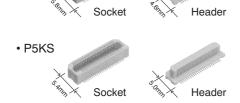
Panasonic





P5K



Note: The external appearance and PC board pattern differs for the P5K and P5KS series.

For board-to-board

Narrow pitch connectors (0.5mm pitch)

P5K, P5KS

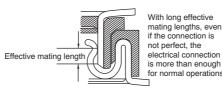
FEATURES

1. The product lineup consists of 3.0 mm, 3.5 mm, 4.0 mm, 4.5 mm, 5.0 mm, 5.5 mm, 6.0 mm, 6.5 mm, 7.0 mm, 8.0 mm, and 9.0 mm mated heights.

Туре	Mated height	Notes
P5K	3 mm, 3.5 mm	The external
P5KS	4 mm, 4.5 mm, 5 mm, 5.5 mm, 6 mm, 6.5 mm, 7 mm, 8 mm, 9 mm	appearance and PC board pattern differs for the P5K and P5KS series.

2. Strong resistance to adverse environments! Utilizes TDUGH CONTRET construction for high contact reliability.

3. Even with the low profile, the effective mating length has been extended to ensure that there is some latitude for insertion.

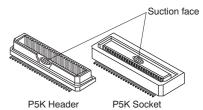


Туре	Effective mating length
P5K	0.65 mm
P5KS	1.0 mm

normal operations.

4. Automatic mounting

1) Suction area for automatic mounting machines is employed.

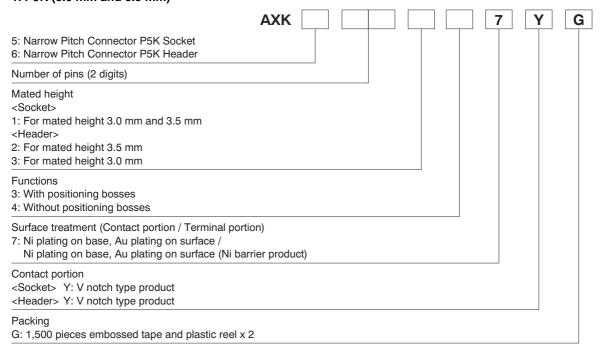


APPLICATIONS

Digital devices, such as laptop, digital still cameras and digital video cameras

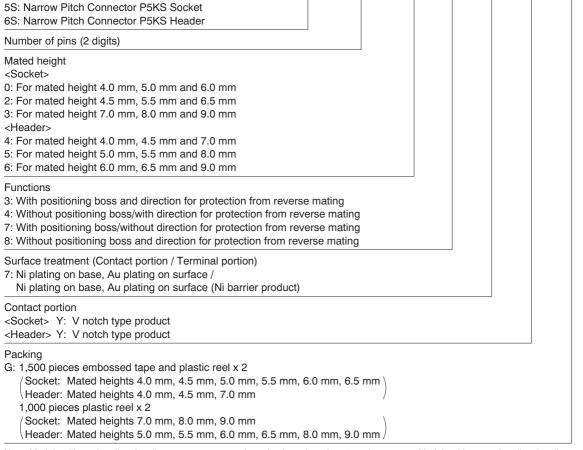
ORDERING INFORMATION

1. P5K (3.0 mm and 3.5 mm)



2. P5KS (4.0 mm, 4.5 mm, 5.0 mm, 5.5 mm, 6.0 mm, 6.5 mm, 7.0 mm, 8.0 mm and 9.0 mm)

AXK



Note: Models with mating directionality to prevent reverse insertion have less than 100 pin contacts. Models without mating directionality to prevent reverse insertion have over 100 pin contacts.

