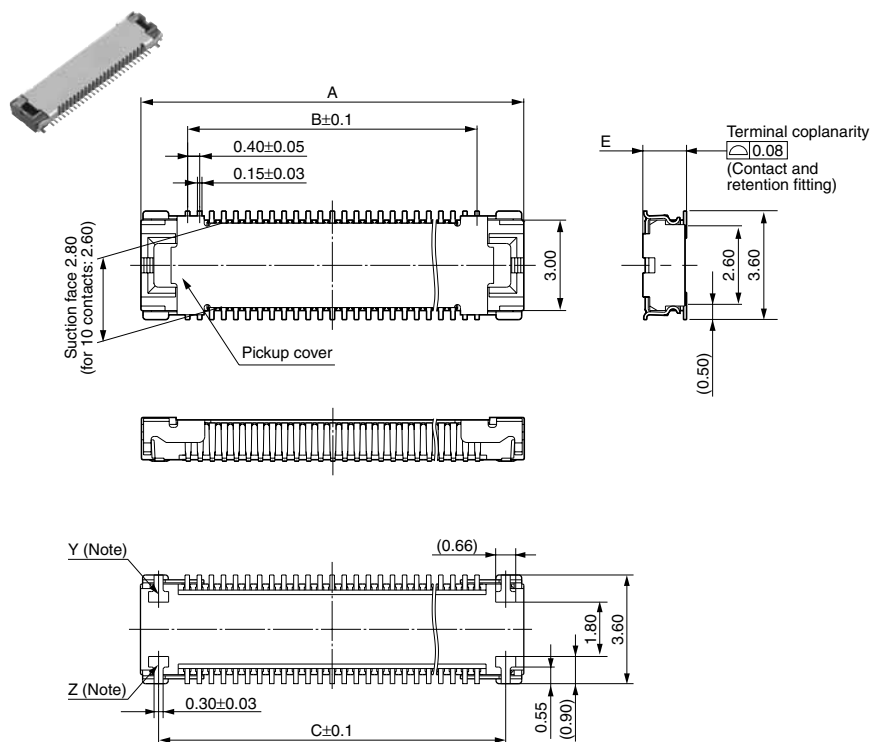
General tolerance:  $\pm 0.2$

Dimension table (mm)

Number of contacts/ dimension	A	B	C
10	4.7	1.6	3.5
16	5.9	2.8	4.7
20	6.7	3.6	5.5
22	7.1	4.0	5.9
24	7.5	4.4	6.3
26	7.9	4.8	6.7
28	8.3	5.2	7.1
30	8.7	5.6	7.5
32	9.1	6.0	7.9
34	9.5	6.4	8.3
36	9.9	6.8	8.7
38	10.3	7.2	9.1
40	10.7	7.6	9.5
42	11.1	8.0	9.9
44	11.5	8.4	10.3
50	12.7	9.6	11.5
54	13.5	10.4	12.3
56	13.9	10.8	12.7
60	14.7	11.6	13.5
70	16.7	13.6	15.5
80	18.7	15.6	17.5
90	20.7	17.6	19.5
100	22.7	19.6	21.5
120	26.7	23.6	25.5

Mated height/ dimension	E
1.5mm	1.45
2.5mm	2.45
3.0mm	2.45

- With pickup cover



General tolerance:  $\pm 0.2$

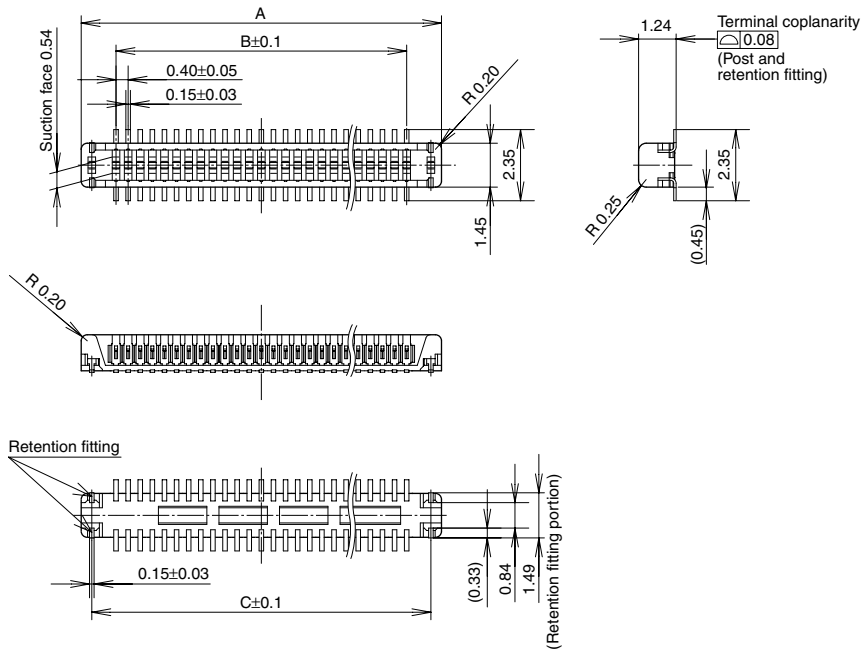
Note: Since retention fittings are built into the body, the Y and Z parts are connected electrically.

