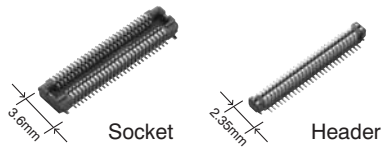
Products marked ⓘ are discontinued as of September 30, 2013

Panasonic
ideas for life

For board-to-board	For board-to-FPC
Narrow pitch connectors (0.4mm pitch)	**P4S Series**

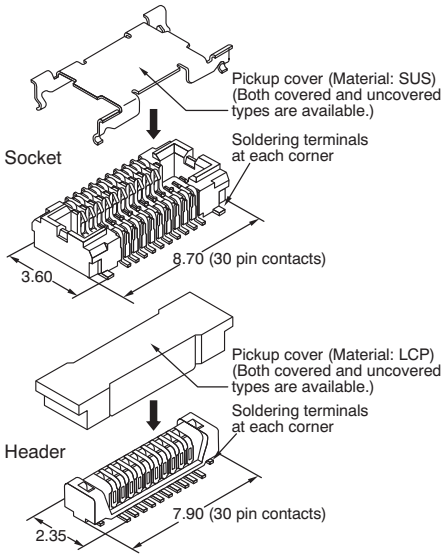
TOUGH CONTACT



ⓘ Products to be discontinued.

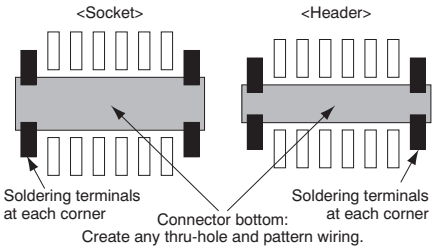
FEATURES

1. Space-saving (3.6 mm widthwise)
Smaller compared to P4 series with soldering terminals (30 pin contacts):
Socket — 38% smaller,
Header — 34% smaller



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

3. Greater flexibility in connector placement.
Pattern wiring to the connector bottom is possible with a molded covering on the undersurface of the connector.



4. Gull-wing-shaped terminals to facilitate visual inspections.
5. Connectors for inspection available

APPLICATIONS

Mobile devices, such as cellular phones, digital still cameras and digital video cameras.

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 pins (2 digits)

Mated height
<Socket>
1: For mated height 1.5 mm and 2.0 mm
2: For mated height 2.5 mm and 3.0 mm
<Header>
1: For mated height 1.5 mm and 2.5 mm
2: For mated height 2.0 mm
3: For mated height 3.0 mm

Functions
<Socket/Header>
2: Without pickup cover, without 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 available)
<Header> 4: Ni plating on base, Au plating on surface

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PRODUCT TYPES TOUGH CONTACT

Mated height	Number of pins	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		
	46	AXT346124	AXT446124		
	50	AXT350124	AXT450124		
	54	AXT354124	AXT454124		
	ⓘ 56	AXT356124	AXT456124		
	60	AXT360124	AXT460124		
	64	AXT364124	AXT464124		
	70	AXT370124	AXT470124		
	80	AXT380124	AXT480124		
	90	AXT390124	AXT490124		
	100	AXT300124	AXT400124		
2.0mm	40	AXT340124	AXT440224	3,000 pieces	6,000 pieces
	90	AXT390124	AXT490224		
	100	AXT300124	AXT400224		
2.5mm	20	AXT320224	AXT420124	3,000 pieces	6,000 pieces
	30	AXT330224	AXT430124		
	40	AXT340224	AXT440124		
	ⓘ 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 4 of the Connector Technical Information.)
Samples: Small lot orders are possible. Please consult us.
2. 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.
3. The above part numbers are for connectors without positioning bosses, which are standard. When ordering connectors with positioning bosses, please contact our sales office.
4. Connectors of different mated height and 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/pin contact (Max. 5 A at total pin 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. 1,000MΩ (initial)	Using 250V DC megger (applied for 1 min.)
	Contact resistance	Max. 90mΩ	Based on the contact resistance measurement method specified by JIS C 5402.
Mechanical characteristics	Composite insertion force	Max. 0.981N {100gf}/pin contacts × pin contacts (initial)	
	Composite removal force	Min. 0.0588N {6gf}/pin contacts × pin contacts	
	Contact holding force (Socket contact)	Min. 0.981N {100gf}/pin contacts	Measuring the maximum force. As the contact is axially pull out.
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. 100MΩ, contact resistance max. 90mΩ	Conformed to MIL-STD-202F, method 107G Order / Temperature (°C) / Time (minutes) 1: -55^{0}_{-3} — 30 2: ⟆ — Max. 5 3: 85^{+3}_{0} — 30 4: ⟆ — Max. 5 -55^{0}_{-3}
	Humidity resistance (header and socket mated)	120 hours, insulation resistance min. 100MΩ, contact resistance max. 90mΩ	Temperature 40±2°C, humidity 90 to 95% R.H.
	Saltwater spray resistance (header and socket mated)	24 hours, insulation resistance min. 100MΩ, contact resistance max. 90mΩ	Temperature 35±2°C, saltwater concentration 5±1%
	H_2S resistance (header and socket mated)	48 hours, contact resistance max. 90mΩ	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		Mated height 1.5mm, 20 pin contact type: Socket: 0.04 g Header: 0.02 g	