PRODUCT TYPES

1. P5K

5			Pai	t No.	Pacl	king
Product name	Mated height	No. of pins	Socket	Header	Inner corten (4 reel)	Outer carten
Hame	ricigit		TOUGH CONTACT	TOUGH CONTACT	Inner carton (1 reel)	Outer carton
		20	AXK520147YG	AXK620347YG		
		22	AXK522147YG	AXK622347YG		
		30	AXK530147YG	AXK630347YG		
		40	AXK540147YG	AXK640347YG		
	3.0 mm	50	AXK550147YG	AXK650347YG		
	3.0 11111	60	AXK560147YG	AXK660347YG		
		70	AXK570147YG	AXK670347YG		
		80	AXK580147YG	AXK680347YG	1,500 pieces	3,000 pieces
		100	AXK500147YG	AXK600347YG		
		120	AXK5A2147YG	AXK6A2347YG		
P5K		20	AXK520147YG	AXK620247YG		
		22	AXK522147YG	AXK622247YG		
		30	AXK530147YG	AXK630247YG		
		34	AXK534147YG	AXK634247YG		
		40	AXK540147YG	AXK640247YG]	
	3.5 mm	50	AXK550147YG	AXK650247YG]	
		60	AXK560147YG	AXK660247YG		
		70	AXK570147YG	AXK670247YG		
		80	AXK580147YG	AXK680247YG]	
		100	AXK500147YG	AXK600247YG]	
		120	AXK5A2147YG	AXK6A2247YG]	

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.

Connectors with positioning bosses are available on-demand production. For P5K type of 8th digit of the part no. changes from 4 to 3. e.g. Mated height 3.0 mm, 20 pin contacts for sockets: AXK520137YG

Υ

G

 $^{2. \ \ \}text{The standard type comes without positioning bosses}.$

2. P5KS

z. Poko			Par	t No.	Par	king	
Product	Mated	No. of pins	Socket	Header			
name	height		TDUGH CONTRCT	TDUGH CONTRCT	Inner carton (1 reel)	Outer carton	
		20	AXK5S20047YG	AXK6S20447YG			
		24	AXK5S24047YG	AXK6S24447YG			
		30	AXK5S30047YG	AXK6S30447YG			
		34	AXK5S34047YG	AXK6S34447YG			
		40	AXK5S40047YG	AXK6S40447YG			
		50	AXK5S50047YG	AXK6S50447YG			
	4.0 mm	60	AXK5S60047YG	AXK6S60447YG			
		70	AXK5S70047YG	AXK6S70447YG			
		80	AXK5S80047YG	AXK6S80447YG			
		100	AXK5S00047YG	AXK6S00447YG			
		120	AXK5SA2077YG	AXK6SA2477YG			
		160	AXK5SA6077YG	AXK6SA6477YG			
P5KS		20	AXK5S20247YG	AXK6S20447YG	1,500 pieces	3,000 pieces	
		24	AXK5S24247YG	AXK6S24447YG		, ,	
		30	AXK5S30247YG	AXK6S30447YG			
		34	AXK5S34247YG	AXK6S34447YG			
		36	AXK5S36247YG	AXK6S36447YG			
		40	AXK5S40247YG	AXK6S40447YG			
	4.5 mm	50	AXK5S50247YG	AXK6S50447YG			
		60	AXK5S60247YG	AXK6S60447YG			
		70	AXK5S70247YG	AXK6S70447YG			
		80	AXK5S80247YG	AXK6S80447YG			
		100	AXK5S00247YG	AXK6S00447YG			
		120	AXK5SA2277YG	AXK6SA2477YG			
		160	AXK5SA6277YG	AXK6SA6477YG			
		20	AXK5S20047YG	AXK6S20547YG			
5.0 mm	24	AXK5S24047YG	AXK6S24547YG				
	5.0 mm	30	AXK5S30047YG	AXK6S30547YG			
		34	AXK5S34047YG	AXK6S34547YG			
		40	AXK5S40047YG	AXK6S40547YG			
		50	AXK5S50047YG	AXK6S50547YG			
		60	AXK5S60047YG	AXK6S60547YG			
		70	AXK5S70047YG	AXK6S70547YG			
		80	AXK5S80047YG	AXK6S80547YG			
		100	AXK5S00047YG	AXK6S00547YG			
		20	AXK5S20247YG	AXK6S20547YG			
		24	AXK5S24247YG	AXK6S24547YG			
		30	AXK5S30247YG	AXK6S30547YG			
		34	AXK5S34247YG	AXK6S34547YG			
	5.5 mm	40	AXK5S40247YG	AXK6S40547YG			
		50	AXK5S50247YG	AXK6S50547YG			
		60	AXK5S60247YG	AXK6S60547YG			
DELCO		70	AXK5S70247YG	AXK6S70547YG	Socket: 1,500 pieces	Socket: 3,000 pieces	
P5KS		80	AXK5S80247YG	AXK6S80547YG	Header: 1,000 pieces	Header: 2,000 pieces	
		100	AXK5S00247YG	AXK6S00547YG			
		20	AXK5S20047YG	AXK6S20647YG			
		30	AXK5S30047YG	AXK6S30647YG			
		40	AXK5S40047YG	AXK6S40647YG			
	6.0 mm	50	AXK5S50047YG	AXK6S50647YG			
		60	AXK5S60047YG	AXK6S60647YG			
		70	AXK5S70047YG	AXK6S70647YG			
		80	AXK5S80047YG	AXK6S80647YG			
		100	AXK5S00047YG	AXK6S00647YG			
		20	AXK5S20247YG	AXK6S20647YG			
		30	AXK5S30247YG	AXK6S30647YG			
		40	AXK5S40247YG	AXK6S40647YG			
		50	AXK5S50247YG	AXK6S50647YG			
	6.5 mm	60	AXK5S60247YG	AXK6S60647YG			
		70	AXK5S70247YG	AXK6S70647YG			
		80	AXK5S80247YG	AXK6S80647YG			
		100	AXK5S00247YG	AXK6S00647YG			
	130	AXK5SA3277YG	AXK6SA3677YG		İ		

