

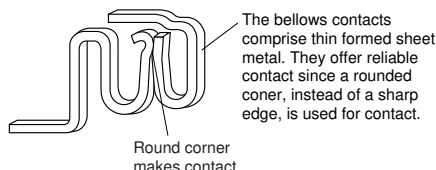
# NAIS

## NARROW-PITCH CONNECTORS FOR PC BOARDS

# NARROW PITCH (0.5mm) CONNECTORS — P5KF —



**2. Unique bellows-type contacts**  
Our unique bellows-type contacts resist mating stress and offer high contact reliability.



**5. Construction resistant to solder lift-off**

The construction provides a longer distance between the actual contact areas of the contacts and the pins to yield an improved resistance to solder lift-off.

## APPLICATIONS

- Cellular phones
- PHS
- Portable data terminals
- Compact portable devices



Socket and header are mated

Socket

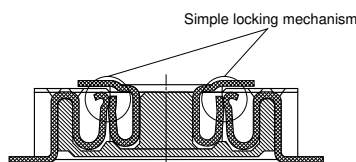
Header

## FEATURES

### 1. Low profile of 1.5mm

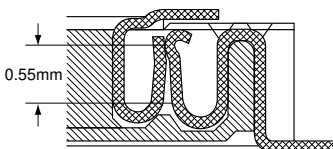
Low profiles of 1.5mm, 2.0mm and 2.5mm are realized. They allow products to be slimmer.

**3. Simple locking mechanism is employed which is suitable for FPC connection.**

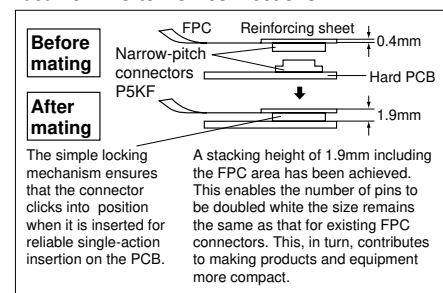


### 4. Mating length 0.55mm

While achieving a low profile of 1.5mm between PCBs, the effective mating length has been extended to ensure that there is some latitude in the mating.



### Ideal for FPC-to-PCB connections



## SPECIFICATIONS

### 1. Characteristics

Item		Specifications	Conditions															
Electrical characteristics	Rated current	0.5A/terminal (Max. 10 A at total terminals)																
	Rated voltage	AC, DC 60V																
	Breakdown voltage	150V AC for 1 minute	Detection current: 1mA															
	Insulation resistance	Min. 1,000MΩ (initial)	Using 500V DC megger															
Mechanical characteristics	Contact resistance	Max. 90mΩ	Measured with YHP4328A															
	Composite insertion force	Max. 0.981N {100kgf}/terminal × total terminals (initial)																
	Composite removal force	Min. 0.981N {100kgf}/terminal × total terminals (initial)																
	Post holding force	Max. 0.981N {100kgf}	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 seconds	Soldering iron															
	Thermal shock resistance (header and socket mated)	5 cycles, insulation resistance min. 100MΩ, contact resistance max. 90mΩ	<table border="1"> <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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3	85 <sup>-3</sup> / <sub>-0</sub>	30																
4	25 <sup>+10</sup> / <sub>-5</sub>	Max. 5																
Humidity resistance (header and socket mated)	120 hours, insulation resistance min. 100MΩ, contact resistance max. 90mΩ	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. 90mΩ	Bath temperature 35±2°C, saltwater concentration 5±1%																
H <sub>2</sub> S resistance (header and socket mated)	48 hours, contact resistance max. 90mΩ	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															

## 2. Material and surface treatment

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

## PRODUCT TYPES

Stacking height	No. of contacts		Part No.
1.5 mm	10	Socket	AXK5F10345*
		Header	AXK6F10345*
	20	Socket	AXK5F20345*
		Header	AXK6F20345*
	30	Socket	AXK5F30345*
		Header	AXK6F30345*
	40	Socket	AXK5F40345*
		Header	AXK6F40345*
	50	Socket	AXK5F50345*
		Header	AXK6F50345*
	60	Socket	AXK5F60345*
		Header	AXK6F60345*
2.0 mm	10	Socket	AXK5F10545*
		Header	AXK6F10345*
	20	Socket	AXK5F20545*
		Header	AXK6F20345*
	30	Socket	AXK5F30545*
		Header	AXK6F30345*
	40	Socket	AXK5F40545*
		Header	AXK6F40345*
	50	Socket	AXK5F50545*
		Header	AXK6F50345*
	60	Socket	AXK5F60545*
		Header	AXK6F60345*
2.5 mm	10	Socket	AXK5F10545*
		Header	AXK6F10545*
	20	Socket	AXK5F20545*
		Header	AXK6F20545*
	30	Socket	AXK5F30545*
		Header	AXK6F30545*
	40	Socket	AXK5F40545*
		Header	AXK6F40545*
	50	Socket	AXK5F50545*
		Header	AXK6F50545*
	60	Socket	AXK5F60545*
		Header	AXK6F60545*

Note) 1. Please suffix following words at \* marked positions.

