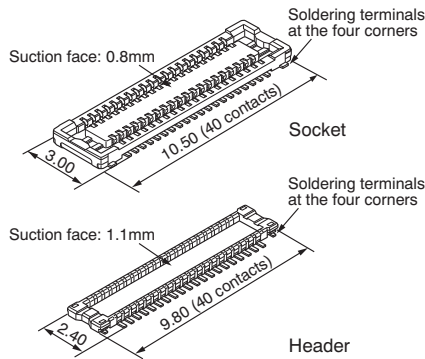
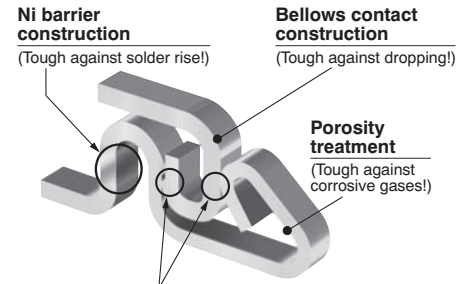


## FEATURES

- 0.6 mm mating height ultra-low profile two-piece connectors
- Space-saving (3.0 mm widthwise)  
The required space is smaller than our F4 series (40-contact type):  
Socket — 40% smaller,  
Header — 43% smaller  
The small size contributes to the miniaturization of target equipment.



- Ultra-low profile and high resistance to various environments achieved by the “**TOUGH CONTACT ADVANCED**” with high contact reliability



**V notch and Double contact constructions**  
(Tough against foreign particles and flux!)

- The simple lock structure for good mating/unmating operation feel.
- The gull-wing-shaped terminals facilitate imaging inspections.
- Connectors for inspection available (See page 5 for details.)

## APPLICATIONS

Compact and thin portable devices  
“Cellular phones, Digital cameras and DVC, etc”

## ORDERING INFORMATION

	AXE			1	2	4
3: Narrow Pitch Connector A4F (0.4 mm pitch) Socket						
4: Narrow Pitch Connector A4F (0.4 mm pitch) Header						
Number of contacts (2 digits)						
Mated height <Socket> / <Header>						
1: For mated height 0.6 mm						
Functions						
2: 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						

## PRODUCT TYPES

Mated height	Number of contacts	Part number		Packing	
		Socket	Header	Inner carton (1-reel)	Outer carton
0.6mm	10	AXE310124	AXE410124	5,000 pieces	10,000 pieces
	12	AXE312124	AXE412124		
	14	AXE314124	AXE414124		
	16	AXE316124	AXE416124		
	20	AXE320124	AXE420124		
	22	AXE322124	AXE422124		
	24	AXE324124	AXE424124		
	26	AXE326124	AXE426124		
	28	AXE328124	AXE428124		
	30	AXE330124	AXE430124		
	32	AXE332124	AXE432124		
	34	AXE334124	AXE434124		
	36	AXE336124	AXE436124		
	38	AXE338124	AXE438124		
	40	AXE340124	AXE440124		
	42	AXE342124	AXE442124		
	44	AXE344124	AXE444124		
	50	AXE350124	AXE450124		
54	AXE354124	AXE454124			
60	AXE360124	AXE460124			
64	AXE364124	AXE464124			
70	AXE370124	AXE470124			
80	AXE380124	AXE480124			

Notes: 1. Order unit:

For mass production: in 1-inner carton (1-reel) units

Samples for mounting check: in 50-connector units. Please contact our sales office.

Samples: Small lot orders are possible. Please contact our sales office.

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. Please contact us for connectors having a number of contacts other than those listed above.

## SPECIFICATIONS

### ■ Characteristics

	Item	Specifications	Conditions
Electrical characteristics	Rated current	0.3A/contact (Max. 5 A at total contacts)	
	Rated voltage	60V AC/DC	
	Breakdown voltage	150V AC for 1 min.	No short-circuiting or damage at a detection current of 1 mA when the specified voltage is applied for one minute.
	Insulation resistance	Min. 1,000M $\Omega$ (initial)	Using 250V DC megger (applied for 1 min.)
	Contact resistance	Max. 90m $\Omega$	Based on the contact resistance measurement method specified by JIS C 5402.
Mechanical characteristics	Composite insertion force	Max. 1.200N/contacts $\times$ contacts (initial)	
	Composite removal force	Min. 0.165N/contacts $\times$ contacts	
Environmental characteristics	Contact holding force (Socket contact)	Min. 0.20N/contacts	Measuring the maximum force. As the contact is axially pull out.
	Ambient temperature	-55°C to +85°C	No freezing at low temperatures. No dew condensation.
	Soldering heat resistance	Peak temperature: 260°C or less (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)	5 cycles, insulation resistance min. 100M $\Omega$ , contact resistance max. 90m $\Omega$	Sequence 1. -55 $\frac{3}{0}$ °C, 30 minutes 2. ~, Max. 5 minutes 3. 85 $\frac{3}{0}$ °C, 30 minutes 4. ~, Max. 5 minutes
	Humidity resistance (header and socket mated)	120 hours, insulation resistance min. 100M $\Omega$ , contact resistance max. 90m $\Omega$	Bath temperature 40 $\pm$ 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. 90m $\Omega$	Bath temperature 35 $\pm$ 2°C, saltwater concentration 5 $\pm$ 1%
H <sub>2</sub> S resistance (header and socket mated)	48 hours, contact resistance max. 90m $\Omega$	Bath temperature 40 $\pm$ 2°C, gas concentration 3 $\pm$ 1 ppm, humidity 75 to 80% R.H.	
Lifetime characteristics	Insertion and removal life	30 times	Repeated insertion and removal speed of max. 200 times/hours
Unit weight		20-contact type: Socket: 0.01 g Header: 0.01 g	

