# **Panasonic** ideas for life

Narrow pitch connectors (0.4mm pitch)

For board-to-board For board-to-FPC

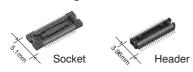
O4 Series



#### · Without soldering terminals



### With soldering terminals



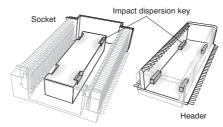
Products to be discontinued.

### **FEATURES**

- 1. 0.4 mm pitch and support for mated heights of up to 1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 3.5 mm, and 4.0 mm.
- 2. Strong resistance to adverse environments! Utilizes

TDUGH CONTRET construction for high contact reliability.

3. Constructed with impact dispersion keys inside the body to disperse shocks when dropped.



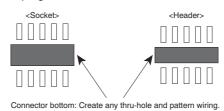
A high level of shock resistance is ensured by dispersing impact over the four locations where the socket indentations and header protrusions are mated together.

Note: The following numbers of pins are not supported due to suction surface factors.

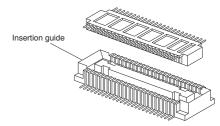
- · Without soldering terminals: 18 pin contacts or less
- With soldering terminals: 22 pin contacts or less

### 4. Construction makes designing devices easier.

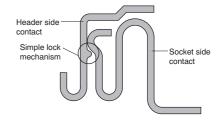
1) The lower connector bottom surface construction prevents contact and shorts between the PCB and metal terminals. This enables freedom in pattern wiring, helping to make PCB's smaller.



2) Guides are provided to take up any position shift and facilitate insertion.



3) Guides are provided to take up any position shift and facilitate insertion.



### 5. Design facilitates efficient mounting.

Features a terminal flatness of 0.08 mm, construction resistant to creeping flux, and design that allows visual inspection of the soldered part.

6. Connectors for inspection available

### **APPLICATIONS**

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

### **ORDERING INFORMATION**

AXK L	G
7: Narrow Pitch Connector P4 (0.4 mm pitch) Socket 8: Narrow Pitch Connector P4 (0.4 mm pitch) Header	
Number of pins (2 digits)	
Mated height <socket> 1: For mated height 1.5 mm 2: For mated height 2.0 mm 3: For mated height 2.5 mm and 3.0 mm 4: For mated height 3.5 mm 5: For mated height 4.0 mm <header> 1: For mated height 1.5 mm, 2.0 mm and 2.5 mm 2: For mated height 3.0 mm, 3.5 mm and 4.0 mm</header></socket>	
Functions 2: With soldering terminals, without positioning bosses 4: Without soldering terminals, without positioning bosses	
Surface treatment (Contact portion / Terminal portion) <socket> 7: Ni plating on base, Au plating on surface (for Ni barrier available) <header> 5: Ni plating on base, Au plating on surface</header></socket>	
Other specifications <header> W: V notch and post edge horseshoe bend type product</header>	
Packing G: 3,000 pieces embossed tape and plastic reel x 2*	

Notes: 1. Only a socket of mated height 3.5 mm and 4.0 mm: 2,000 pieces embossed tape and plastic reel x 2.

2. Please note that the models with a soldering terminals (8th digit of part number is "2") and those without a soldering terminals (8th digit of part number is "4") are shaped differently and are not compatible.