P: Inner carton (1 reel) 1,000 pcs. (Outer carton: 2,000 pcs.)

J: Inner carton (1 reel) 2,000 pcs. (Outer carton: 4,000 pcs.)

2. The standard type comes with no positioning bosses. Connectors with positioning bosses are available for on-demand production. For this type of connector, 9th digit of the part no. changes from 4 to 3. e.g. AXK5F10335P

## DIMENSIONS

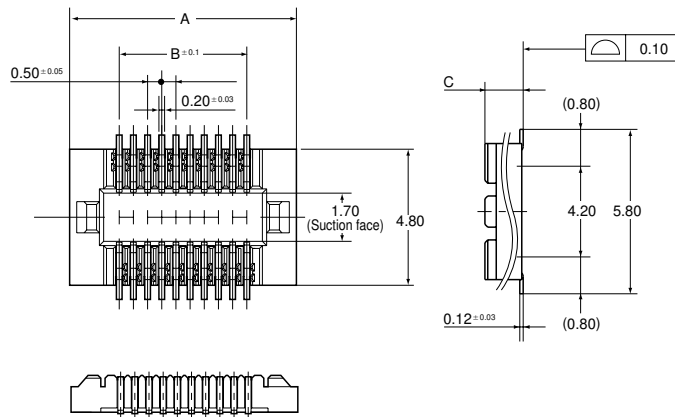
mm

### • Socket body



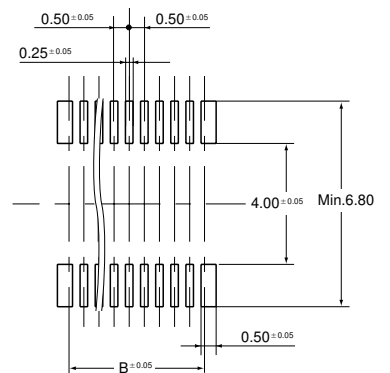
Dimension table (mm)

No. of contacts	A	B
10	5.50	2.00
20	8.00	4.50
30	10.50	7.00
40	13.00	9.50
50	15.50	12.00
60	18.00	14.50



Stacking height	C
1.5 mm	1.35
2.0 mm, 2.5 mm	1.85

Recommended PC board pattern (top view)



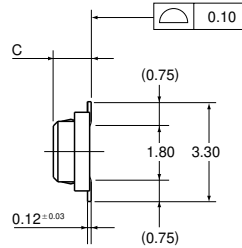
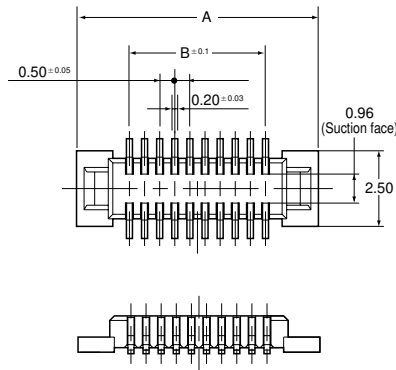
General tolerance ±0.2

• Header



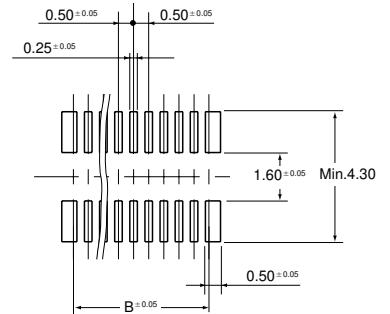
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No. of contacts	A	B
10	5.50	2.00
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40	13.00	9.50
50	15.50	12.00
60	18.00	14.50



Stacking height	C
1.5 mm, 2.0 mm	1.25
2.5 mm	1.75

Recommended PC board pattern (top view)



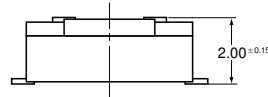
General tolerance ±0.2

• Socket and header are mated

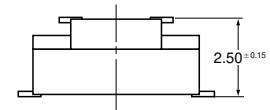
Stacking height 1.5 mm



Stacking height 2.0 mm



Stacking height 2.5 mm



NOTES

1. Preventing vibration and shock

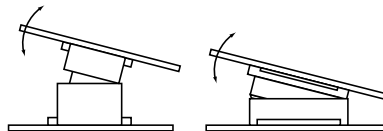
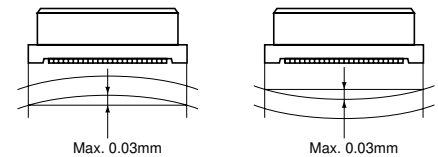
In order to secure the PC board connection even when a shock applied, please keep a connector away from the influence of the shock by fixing the PC boards to the enclosure or any other means.

2. These models are made very thin so that they may be smaller in size and light in weight than before.

Take care not to give then excessive force when mating them together or unmating them; otherwise, breakage may result.

To prevent damage from incorrect insertions, please confirm the correct position before mating connectors.

3. Keep the PC board warp 0.03 mm or below as against the overall length of the connector.



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