AXK(5(S)/6(S))

			Part No.		Pac	king	
Product name	Mated height	No. of pins	Socket	Header		0.4	
Hame	Height		TOUGH CONTRCT	TOUGH CONTRCT	Inner carton (1 reel)	Outer carton	
		20	AXK5S20347YG	AXK6S20447YG			
		30	AXK5S30347YG	AXK6S30447YG			
		40	AXK5S40347YG	AXK6S40447YG			
	7.0 mm	50	AXK5S50347YG	AXK6S50447YG	Socket: 1,000 pieces	Socket: 2,000 pieces	
	7.0 111111	60	AXK5S60347YG	AXK6S60447YG	Header: 1,500 pieces	Header: 3,000 pieces	
		70	AXK5S70347YG	AXK6S70447YG			
		80	AXK5S80347YG	AXK6S80447YG			
		100	AXK5S00347YG	AXK6S00447YG			
		20	AXK5S20347YG	AXK6S20547YG			
		30	AXK5S30347YG	AXK6S30547YG			
		40	AXK5S40347YG	AXK6S40547YG			
DEKS	P5KS 8.0 mm	50	AXK5S50347YG	AXK6S50547YG			
FSNS		60	AXK5S60347YG	AXK6S60547YG			
		70	AXK5S70347YG	AXK6S70547YG			
		80	AXK5S80347YG	AXK6S80547YG			
		100	AXK5S00347YG	AXK6S00547YG	1,000 pieces	2,000 pieces	
		20	AXK5S20347YG	AXK6S20647YG	1,000 pieces	2,000 pieces	
		30	AXK5S30347YG	AXK6S30647YG			
	9.0 mm	40	AXK5S40347YG	AXK6S40647YG			
		50	AXK5S50347YG	AXK6S50647YG			
		60	AXK5S60347YG	AXK6S60647YG			
		70	AXK5S70347YG	AXK6S70647YG			
		80	AXK5S80347YG	AXK6S80647YG			
		1	100	AXK5S00347YG	AXK6S00647YG		

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.
 The standard type comes without positioning bosses (However, mated heights of 4 mm or higher and 120 pins or more comes standard with bosses). Connectors with positioning bosses are available for on-demand production. For PSKS type of 9th digit of the part no. changes from 4 to 3. e.g. Mated height 4.0 mm, 20 pin contacts for sockets: AXK5S20037YG