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. Soldering terminals 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)

Products marked ⓘ are discontinued as of September 30, 2013

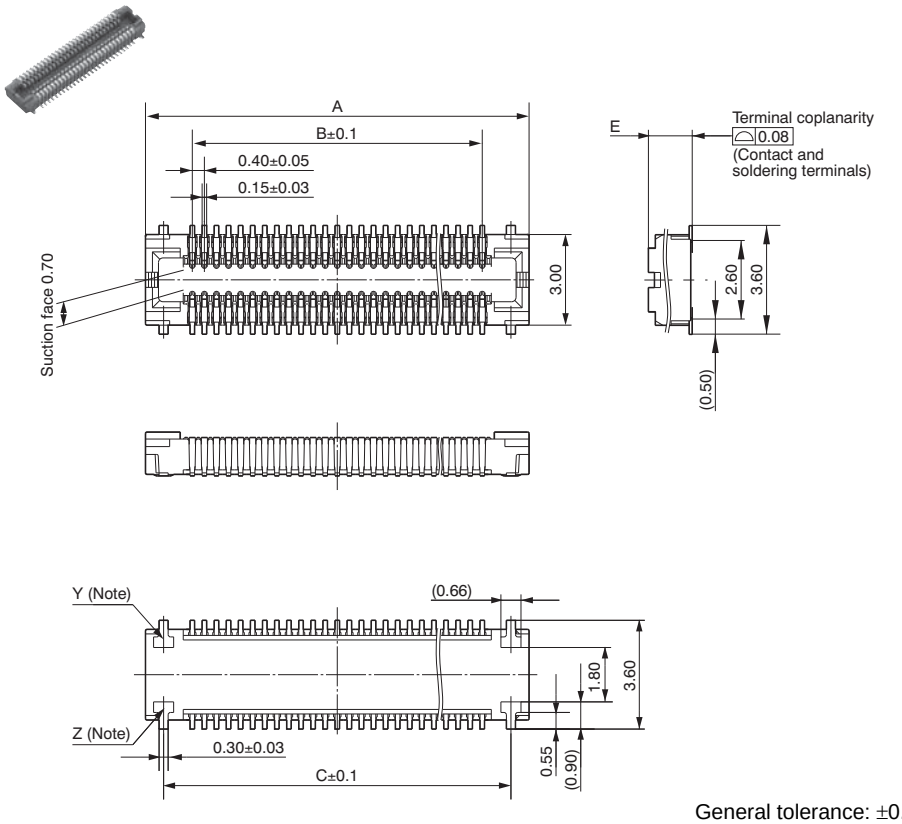
DIMENSIONS

Interested in CAD data? You can obtain CAD data for all products with a CAD Data mark from your local Panasonic Electric Works representative.

