

<h1 style="margin: 0;">NAIS</h1>	<h2 style="margin: 0;">NARROW-PITCH CONNECTORS FOR PC BOARDS</h2>	<h1 style="margin: 0;">NARROW PITCH (1.0mm) CONNECTORS P10 SERIES</h1>
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### FEATURES

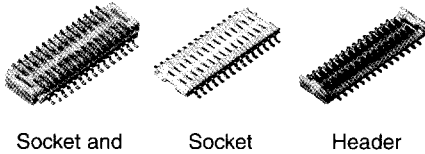
1. Ultra-low 2mm profile.

2. Our unique contact construction assures high resistance to vibration and impact.

3. Simple locking mechanism offers high contact reliability.

### APPLICATIONS

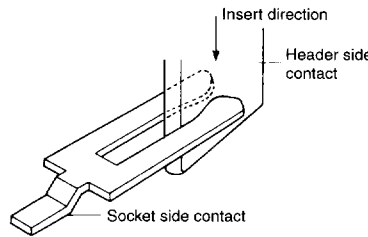
Small portable equipment, personal computers, pager, video equipment, radio communication equipment, cellular telephone, PHS, etc.



Socket and header are mated

Socket

Header



### SPECIFICATIONS

#### 1. Characteristics

	Item	Specifications	Conditions															
Electrical characteristics	Rated current	0.5A																
	Rated voltage	AC, DC 60V																
	Breakdown voltage	250V AC for 1 minute	Detection current: 1mA															
	Insulation resistance	Min. 1000MΩ	Using 500V DC megger															
	Contact resistance	Max. 50mΩ	Measured with YHP4328A															
Mechanical characteristics	Composite insertion force	Max. 44.1N {4.50kgf} (20 contacts)																
	Composite removal force	Min. 6.67N {0.68kgf} (20 contacts)																
	Holding force for contact	Min. 1.96N {200gf}/1 contact (Socket) Min. 5.88N {600gf}/2 contacts (Header)	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 300°C within 5 seconds	Infrared reflow soldering Soldering iron															
	Thermal shock resistance (header and socket mated)	5 cycles, insulation resistance min. 100MΩ, contact resistance max. 50mΩ	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Sequence</th> <th>Temperature (°C)</th> <th>Time (minutes)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55<sup>+0</sup><sub>-3</sub></td> <td>30</td> </tr> <tr> <td>2</td> <td>25<sup>+10</sup><sub>-5</sub></td> <td>Max. 5</td> </tr> <tr> <td>3</td> <td>85<sup>+3</sup><sub>-0</sub></td> <td>30</td> </tr> <tr> <td>4</td> <td>25<sup>+10</sup><sub>-5</sub></td> <td>Max. 5</td> </tr> </tbody> </table>	Sequence	Temperature (°C)	Time (minutes)	1	-55 <sup>+0</sup> <sub>-3</sub>	30	2	25 <sup>+10</sup> <sub>-5</sub>	Max. 5	3	85 <sup>+3</sup> <sub>-0</sub>	30	4	25 <sup>+10</sup> <sub>-5</sub>	Max. 5
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Humidity resistance (header and socket mated)	120 hours, insulation resistance min. 100MΩ, contact resistance max. 50mΩ	Bath 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. 50mΩ	Bath temperature 35±2°C, saltwater concentration 5±1%																
H <sub>2</sub> S resistance (header and socket mated)	48 hours, contact resistance max. 50mΩ	Bath temperature 40±2°C, gas concentration 3±1 ppm, humidity 75 to 80% R.H.																
SO <sub>2</sub> resistance (header and socket mated)	48 hours, contact resistance max. 50mΩ	Bath temperature 40±2°C, gas concentration 10±3 ppm, humidity 90 to 95% R.H.																
Lifetime characteristics	Insertion and removal life	20 times	Repeated insertion and removal speed of max. 200 times/hours															
	Unit weight	Stacking height 2mm 20 terminals; Socket: 0.13g Header: 0.17g																

#### 2. Material and surface treatment

Part name	Material	Surface treatment
Molded portion	Heat-resistant resin (UL94V-0)	--
Contact, Post	Copper alloy	Contact portion: Au plating over Ni Terminal portion: Au plating over Ni

**PRODUCT TYPES**

Stacking height	No. of contacts		Part No.
2mm	10	Socket	AXN710535J
		Header	AXN810535J
	16	Socket	AXN716535J
		Header	AXN816535J
	20	Socket	AXN720535J
		Header	AXN820535J
30	Socket	AXN730535J	
	Header	AXN830535J	
2.5mm	10	Socket	AXN710535J
		Header	AXN810735J
	16	Socket	AXN716535J
		Header	AXN816735J
	20	Socket	AXN720535J
		Header	AXN820735J
30	Socket	AXN730535J	
	Header	AXN830735J	

**Notes:**

- In order to reduce the amount of packaging materials used to help protect the global environment, it is recommended that each packaging box contain 1,500 units with the "J" product number suffix. Embossed tape packages containing 1,000 units in the inside boxes (reels) are also available. The latter have the "P" product number suffix. When placing orders, change the "J" suffix to the "suffix P".
- The standard type comes with positioning bosses. Connectors with no positioning bosses are available for on-demand production. For this type of connector, please change the 8th digit of the ordering number to "4". *Example:* For a 10-contact socket with 2mm stacking height: AXN710545P