SPECIFICATIONS

1. Characteristics

		Specifications						
	Item	3mm, 3.5mm type	4mm, 4.5mm, 5mm, 5.5mm, 6mm, 6.5mm type	7mm,	8mm, 9mm type		Conditions	
	Rated current	0.5A/terminal (Max. 10)	A) 0.5A/ter	minal (Max. 1	16A)			
	Rated voltage		60V AC/DC					
Electrical	Breakdown voltage		150V AC for 1 min.			Detecti	on current: 1m	A
characteristics	Insulation resistance		Min. 1000MΩ	_		Using 5	00V DC megg	er
	Contact resistance	Ma	ax. 60mΩ		Max. 80mΩ		on the contact rement method C 5402.	
	Composite insertion force		Max. $0.785N \times no.$ of pins	(initial)				
Mechanical characteristics	Composite removal force		Min. $0.0588N \times no.$ of p	pins				
	Contact holding force		Min. 0.98N/pin contac	cts			ing the maxim	
	Ambient temperature		−55°C to +85°C			No free	zing at low ten	nperatures
	Soldering heat resistance	Max. peak temperature of 260°C (on the surface of the PC board around the connector terminals)					Infrared reflow soldering	
	resistance	300°C within 5 sec., 350°C within 3 sec.				Soldering iron		
	Thermal shock resistance (header and socket mated) 5 cyc					Conformed to MIL-STD-202F, method 107G		D-202F,
			i-ti- 400MO	5 cycles,	insulation resistance min. 100M Ω , contact resistance max. $80 \text{m}\Omega$	Order	Temperature (∞C)	Time (minutes)
Environmental characteristics			•			1 2 3 4	-55 ₋₃ °	30 Max. 5 30 Max. 5
	Humidity resistance (header and socket mated)		esistance min. 100MΩ, istance max. 60mΩ	120 hours,	insulation resistance min. $100M\Omega$, contact resistance max. $80m\Omega$	Bath temperature 40±2°C, humidity 90 to 95% R.H.		
	Saltwater spray resistance (header and socket mated)		esistance min. 100M Ω , istance max. 60m Ω	24 hours,	insulation resistance min. $100 M\Omega$, contact resistance max. $80 m\Omega$	Bath temperature 35±2°C, saltwarter concentration 5±1%		
	H ₂ S resistance (header and socket mated)	48 hours, contact resistance max. 60mΩ 48 hours, contact resistance max. 80mΩ		Bath temperature 40±2°C, gas concentration 3±1 ppm, humidity 75 to 80% R.H.				
Lifetime characteristics	Insertion and removal life	50 times					ed insertion ar of max. 200 tin	
Unit weight		P5K 3mm 30 pin contact P5KS 4mm 30 pin contact	ts Socket: 0.17g Header: 0 acts Socket: 0.18g Header: 0					

2. Material and surface treatment

Part name	Mated height 3mm, 3.5mm, 4mm, 4.5mm, 5mm, 5.5mm, 6mm, 6.5mm, 7mm, 8mm, 9mm		
rait liallie	Material	Surface treatment	
Molded portion	Heat-resistant resin (UL94V-0)	_	
Contact/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) The section close to the soldering portion has a nickel barrier. (The nickel base is exposed.)	

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)

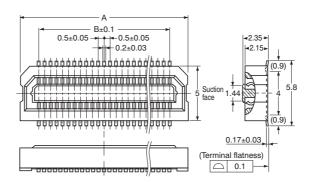
P5K: Mated height 3mm, 3.5mm type

Socket



Dimension table (mm)

No. of pins	А	В
20	8.20	4.50
22	8.70	5.00
30	10.70	7.00
34	11.70	8.00
40	13.20	9.50
50	15.70	12.00
60	18.20	14.50
70	20.70	17.00
80	23.20	19.50
100	28.20	24.50
120	33.20	29.50



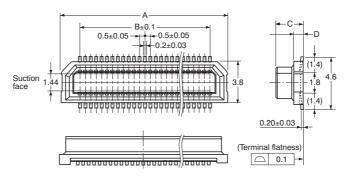
General tolerance: ±0.2

Header



Dimension table (mm)