### **PRODUCT TYPES**

TOUGH CONTRCT 1. Without soldering terminals

. Without soldering terminals		*				
			umber	Pac	Packing	
Mated height	Number of pins	Socket	Header	Inner carton	Outer carton	
	4.4	TOUGH CONTRCT	TOUGH CONTRCT			
	14	AXK714147G	AXK814145WG	-		
	16	AXK716147G	AXK816145WG	-		
	20	AXK720147G AXK722147G	AXK820145WG AXK822145WG			
	24	AXK722147G AXK724147G	AXK824145WG	4		
	26	AXK724147G AXK726147G	AXK826145WG			
	(!) 28	AXK728147G AXK728147G	AXK828145WG	4		
	30	AXK720147G  AXK730147G	AXK830145WG	-		
	34	AXK730147G AXK734147G	AXK834145WG	7		
	(!) 36	AXK736147G	AXK836145WG			
1.5 mm	40	AXK740147G	AXK840145WG	_		
1.5 111111	(!) 42	AXK740147 G AXK742147 G	AXK842145WG	-		
	44	AXK744147G	AXK844145WG	_		
	50	AXK750147G	AXK850145WG	-		
	54	AXK754147G	AXK854145WG	_		
	60	AXK760147G	AXK860145WG			
	64	AXK764147G	AXK864145WG	7		
	70	AXK770147G	AXK870145WG	1		
	80	AXK780147G	AXK880145WG			
	(!) 90	AXK790147G	AXK890145WG			
	100	AXK700147G	AXK800145WG	7		
	14	AXK714247G	AXK814145WG			
	20	AXK720247G	AXK820145WG			
	24	AXK724247G	AXK824145WG			
	26	AXK726247G	AXK826145WG	7		
	30	AXK730247G	AXK830145WG			
	① 34	AXK734247G	AXK834145WG	7		
0.0	1 38	AXK738247G	AXK838145WG	T	0.000	
2.0 mm	40	AXK740247G	AXK840145WG	3,000 pieces	6,000 pieces	
	50	AXK750247G	AXK850145WG			
	<u>1</u> 54	AXK754247G	AXK854145WG			
	60	AXK760247G	AXK860145WG			
	70	AXK770247G	AXK870145WG			
	80	AXK780247G	AXK880145WG			
	<u>1</u> 100	AXK700247G	AXK800145WG			
	14	AXK714347G	AXK814145WG			
	20	AXK720347G	AXK820145WG			
	24	AXK724347G	AXK824145WG			
	30	AXK730347G	AXK830145WG			
	① 34	AXK734347G	AXK834145WG			
	40	AXK740347G	AXK840145WG			
2.5 mm	<u>•</u> 44	AXK744347G	AXK844145WG			
	50	AXK750347G	AXK850145WG			
	60	AXK760347G	AXK860145WG			
	70	AXK770347G	AXK870145WG			
	80	AXK780347G	AXK880145WG			
	(!) 90	AXK790347G	AXK890145WG			
	<u>(!)</u> 100	AXK700347G	AXK800145WG			
	20	AXK720347G	AXK820245WG	_		
	24	AXK724347G	AXK824245WG	4		
	30	AXK730347G	AXK830245WG	4		
3.0 mm	40	AXK740347G	AXK840245WG	4		
J.J IIIII	50	AXK750347G	AXK850245WG	4		
	60	AXK760347G	AXK860245WG	4		
	80	AXK780347G	AXK880245WG	4		
	100	AXK700347G	AXK800245WG			
	20	AXK720447G	AXK820245WG	<b>⊣</b>		
3.5 mm	30	AXK730447G	AXK830245WG	Socket: 2,000 pieces	Socket: 4,000 piec	
	40	AXK740447G	AXK840245WG	Header: 3,000 pieces	Header: 6,000 piec	

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.

<sup>2.</sup> The above part numbers are for connectors without positioning bosses, which are standard. When ordering connectors with positioning bosses, please contact our sales office.

<sup>3.</sup> Different number of pins are available on-demand production only. Please contact us for more details.