(Unit: mm)

1. Socket (Mated height: 1.5mm, 2.0mm, 2.5mm, 3.0mm)

• Without pickup cover



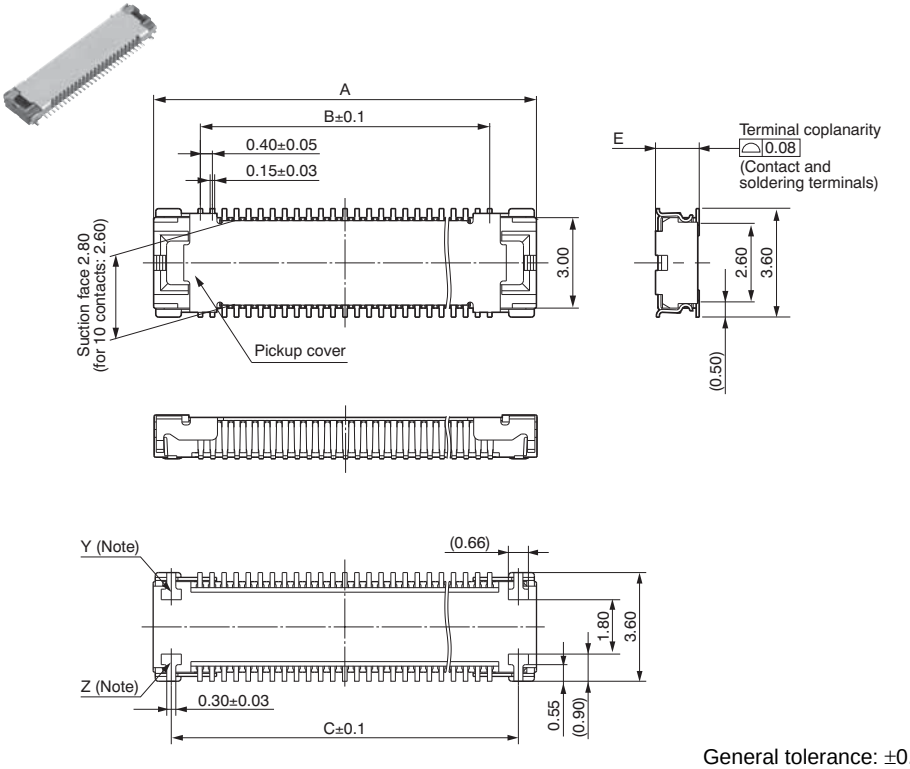
General tolerance: ±0.2

Dimension table (mm)

Number of pins/ 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
46	11.9	8.8	10.7
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
64	15.5	12.4	14.3
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
2.0mm	1.45
2.5mm	2.45
3.0mm	2.45