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## 2. Header (Mated height: 1.5mm, 2.5mm)

- Without pickup cover

### CAD Data

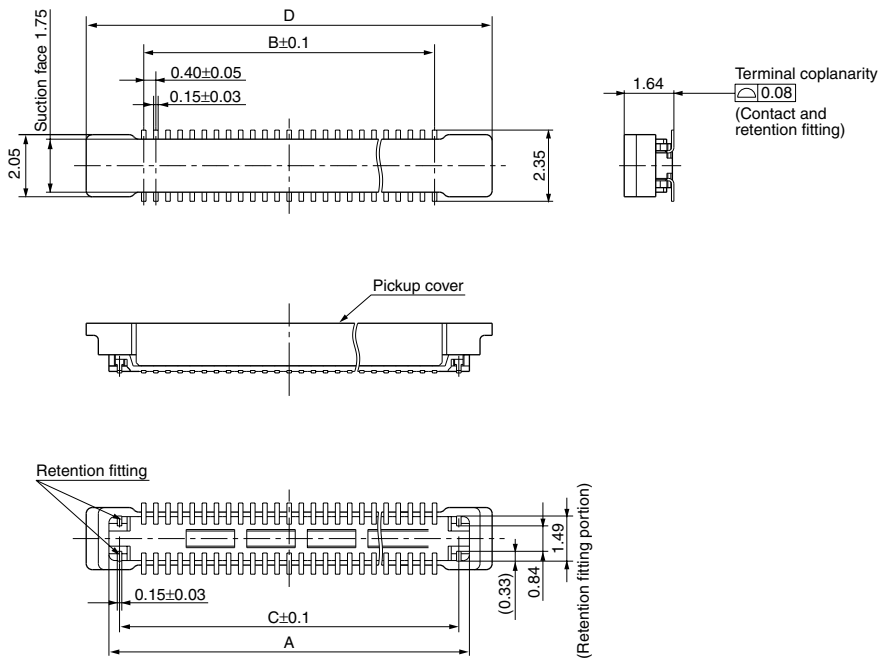


General tolerance:  $\pm 0.2$

Dimension table (mm)

Number of contacts/ dimension	A	B	C	D
10	3.9	1.6	3.2	5.4
16	5.1	2.8	4.4	6.6
20	5.9	3.6	5.2	7.4
22	6.3	4.0	5.6	7.8
24	6.7	4.4	6.0	8.2
26	7.1	4.8	6.4	8.6
28	7.5	5.2	6.8	9.0
30	7.9	5.6	7.2	9.4
32	8.3	6.0	7.6	9.8
34	8.7	6.4	8.0	10.2
36	9.1	6.8	8.4	10.6
38	9.5	7.2	8.8	11.0
40	9.9	7.6	9.2	11.4
44	10.7	8.4	10.0	12.2
50	11.9	9.6	11.2	13.4
54	12.7	10.4	12.0	14.2
56	13.1	10.8	12.4	14.6
60	13.9	11.6	13.2	15.4
70	15.9	13.6	15.2	17.4
80	17.9	15.6	17.2	19.4
90	19.9	17.6	19.2	21.4
100	21.9	19.6	21.2	23.4

- With pickup cover



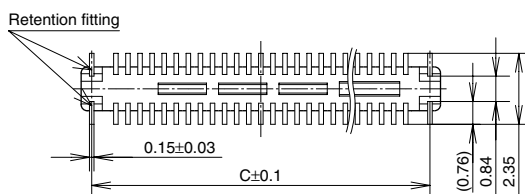
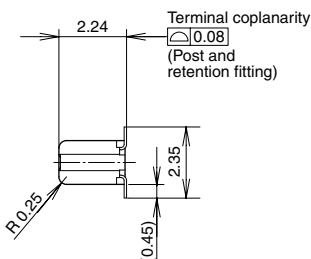
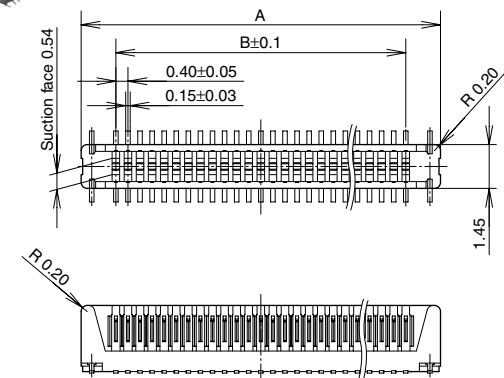
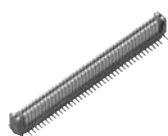
General tolerance:  $\pm 0.2$

Note: The retention fitting dimensions of headers with mating heights of 1.5mm, 2.5mm and 3.0mm are different.