**†** TOUGH CONTRCT 2. With soldering terminals

		Part n	Pac	Packing		
Mated height	Number of pins	Socket	Header	Inner carton	Outer carton	
		TOUGH CONTACT	TDUGH CDNTACT			
	10	AXK710127G	AXK810125WG	_		
	1 12	AXK712127G	AXK812125WG			
	1 20	AXK720127G	AXK820125WG			
	(!) 22	AXK722127G	AXK822125WG			
	1 24	AXK724127G	AXK824125WG	_		
	(!) 28	AXK728127G	AXK828125WG			
	1 30	AXK730127G	AXK830125WG AXK834125WG	-		
1.5 mm	34 (!) 36	AXK734127G AXK736127G	AXK836125WG			
1.5 11111	40	AXK730127G AXK740127G	AXK840125WG			
	1 44	AXK740127G AXK744127G	AXK844125WG			
	1 46	AXK744127G AXK746127G	AXK846125WG			
	1 50	AXK740127G AXK750127G	AXK850125WG			
	1 60	AXK760127G	AXK860125WG			
	1 80	AXK780127G	AXK880125WG			
	1 90	AXK790127G	AXK890125WG			
	1 100	AXK700127G	AXK800125WG			
	1 20	AXK720227G	AXK820125WG			
	1 24	AXK724227G	AXK824125WG			
	1 30	AXK730227G	AXK830125WG			
	34	AXK734227G	AXK834125WG			
2.0 mm	1 40	AXK740227G	AXK840125WG	3,000 pieces	6,000 pieces	
	1 50	AXK750227G	AXK850125WG	o,ooo picaca	5,000 p.000	
	1 60	AXK760227G	AXK860125WG			
	1 80	AXK780227G	AXK880125WG			
	12	AXK712327G	AXK812125WG			
	20	AXK720327G	AXK820125WG			
	① 28	AXK728327G	AXK828125WG			
	32	AXK732327G	AXK832125WG			
0.5	<u>1</u> 36	AXK736327G	AXK836125WG			
2.5 mm	40	AXK740327G	AXK840125WG			
	<u>1</u> 50	AXK750327G	AXK850125WG			
	<u>(1)</u> 60	AXK760327G	AXK860125WG			
	<u>(1)</u> 80	AXK780327G	AXK880125WG			
	<u>(1)</u> 90	AXK790327G	AXK890125WG			
	20	AXK720327G	AXK820225WG			
	36	AXK736327G	AXK836225WG			
	<u>1</u> 40	AXK740327G	AXK840225WG			
3.0 mm	<u>(1)</u> 50	AXK750327G	AXK850225WG			
3.0 11111	60	AXK760327G	AXK860225WG			
	70	AXK770327G	AXK870225WG			
	80	AXK780327G	AXK880225WG			
	<u>(1)</u> 90	AXK790327G	AXK890225WG			
	① 20	AXK720427G	AXK820225WG			
	1 30	AXK730427G	AXK830225WG			
	1 40	AXK740427G	AXK840225WG	Socket: 2,000 pieces	Socket: 4,000 piece	
3.5 mm	1 50	AXK750427G	AXK850225WG	Header: 3,000 pieces	Header: 6,000 piece	
	60	AXK760427G	AXK860225WG			
	70	AXK770427G	AXK870225WG			
	80	AXK780427G	AXK880225WG			
	1 34	AXK734527G	AXK834225WG			
4.0 mm	1 42	AXK742527G	AXK842225WG	Socket: 2,000 pieces	Socket: 4,000 piece	
1.0 111111	<u>1</u> 50	AXK750527G	AXK850225WG	Header: 3,000 pieces	Header: 6,000 piece	
	<u>(1)</u> 80	AXK780527G	AXK880225WG			

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.

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.

3. Different number of pins are available on-demand production only. Please contact us for more details.

## **SPECIFICATIONS**

### 1. Characteristics

Item		Specifications	Conditions				
	Rated current	0.3A/pin contact (Max. 5 A at total pin contacts)					
	Rated voltage	60V AC/DC					
Electrical	Breakdown voltage	150V AC for 1 min.	Detection	Detection current: 1mA			
characteristics	Insulation resistance	Min. 1,000M $\Omega$ (initial)	Using 2	Using 250V DC megger (applied for 1 min.)			
	Contact resistance	Max. 70mΩ		Based on the contact resistance measurement me specified by JIS C 5402.			
	Composite insertion force	Max. 0.981N {100gf}/pin contacts × pin contacts (initial)		-			
Mechanical characteristics	Composite removal force	Min. 0.0588N {6gf}/pin contacts × pin contacts (Mated height 1.5 mm without soldering terminals type) Min. 0.118N {12gf}/pin contacts × pin contacts All the other types except the above (Mated height 1.5 mm without soldering terminals type)					
	Post holding force	Min. 0.981N {100gf}/pin contacts	Measuring the maximum force. As the contact is axially pull out.				
	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. 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. No dew condensation.				
	Thermal shock resistance (header and socket mated)			Conformed to MIL-STD-202F, method 107G			
		5 cycles,	Order	Temperature (°C)	Time (minutes)		
			1	-55 <sub>-9</sub>	30		
		insulation resistance min. 100M $\Omega$ ,	2	S	Max. 5		
Environmental	(fleader and socker fliated)	contact resistance max. 70mΩ	3	85 <sup>+3</sup>	30		
characteristics			4	\$	Max. 5		
				<b>−</b> 55 <sub>-3</sub> °			
	Humidity resistance (header and socket mated)	120 hours, insulation resistance min. $100M\Omega$ , contact resistance max. $70m\Omega$	Bath temperature 40±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. 70m $\Omega$		Bath temperature 35±2°C, saltwater concentration 5±1%			
	H <sub>2</sub> S resistance (header and socket mated)	48 hours, contact resistance max. 70mΩ	gas con	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				
Unit weight		Mated height 1.5mm, 20 pin contacts; Socket: 0.04g Header: 0.02g					