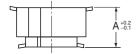
No. of pins	А	В
20	8.20	4.50
22	8.70	5.00
30	10.70	7.00
34	11.70	8.00
40	13.20	9.50
50	15.70	12.00
60	18.20	14.50
70	20.70	17.00
80	23.20	19.50
100	28.20	24.50
120	33.20	29.50



General tolerance: ± 0.2

Mated height	С	D
3.0 mm	2.4	0.85
3.5 mm	2.9	1.35

· Socket and header are mated



Mated height	А
3.0 mm	3.0
3.5 mm	3.5

Note) P5KS series (mated heights 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm, 7.0mm, 8.0mm, and 9.0mm) cannot be mated to this type.

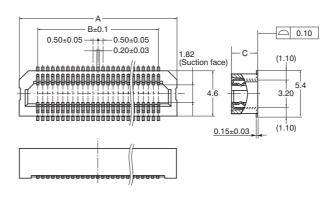
P5KS: Mated height 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm, 7.0mm, 8.0mm, 9.0mm type

Socket



Dimension table (mm)

	•	•
No. of pins	А	В
20	8.20	4.50
24	9.20	5.50
30	10.70	7.00
34	11.70	8.00
36	12.20	8.50
40	13.20	9.50
50	15.70	12.00
60	18.20	14.50
70	20.70	17.00
80	23.20	19.50
100	28.20	24.50



General tolerance: ±0.2

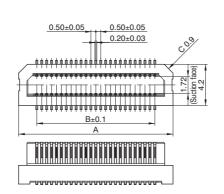
Mated height	С
4.0 mm, 5.0 mm, 6.0 mm	3.05
4.5 mm, 5.5 mm, 6.5 mm	3.55
7.0 mm, 8.0 mm, 9.0 mm	6.05

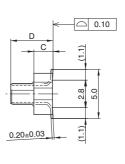
Header



Dimension table (mm)

	•	,
No. of pins	А	В
20	8.20	4.50
24	9.20	5.50
30	10.70	7.00
34	11.70	8.00
36	12.20	8.50
40	13.20	9.50
50	15.70	12.00
60	18.20	14.50
70	20.70	17.00
80	23.20	19.50
100	28.20	24.50





General tolerance: ±0.2

Mated height	С	D
4.0 mm, 4.5 mm, 7.0 mm	0.95	3.3
5.0 mm, 5.5 mm, 8.0 mm	1.95	4.3
6.0 mm, 6.5 mm, 9.0 mm	2.95	5.3

• Socket and header are mated



Note) P5K series (mated heights 3.0mm, 3.5mm) cannot be mated to this type.

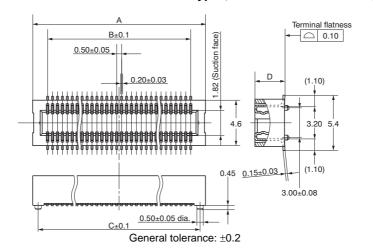
Mated height	А
4.0 mm	4.0
4.5 mm	4.5
5.0 mm	5.0
5.5 mm	5.5
6.0 mm	6.0
6.5 mm	6.5
7.0 mm	7.0
8.0 mm	8.0
9.0 mm	9.0

P5KS: Mated height 4.0mm, 4.5mm for 120 contacts and 160 contacts types, 6.5mm for 130 contacts type

Socket



No. of pins	А	В	С	
120	32.50	29.50	32.00	
130	35.00	32.00	34.50	
160	42.50	39.50	42.00	

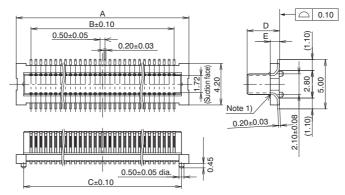


Mated height	D
4.0 mm	3.05
4.5 mm, 6.5 mm	3.55

Header



No. of pins	АВ		С	
120	32.50	29.50	31.00	
130	35.00	32.00	33.50	
160	42.50	39.50	41.00	