• With pickup cover

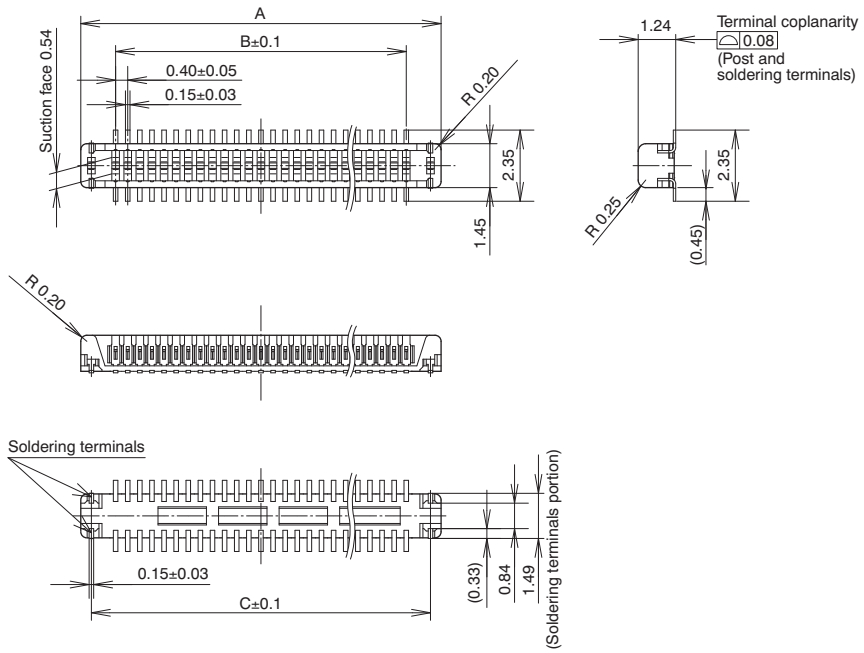


General tolerance: ±0.2

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

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

• Without pickup cover

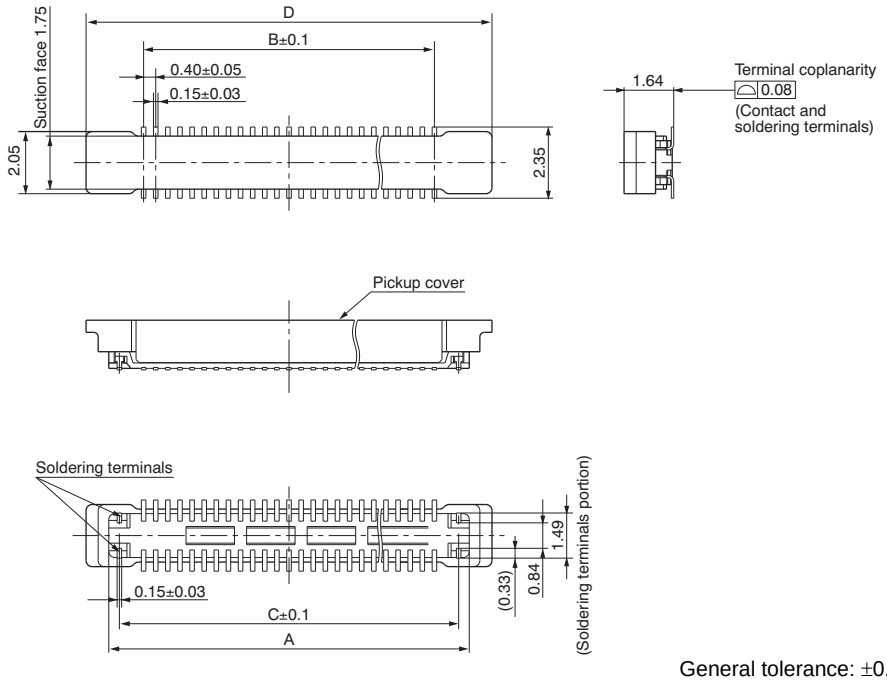


General tolerance: ±0.2

Dimension table (mm)

Number of pins/ 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
46	11.1	8.8	10.4	12.6
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
64	14.7	12.4	14.0	–
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

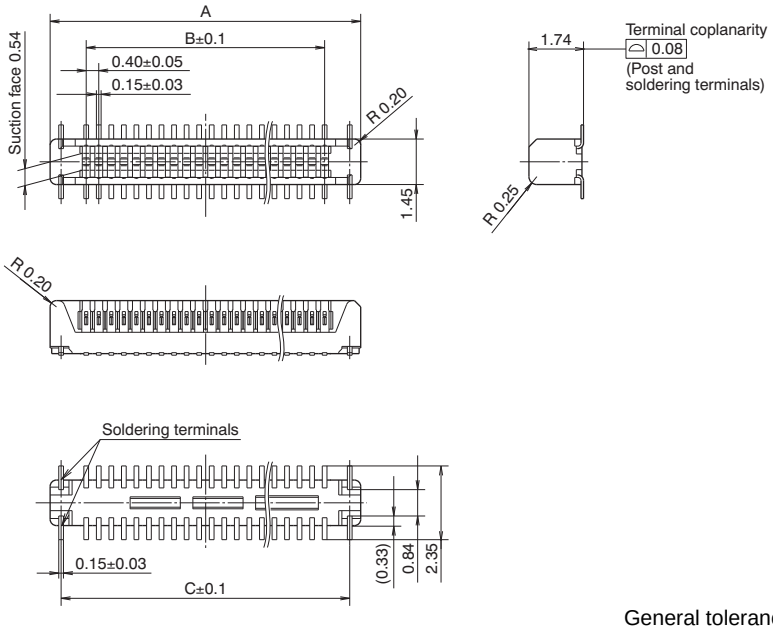


General tolerance: ±0.2

Note: The soldering terminal dimensions of headers with mating heights of 1.5mm/2.5mm and 2.0mm/3.0mm are different.