### 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 thick of terminal) However, upper terminal of Ni barrier production: Exposed over Ni The area adjacent to the terminal of the sockets on models with Ni barrier is exposed to Ni on base.
Soldering terminals portion	Copper alloy	Ni plating on base, Sn plating on surface (Except for front terminal)

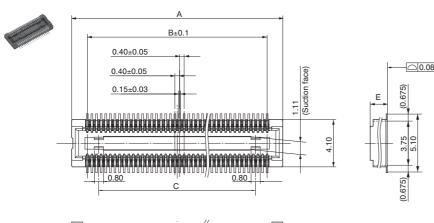
### **DIMENSIONS**

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. Without Soldering Terminals

Socket (Mated height: 1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 3.5 mm and 4.0 mm)



0.08



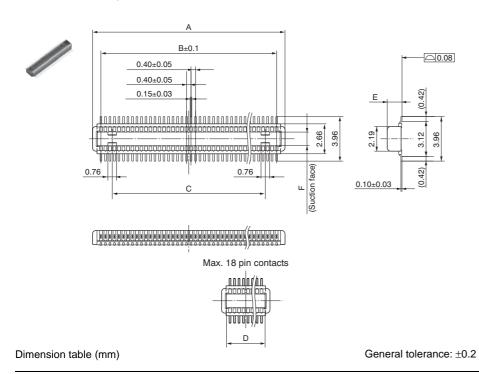


Dimension table (mm) General tolerance: ±0.2

Number of pins/ dimension	А	В	С	D
14	5.1	2.4		2.8
16	5.5	2.8	_	3.2
20	6.3	3.6	1.6	_
22	6.7	4.0	2.0	_
24	7.1	4.4	2.4	_
26	7.5	4.8	2.8	_
28	7.9	5.2	3.2	
30	8.3	5.6	3.6	_
34	9.1	6.4	4.4	_
36	9.5	6.8	4.8	_
38	9.9	7.2	5.2	_
40	10.3	7.6	5.6	_
42	10.7	8.0	6.0	_
44	11.1	8.4	6.4	_
50	12.3	9.6	7.6	_
54	13.1	10.4	8.4	_
60	14.3	11.6	9.6	
64	15.1	12.4	10.4	_
70	16.3	13.6	11.6	
80	18.3	15.6	13.6	
90	20.3	17.6	15.6	_
100	22.3	19.6	17.6	_

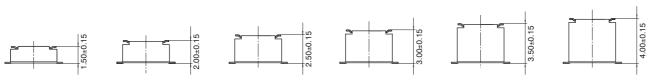
Mated height/dimension	E
1.5mm	1.50
2.0mm	1.92
2.5mm, 3.0mm	2.42
3.5mm	2.92
4.0mm	3.42

Header (Mated height: 1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 3.5 mm and 4.0 mm)