General tolerance: ±0.2

Mated height	D	Е
4.0 mm, 4.5 mm	3.30	0.95
6.5 mm	5.30	2.95

· Socket and header are mated



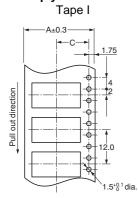
Mated height	Н
4.0 mm	4.0
4.5 mm	4.5
6.5 mm	6.5

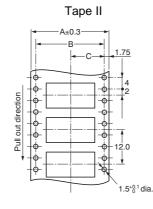
Notes) 1. Inquiry separately for diagrams of the embossed tape and cautions for use.

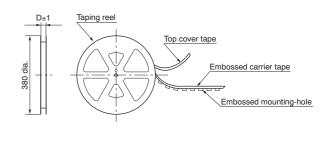
^{2.} Be sure to ask for proper specifications and drawings before actual use.

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





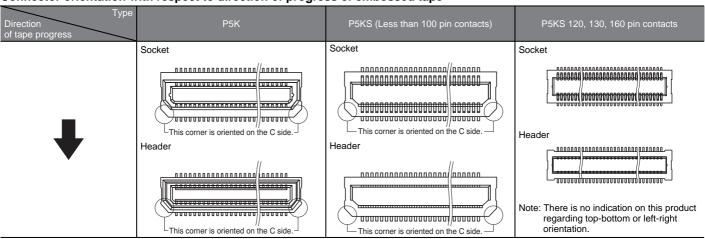


Dimension table (mm)

Suffix: G (1 reel, 1,500 pieces or 1,000 pieces embossed tape and plastic reel package)

Туре	Mated height	No. of pins	Type of taping	А	В	С	D	Quantity per reel
P5K	Socket and header are common	20 to 50	Tape I	24.0	_	11.5	25.4	1 500 pgg
		60 to 70	Tape II	32.0	28.4	14.2	33.4	
FSK	3.0mm, 3.5mm	80 to 100	Tape II	44.0	40.4	20.2	45.4	1,500 pcs.
		120	Tape II	56.0	52.4	26.2	57.4	
	Socket: 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm Header: 4.0mm, 4.5mm, 7.0mm	20 to 50	Tape I	24.0	_	11.5	25.4	
		60 to 70	Tape II	32.0	28.4	14.2	33.4	1,500 pcs.
		80 to 100	Tape II	44.0	40.4	20.2	45.4	
P5KS		120 to 160	Tape II	56.0	52.4	26.2	57.4	
FORG	Socket: 7.0mm, 8.0mm, 9.0mm Header: 5.0mm, 5.5mm, 6.0mm, 6.5mm, 8.0mm, 9.0mm	20 to 50	Tape I	24.0	_	11.5	25.4	
		60 to 70	Tape II	32.0	28.4	14.2	33.4	
		80 to 100	Tape II	44.0	40.4	20.2	45.4	1,000 pcs.
		130	Tape II	56.0	52.4	26.2	57.4	

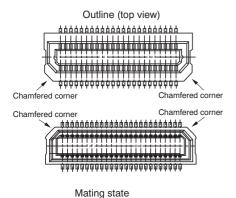
Connector orientation with respect to direction of progress of embossed tape

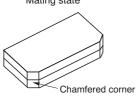


NOTES

1. Prevention of reverse mating

Other than P5KS series 120, 130, 160 pin contacts type, the socket and header are protected from reverse mating by a molded resin key. Excessive mating force may damage the key, so be sure to match chamfered corners when mating.





2. Recommended PC board and metal mask patterns

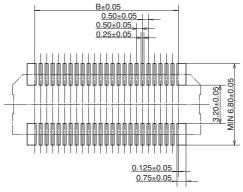
Connectors are mounted with high pitch density, intervals of 0.35 mm, 0.4 mm or 0.5 mm.

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

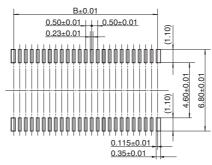
The figures to the right are recommended metal mask patterns. Please use them as a reference.