**DIMENSIONS** (Unit: mm)

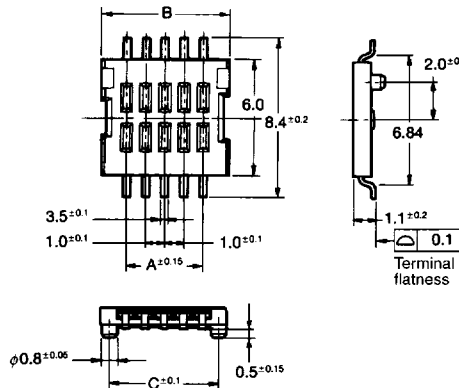
mm General tolerance ±0.3

• Socket body

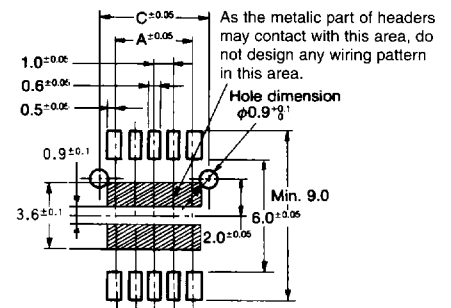


Dimension table (mm)

No. of contacts	A	B	C
10	4.00	6.58	5.68
16	7.00	9.58	8.68
20	9.00	11.58	10.68
30	14.00	16.58	15.68



Recommended PC board pattern (top view)

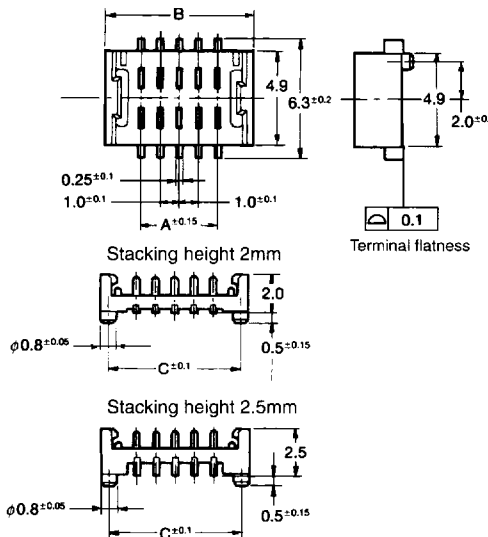


• Header

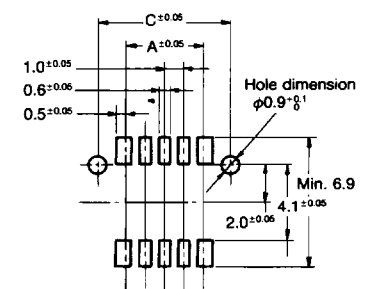


Dimension table (mm)

No. of contacts	A	B	C
10	4.00	7.70	6.88
16	7.00	10.70	9.88
20	9.00	12.70	11.88
30	14.00	17.70	16.88



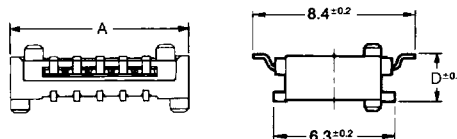
Recommended PC board pattern (top view)



• Socket and header are mated

Dimension table (mm)

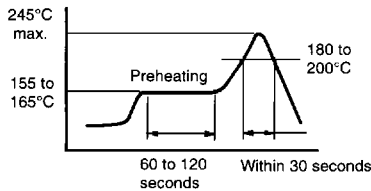
No. of contacts	A	Stacking height	D
10	7.70	2mm	2.0
16	10.70	2.5mm	2.5
20	12.70		
30	17.70		



## NOTES

### 1. Reflow soldering

- (1) As for cream solder printing, screen printing is recommended.
- (2) Recommended screen thickness for respective stacking height type during cream soldering is 0.15 to 0.2mm. Please consult us when using a screen other than recommended thickness.
- (3) Recommended conditions for the reflow temperature profile are shown in the figure below.



### 2. Preventing vibration and shock

To prevent the PC board from drop-off faults and to protect soldered spots from direct stress, use vibration-proof pads across gap.

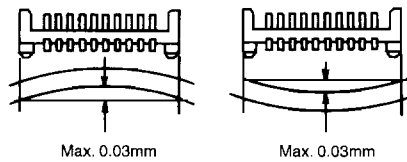
3. Since excessive force on the terminals will cause deformation and the integrity of the soldering will be lost during reflow soldering, avoid dropping or rough handling of the product.

4. When mating the connector before soldering, take care not to deform its terminals or fittings. Do not apply excessive stress to terminals as this may cause loose terminals.

5. These models are made very thin so that they may be smaller in size and lighter in weight than before. Take care not to give them excessive force when mating them together or unmating them; otherwise, breakage may result.

### 6. PC board warpage

PC board warpage should be controlled to 0.03mm max. with respect to overall length of connector (see figures below).

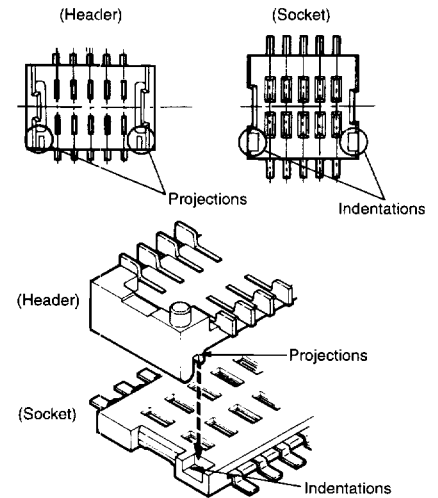


7. During manual soldering, do not apply flux to the connector leads or PC board as connector contacts may be contaminated with flux.

8. The color of the connector mold resin may differ slightly from one lot to another, but this has no affect on connector performance.

### 9. Insertion the wrong way round

The socket and header are designed to prevent the header from being inserted the wrong way round. If excessive force is applied in an attempt to do so, the molded plastic parts may break. Be sure to fit the header and socket together so that the projections on the header line up with the indentations in the socket.



**For Tape and Reel dimensions please see pages 35-38.**