3. Header (Mated height: 2.0mm)

• Without pickup cover

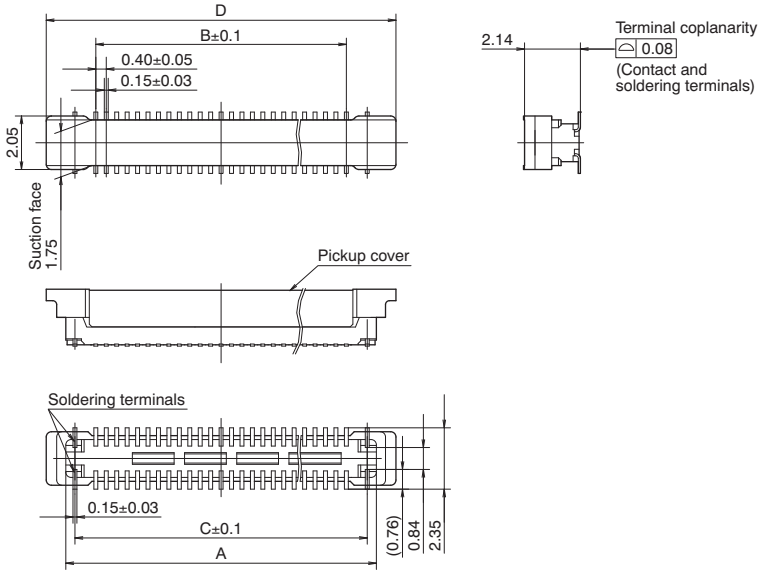


General tolerance: ±0.2

Dimension table (mm)

Number of pins/ dimension	A	B	C
40	9.9	7.6	9.2
90	19.9	17.6	19.2
100	21.9	19.6	21.2

• With pickup cover

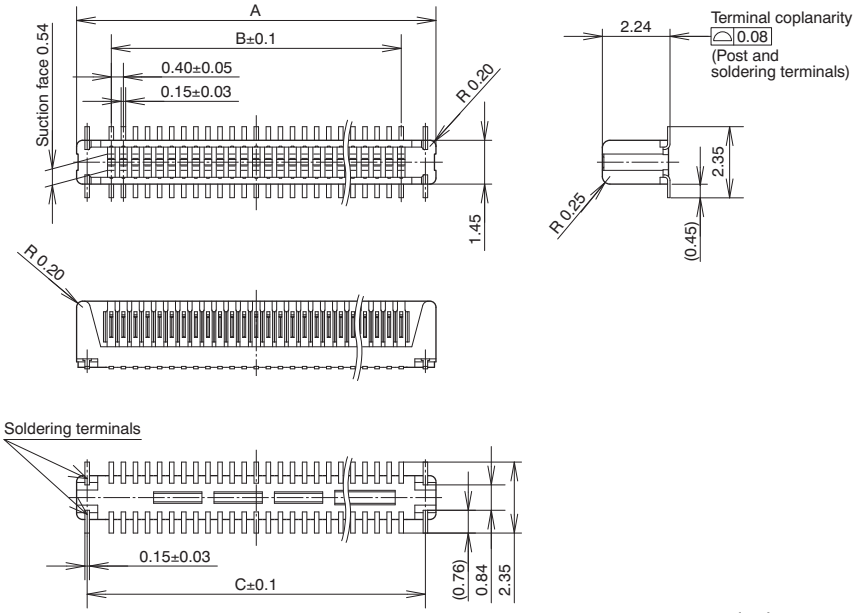


General tolerance: ±0.2

Note: The soldering terminals dimensions of headers with mated heights of 1.5mm/2.5mm and 2.0mm/3.0mm are different.