P5K Socket

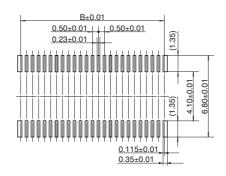
Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 μm (Opening area ratio: 56%)

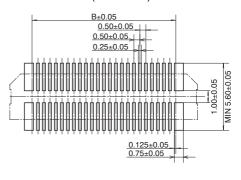


Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Opening area ratio: 69%)

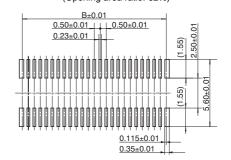


• P5K Header

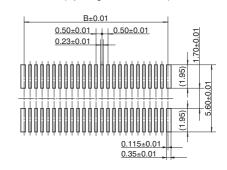
Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 μm (Opening area ratio: 62%)



Recommended metal mask pattern Metal mask thickness: Here, 120 μm (Opening area ratio: 78%)

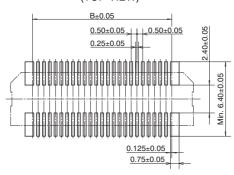


^{*} See the dimension table on page 6 for more information on the B dimension of the socket and header.

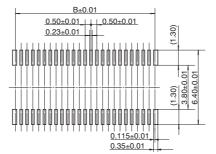
P5KS: Mated height 4.0mm, 4.5mm, 5.0mm, 5.5mm, 6.0mm, 6.5mm, 7.0mm, 8.0mm, 9.0mm type

Socket

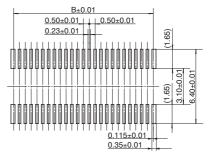
Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 μm (Opening area ratio: 60%)



Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Opening area ratio: 76%)



^{*} See the dimension table on page 7 for more information on the B dimension.

Header Recommended PC board pattern Recommended metal mask pattern Recommended metal mask pattern (TOP VIEW) Metal mask thickness: Here, 150 μm Metal mask thickness: Here, 120 μm (Opening area ratio: 69%) (Opening area ratio: 87%) B+0.05 B±0.01 B±0.01 2.00±0.05 0.50±0.05 | | 0.50±0.05 0.50±0.01 0.50±0.01_++-0.50±0.01 0.25±0.05 0.23±0.01 0.23±0.01 0.125±0.05 0.35±0.01 * See the dimension table on page 7 for more information on the B dimension.

P5KS: Mated height 4.0mm, 4.5mm for 120 contacts and 160 contacts types, 6.5mm for 130 contacts type

Recommended PC board pattern (TOP VIEW)

3.00±0.05

0.50±0.05

0.25±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

0.5±0.05

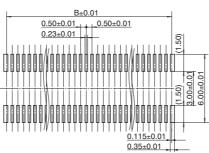
0.5±0.05

0.5±0.05

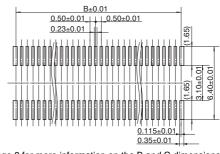
Socket

Recommended metal mask pattern
Metal mask thickness: Here, 150 µm
(Opening area ratio: 60%)

B±0.01

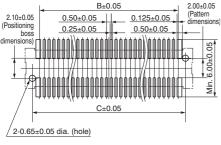


Recommended metal mask pattern Metal mask thickness: Here, 120 μm (Opening area ratio: 76%)

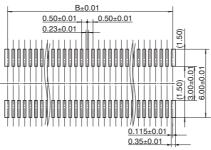


* See the dimension table on page 8 for more information on the B and C dimensions.

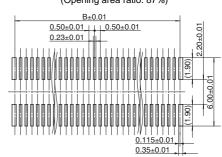
Header Recommended PC board pattern (TOP VIEW) B±0.05 0.50±0.05 0.125±0.05 0.125±0.05



Recommended metal mask pattern Metal mask thickness: Here, 150 μm (Opening area ratio: 69%)



Recommended metal mask pattern Metal mask thickness: Here, 120 μm (Opening area ratio: 87%)



^{*} See the dimension table on page 8 for more information on the B and C dimensions.

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