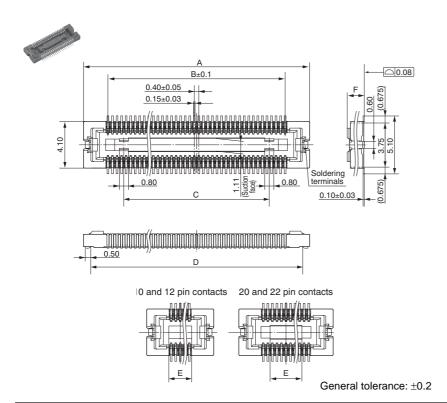
Number of pins/ dimension	А	В	С	D
14	3.9	2.4		3.04
16	4.3	2.8		3.44
20	5.1	3.6	1.6	
22	5.5	4.0	2.0	
24	5.9	4.4	2.4	
26	6.3	4.8	2.8	
28	6.7	5.2	3.2	
30	7.1	5.6	3.6	
34	7.9	6.4	4.4	
36	8.3	6.8	4.8	
38	8.7	7.2	5.2	
40	9.1	7.6	5.6	
42	9.5	8.0	6.0	
44	9.9	8.4	6.4	
50	11.1	9.6	7.6	
54	11.9	10.4	8.4	
60	13.1	11.6	9.6	_
64	13.9	12.4	10.4	_
70	15.1	13.6	11.6	
80	17.1	15.6	13.6	_
90	19.1	17.6	15.6	_
100	21.1	19.6	17.6	_
Mated height/dimension		E	F	
1.5mm, 2.0mm, 2.	1.31	1.20		
3.0mm, 3.5mm, 4.	0mm	2.26	1.26	

Socket and Header are mated



### 2. With Soldering Terminals

Socket (Mated height: 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm and 4.0mm)

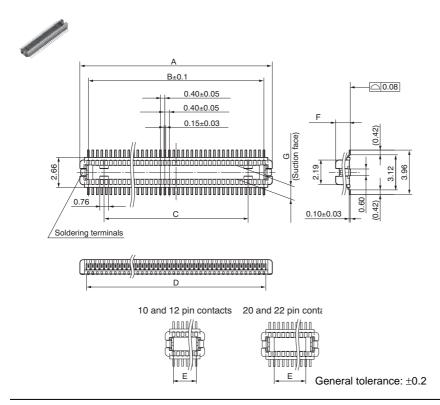


### Dimension table (mm)

Number of pins/ dimension	А	В	С	D	Е
10	5.90	1.60	_	4.60	2.00
12	6.30	2.00	_	5.00	2.40
20	7.90	3.60	_	6.60	2.40
22	8.30	4.00	_	7.00	2.80
24	8.70	4.40	1.60	7.40	
28	9.50	5.20	2.40	8.20	
30	9.90	5.60	2.80	8.60	
32	10.30	6.00	3.20	9.00	
34	10.70	6.40	3.60	9.40	
36	11.10	6.80	4.00	9.40	
40	11.90	7.60	4.80	10.60	
42	12.30	8.00	5.20	11.00	
44	12.70	8.40	5.60	11.40	
46	13.10	8.80	6.00	11.80	-
50	13.90	9.60	6.80	12.60	
60	15.90	11.60	8.80	14.60	-
70	17.90	13.60	10.80	16.60	
80	19.90	15.60	12.80	18.60	
90	21.90	17.60	14.80	20.60	_
100	23.90	19.60	16.80	22.60	_

Mated height/dimension	F
1.5mm	1.50
2.0mm	1.92
2.5mm, 3.0mm	2.42
3.5mm	2.92
4.0mm	3.42

Header (Mated height: 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm and 4.0mm)

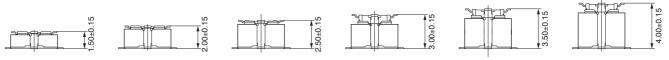


### Dimension table (mm)

Number of pins/ dimension	А	В	С	D	Е
10	3.10	1.60	_	1.94	1.64
12	3.50	2.00	_	2.34	2.04
20	5.10	3.60	_	3.94	2.80
22	5.50	4.00	_	4.34	3.20
24	5.90	4.40	1.60	4.74	_
28	6.70	5.20	2.40	5.54	_
30	7.10	5.60	2.80	5.94	
32	7.50	6.00	3.20	6.34	_
34	7.90	6.40	3.60	6.74	_
36	8.30	6.80	4.00	7.14	_
40	9.10	7.60	4.80	7.94	_
42	9.50	8.00	5.20	8.34	_
44	9.90	8.40	5.60	8.74	_
46	10.30	8.80	6.00	9.14	_
50	11.10	9.60	6.80	9.94	_
60	13.10	11.60	8.80	11.94	_
70	15.10	13.60	10.80	13.94	_
80	17.10	15.60	12.80	15.94	_
90	19.10	17.60	14.80	17.94	
100	21.10	19.60	16.80	19.94	_

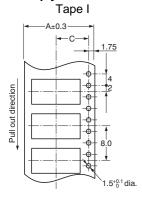
Mated height/dimension	F	G
1.5mm, 2.0mm, 2.5mm	1.31	1.20
3.0mm, 3.5mm, 4.0mm	2.26	1.26

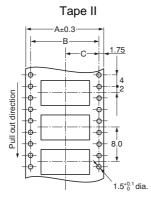
Socket and Header are mated.