4. Header (Mated height: 3.0mm)

• Without pickup cover

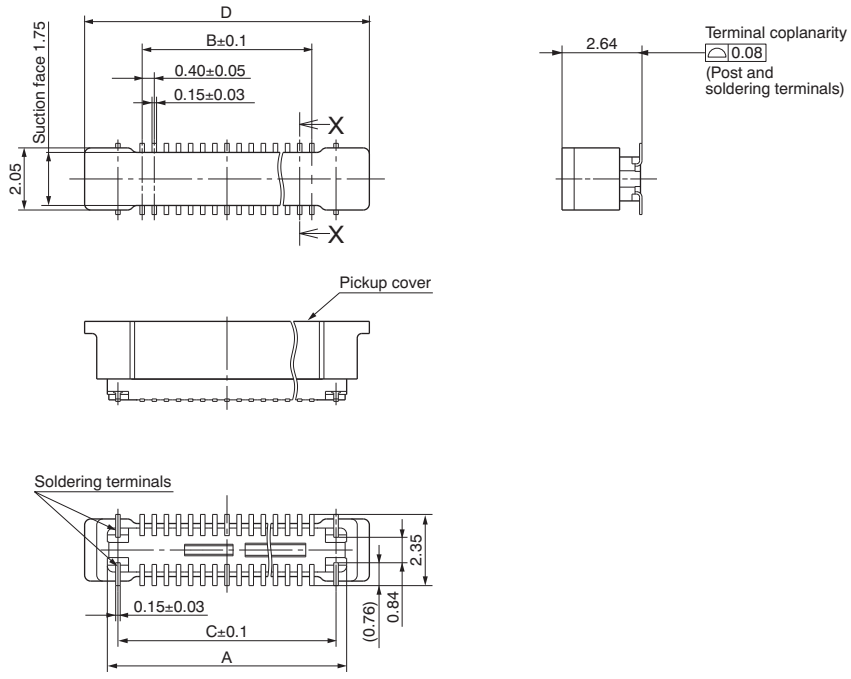


General tolerance: ±0.2

Dimension table (mm)

Number of pins/ 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	–

• With pickup cover



General tolerance: ±0.2

Note: The soldering terminals dimensions of headers with mating heights of 1.5mm/2.5mm and 2.0mm/3.0mm are different.

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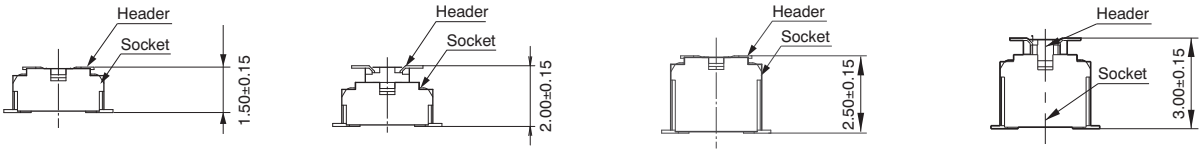
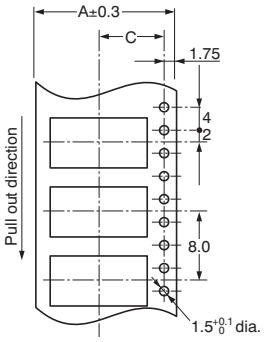
Socket and Header are mated



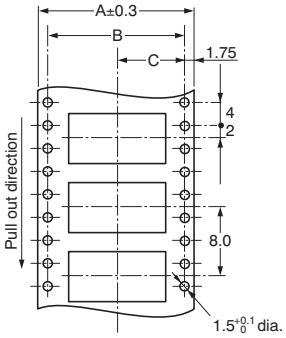
EMBOSSED TAPE DIMENSIONS (unit: mm, Common for respective contact type, socket and header)

• Tape dimensions (Conforming to JIS C 0806-1990. However, some tapes have mounting hole pitches that do not comply with the standard.)