**3. Header (Mated height: 3.0mm)**

- Without pickup cover

**CAD Data**

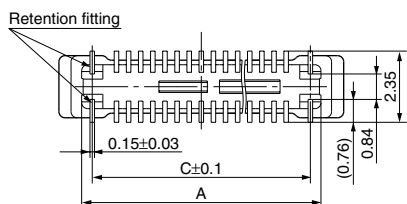
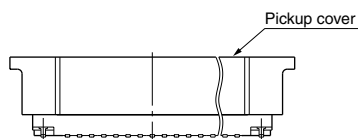
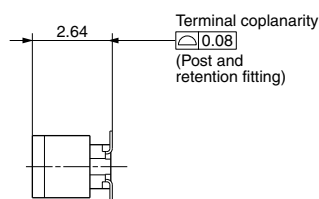
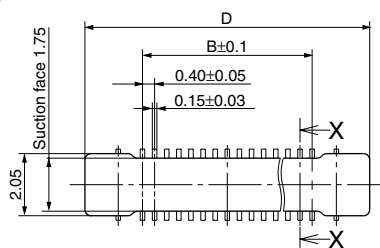


Dimension table (mm)

Number of contacts/ dimension	A	B	C	D
20	5.9	3.6	5.2	—
30	7.9	5.6	7.2	9.4
42	10.3	8.0	9.6	—
56	13.1	10.8	12.4	—
60	13.9	11.6	13.2	—
80	17.9	15.6	17.2	19.4
100	21.9	19.6	21.2	—
120	25.9	23.6	25.2	—

General tolerance: ±0.2

- With pickup cover

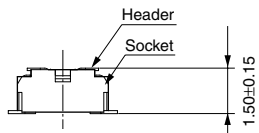


General tolerance: ±0.2

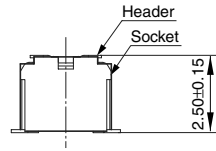
Note: The retention fitting dimensions of headers with mating heights of 1.5mm, 2.5mm and 3.0mm are different.

# AXT3, 4

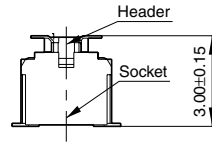
Socket and Header are mated



Mated height: 1.5 mm



Mated height: 2.5 mm



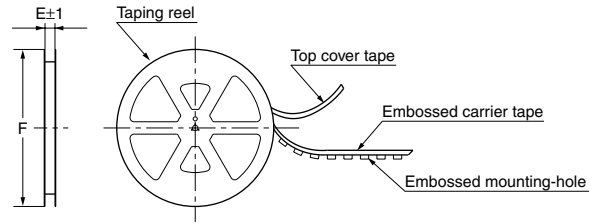
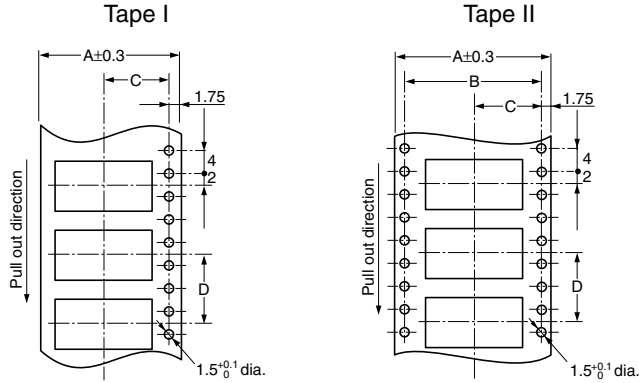
Mated height: 3.0 mm

## 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)

Mated height	Number of contacts		Type of taping	A	B	C	D	E	F	Quantity per reel
	Socket (with/without pickup cover) Header (without pickup cover)	Header (with pickup cover)								
Common for socket and header: 1.5mm, 2.5mm and 3.0mm	Max. 24	Max. 24	Tape I	16.0	—	7.5	8.0	17.5	380 dia.	3,000
	26 to 70	26 to 64	Tape I	24.0	—	11.5	8.0	25.5	380 dia.	3,000
	72 to 100	66 to 90	Tape II	32.0	28.4	14.2	8.0	33.5	380 dia.	3,000
	120	100	Tape II	44.0	40.4	20.2	8.0	45.5	380 dia.	3,000