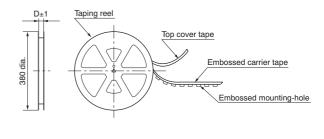


# EMBOSSED TAPE DIMENSIONS (unit: mm, Common for respective contact type, socket and header)

- Tape dimensions (Conforming to JIS C 0806-1990. However, some tapes have mounting hole pitches that do not comply with the standard.)
- Plastic reel dimensions (Conforming to EIAJ ET-7200B)







### Dimension table (mm)

1. Without Soldering Terminals

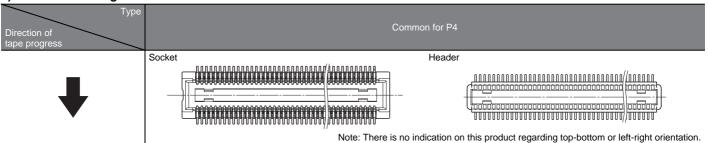
Mated height	Numbe	r of pins	Tuna of taning	۸	В	0	6	Ougantity nor roal	
Mated height	Socket	Header	Type of taping	A	Б	C	U	Quantity per reel	
	Max. 18	Max. 18	Tape I	16.0		7.5	17.4	3,000	
Common for socket and header: 1.5 mm, 2.0 mm, 2.5 mm and 3.0 mm	20 to 70	20 to 70	Tape I	24.0	1	11.5	25.4	3,000	
Header: 3.5mm and 4.0 mm	80 to 100	80 to 100	Tape II	32.0	28.4	14.2	33.4	3,000	
	80 to 100	-	Tape II	44.0	40.4	20.2	45.4	3,000	
Socket: 3.5mm and 4.0 mm	20 to 40		Tape I	24.0	1	11.5	25.4	2,000	

### 2. With Soldering Terminals

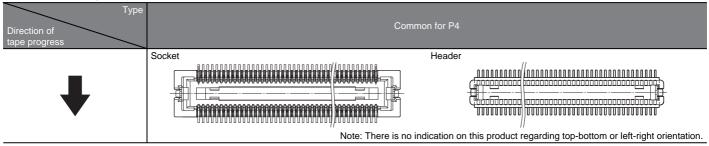
Mated height	Numbe Socket	r of pins Header	Type of taping	А	В	С	D	Quantity per reel
	Max. 18	Max. 18	Tape I	16.0	_	7.5	17.4	3,000
Common for socket and header: 1.5 mm, 2.0 mm, 2.5 mm and 3.0 mm	20 to 60	20 to 70	Tape I	24.0	_	11.5	25.4	3,000
Header: 3.5mm and 4.0 mm	70 to 90	80 to 100	Tape II	32.0	28.4	14.2	33.4	3,000
	100	_	Tape II	44.0	40.4	20.2	45.4	3,000
Socket: 3.5mm and 4.0 mm	20 t	o 60	Tape I	24.0	_	11.5	25.4	2,000
Sucket. S.Sillin and 4.0 mm	70 t	o 90	Tape II	32.0	28.4	14.2	33.4	2,000

3. Connector orientation with respect to direction of progress of embossed tape

### 1) Without soldering terminals



### 2) With soldering terminals





For board-to-board For board-to-FPC

Connectors for inspection usage (0.4mm pitch)

P4 Series



1 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

Durabust areas		Number of pins																						
Product name	10	12	14	16	20	22	24	26	28	30	34	36	40	42	44	46	50	54	60	64	70	80	90	100
P4 for inspection without soldering terminals			☆	<b>①</b> ☆	☆	☆	☆	☆	<u>(!</u>	☆	☆	<b>(!</b> ) ☆	☆	(!) ☆	☆		☆	☆	☆	☆	☆	☆	<b>!</b> ☆	☆
P4 for inspection with soldering terminals	☆	☆			☆	<b>①</b> ☆	(!) ☆		<b>①</b> ☆	<b>!</b> ☆	☆		☆	1	<b>!</b> ☆	(!) ☆	(!) ☆		☆			☆	(!) ☆	<b>(!</b> ☆

Notes: 1. You can use with each mated height in common.