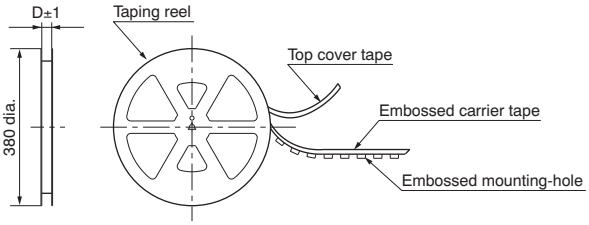
Tape I



Tape II



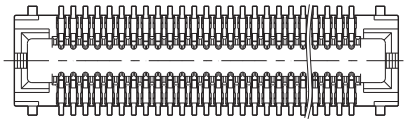
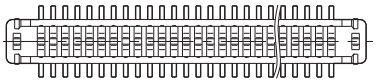
• Plastic reel dimensions (Conforming to EIAJ ET-7200B)



Dimension table (mm)

Mated height	Number of pins: Socket (with/without pickup cover) Header (without pickup cover)	Number of pins: Header (with pickup cover)	Type of taping	A	B	C	D	Quantity per reel
Common for socket and header: 1.5mm, 2.0mm, 2.5mm and 3.0mm	Max. 24	Max. 24	Tape I	16.0	—	7.5	17.5	3,000
	26 to 70	26 to 64	Tape I	24.0	—	11.5	25.5	3,000
	72 to 100	66 to 90	Tape II	32.0	28.4	14.2	33.5	3,000
	120	100	Tape II	44.0	40.4	20.2	45.5	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.

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Panasonic
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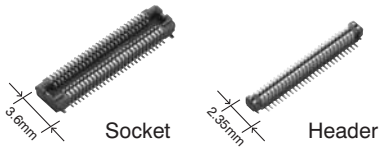
For board-to-board | For board-to-FPC

Connectors for inspection usage (0.4mm pitch)

P4S Series



ⓘ Products to be discontinued.

FEATURES

1. 3,000 mating and unmating cycles
2. Same external dimensions and foot patterns as standard type.
3. Improved mating
Insertion and removal easy due to a reduction in mating retention force. This is made possible by a simple locking structure design.
Note: Mating retention force cannot be warranted.

APPLICATIONS

Ideal for module unit inspection and equipment assembly inspection

TABLE OF PRODUCT TYPES

☆: Available for sale

Product name	Number of pins																					
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
	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆

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 pins other than those shown above.
4. Please inquire with us regarding availability.
5. Please keep the minimum order quantities no less than 50 pieces per lot.
6. Please inquire if further information is needed.

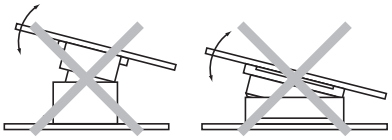
PRODUCT TYPES

Specifications			Part No.	Specifications			Part No.
Socket	With pickup cover	Without positioning bosses	AXT3E**66	Header	With pickup cover	Without positioning bosses	AXT4E**66
	No pickup cover	Without positioning bosses	AXT3E**26		No pickup cover	Without positioning bosses	AXT4E**26

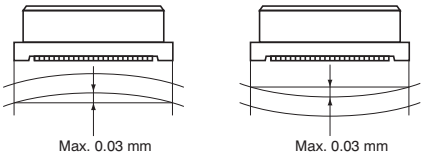
Notes: 1. When placing an order, substitute the "*" (asterisk) in the above part number with the number of pins for the required connector.
2. The above part numbers are for connectors without positioning bosses, which are standard. When ordering connectors with positioning bosses, please contact our sales office.

NOTES

1. As shown below, excess force during insertion may result in damage to the connector or removal of the solder. 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 P4 Series.