### Connector orientation with respect to direction of progress of embossed tape

Direction of tape progress	Type	Common for P4S	
	Socket	Header	
↓			

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





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

**NARROW PITCH CONNECTOR P4S  
(0.4 mm PITCHES) FOR INSPECTION USAGE**



Socket

Header

**Compliance with RoHS Directive**

## FEATURES

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

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

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

### 2. Same external dimensions and foot pattern as mated height 1.5mm standard type.

Since shape is the same as mated height 1.5mm 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	P4S for inspection
10	☆
16	☆
20	☆
22	☆
24	☆
26	☆
28	☆
30	☆
32	☆
34	☆
36	☆
38	☆
40	☆
44	☆
50	☆
54	☆
56	☆
60	☆
70	☆
80	☆
90	☆
100	☆

Number of contacts

Notes:

1. You can use with each mated height in common.
2. The pickup surface shape of the inspection sockets is different from that of the standard sockets. (For details, refer to the product specification diagram.)
3. Please inquire about numbers of contacts other than those given above.
4. Please inquire with us regarding delivery times.
5. Please keep the minimum unit for ordering no less than 50 pieces per lot.
6. Please inquire for further information.

## PRODUCT TYPES

Specifications		Part No.	Specifications		Part No.
Socket	With pickup cover	With positioning bosses	Header	With pickup cover	With positioning bosses
		Without positioning bosses		Without positioning bosses	
	No pickup cover	With positioning bosses		With positioning bosses	
		Without positioning bosses		Without positioning bosses	

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

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## 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 0.03mm in relation to the overall length of the connector.



3. If extra resistance to shock caused by dropping is required, we recommend using our previous P4 Series.

### 4. PC Boards and Recommended Metal Mask Patterns

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

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.

### Socket

(Mated height: 1.5mm, 2.5mm and 3.0mm)

Recommended PC board pattern (TOP VIEW)



### Recommended metal mask pattern

Metal mask thickness: Here, 150 μm  
(Terminal portion opening area ratio: 48%)  
(Metal portion opening area ratio: 100%)



### Recommended metal mask pattern

Metal mask thickness: Here, 120 μm  
(Terminal portion opening area ratio: 60%)  
(Metal portion opening area ratio: 100%)



### Header

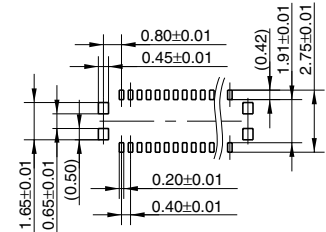
(Mated height: 1.5mm and 2.5mm)

Recommended PC board pattern (TOP VIEW)



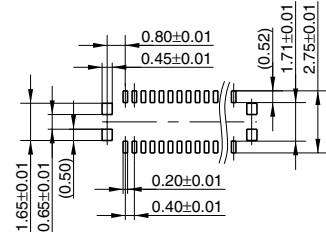
### Recommended metal mask pattern

Metal mask thickness: Here, 150 μm  
(Terminal portion opening area ratio: 49%)  
(Metal portion opening area ratio: 100%)



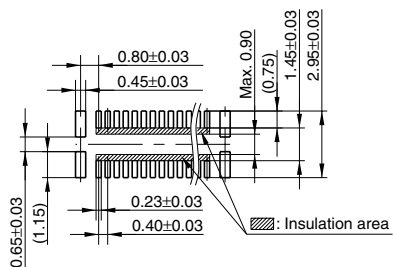
### Recommended metal mask pattern

Metal mask thickness: Here, 120 μm  
(Terminal portion opening area ratio: 60%)  
(Metal portion opening area ratio: 100%)

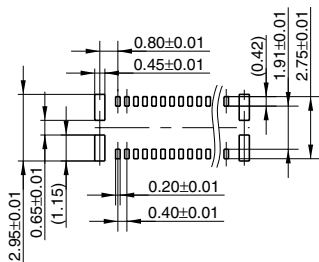


Header  
 (Mated height: 3.0mm)  
 Recommended PC board pattern (TOP VIEW)

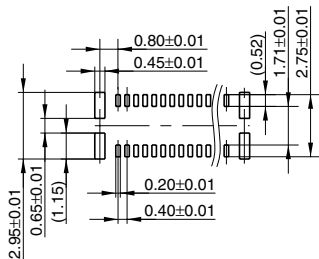
For other details, please verify with the product specification sheets.



Recommended metal mask pattern  
 Metal mask thickness: Here, 150 μm  
 (Terminal portion opening area ratio: 49%)  
 (Metal portion opening area ratio: 100%)



Recommended metal mask pattern  
 Metal mask thickness: Here, 120 μm  
 (Terminal portion opening area ratio: 60%)  
 (Metal portion opening area ratio: 100%)



Note: The recommended PC board pattern diagrams and metal mask pattern diagrams for headers with mating heights of 1.5 mm, 2.5 mm and 3.0 mm are different.