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

### **PRODUCT TYPES**

	Specifi	cations	Part No.		Part No.			
Socket	i terminais	Without positioning bosses	AXK7E**26G	Header	With soldering terminals	Without positioning bosses	AXK8E**26WG	
Socket	Without soldering terminals	Without positioning bosses	AXK7E**46G		Without soldering terminals	Without positioning bosses	AXK8E**46WG	

Notes: 1. When placing an order, substitute the "\*" (asterisk) in the above part number with the number of pins for the specific connector.

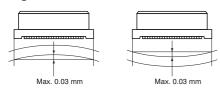
<sup>2.</sup> The above part numbers are for connectors without positioning bosses, which are standard. When ordering connectors with positioning bosses, please contact our sales office.

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



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

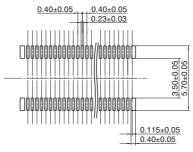
Connectors are mounted with high density, intervals of 0.35 mm, 0.4 mm or 0.5 mm.

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

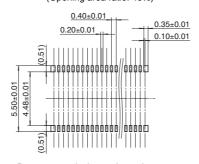
The figures to the right are recommended metal mask patterns. Please use them as a reference.

# 1) Without soldering terminals Socket

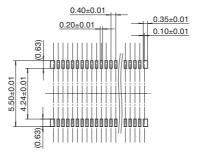
Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 μm (Opening area ratio: 40%)

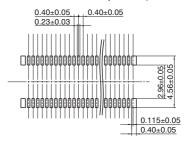


Recommended metal mask pattern Metal mask thickness: Here, 120 μm (Opening area ratio: 50%)

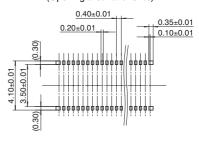


#### Header

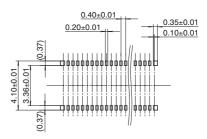
Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 μm (Opening area ratio: 32%)

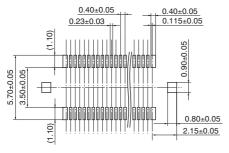


Recommended metal mask pattern Metal mask thickness: Here, 120 μm (Opening area ratio: 40%)

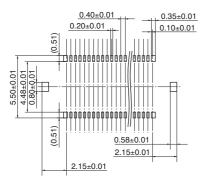


# 2) With soldering terminals Socket

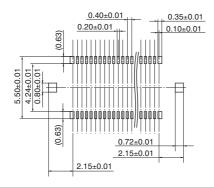
Recommended PC board pattern (TOP VIEW)



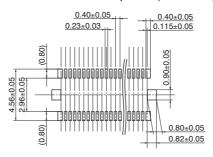
Recommended metal mask pattern Metal mask thickness: Here, 150 μm (Terminal portion opening area ratio: 40%) (Metal portion opening area ratio: 65%)



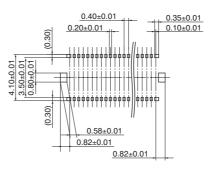
Recommended metal mask pattern Metal mask thickness: Here, 120 μm (Terminal portion opening area ratio: 50%) (Metal portion opening area ratio: 80%)



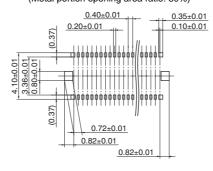
### Header Recommended PC board pattern (TOP VIEW)



Recommended metal mask pattern Metal mask thickness: Here, 150 μm (Terminal portion opening area ratio: 32%) (Metal portion opening area ratio: 65%)



Recommended metal mask pattern Metal mask thickness: Here, 120 µm (Terminal portion opening area ratio: 40%) (Metal portion opening area ratio: 80%)



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