4. Recommended PC board and metal mask patterns

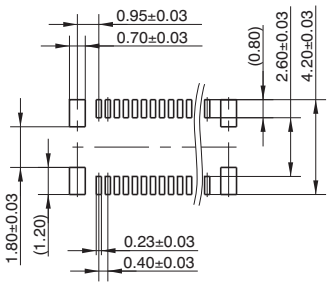
Connectors are mounted with high pitch density, intervals of 0.35 mm, 0.4 mm or 0.5 mm.

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

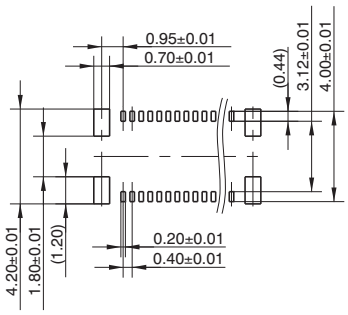
The figures to the right are recommended metal mask patterns. Please use them as a reference.

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

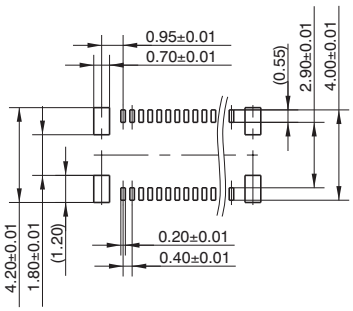
Recommended PC board pattern (TOP VIEW)



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

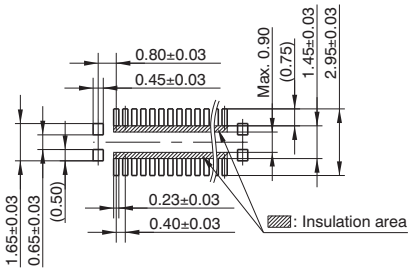


Recommended metal mask pattern
Metal mask thickness: Here, 120 μm
(Terminal portion opening area ratio: 60%)
(Metal portion opening area ratio: 100%)

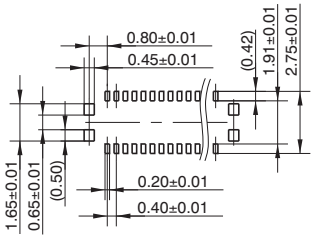


Header
(Mated height: 1.5mm and 2.5mm)

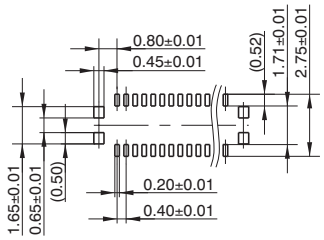
Recommended PC board pattern (TOP VIEW)



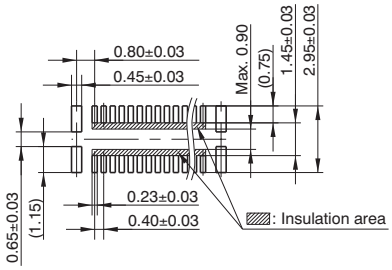
Recommended metal mask pattern
Metal mask thickness: Here, 150 μm
(Terminal portion opening area ratio: 49%)
(Metal portion opening area ratio: 100%)



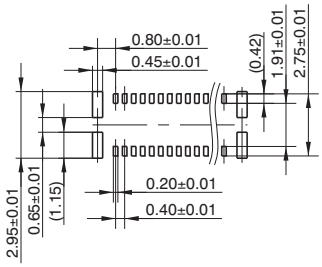
Recommended metal mask pattern
Metal mask thickness: Here, 120 μm
(Terminal portion opening area ratio: 60%)
(Metal portion opening area ratio: 100%)



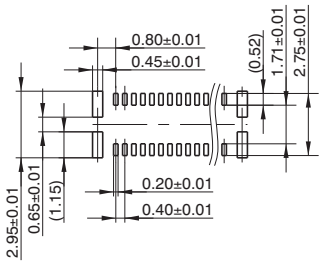
Header
(Mated height: 2.0mm, 3.0mm)
Recommended PC board pattern (TOP VIEW)



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%)



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 2.0 mm/3.0 mm are different.

For Cautions for Use, see Connector Technical Information. For other details, please verify with the product specification sheets.