Material and surface treatment

Part name	Material	Surface treatment
Molded portion	LCP resin (UL94V-0)	—
Contact and Post	Copper alloy	Contact portion: Base: Ni plating Surface: Au plating Terminal portion: Base: Ni plating Surface: Au plating (except the terminal tips) The socket terminals close to the portion to be soldered have nickel barriers (exposed nickel portions). Soldering terminals: Sockets: Base: Ni plating Surface: Pd+Au flash plating (except the terminal tips) Headers: Base: Ni plating Surface: Au plating (except the terminal tips)

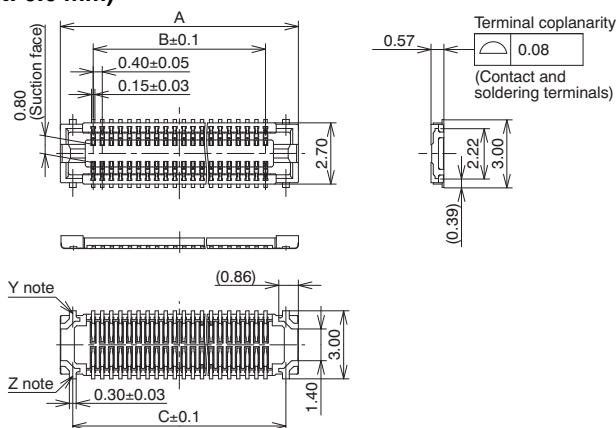
DIMENSIONS

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)

Socket (Mated height: 0.6 mm)

CAD Data



General tolerance: ±0.2

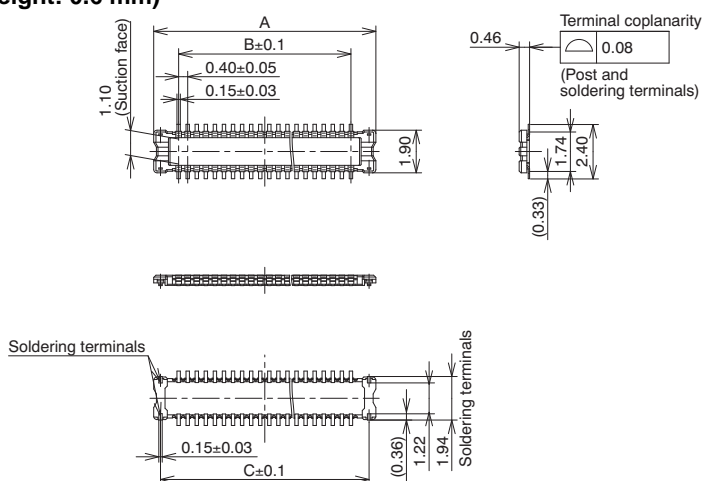
Note: Since the soldering terminals has a single-piece construction, sections Y and Z are electrically connected.

Dimension table (mm)

Number of contacts/dimension	A	B	C
10	4.5	1.6	3.4
12	4.9	2.0	3.8
14	5.3	2.4	4.2
16	5.7	2.8	4.6
20	6.5	3.6	5.4
22	6.9	4.0	5.8
24	7.3	4.4	6.2
26	7.7	4.8	6.6
28	8.1	5.2	7.0
30	8.5	5.6	7.4
32	8.9	6.0	7.8
34	9.3	6.4	8.2
36	9.7	6.8	8.6
38	10.1	7.2	9.0
40	10.5	7.6	9.4
42	10.9	8.0	9.8
44	11.3	8.4	10.2
50	12.5	9.6	11.4
54	13.3	10.4	12.2
60	14.5	11.6	13.4
64	15.3	12.4	14.2
70	16.5	13.6	15.4
80	18.5	15.6	17.4

Header (Mated height: 0.6 mm)

CAD Data



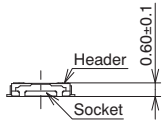
General tolerance: ±0.2

Dimension table (mm)

Number of contacts/dimension	A	B	C
10	3.8	1.6	3.2
12	4.2	2.0	3.6
14	4.6	2.4	4.0
16	5.0	2.8	4.4
20	5.8	3.6	5.2
22	6.2	4.0	5.6
24	6.6	4.4	6.0
26	7.0	4.8	6.4
28	7.4	5.2	6.8
30	7.8	5.6	7.2
32	8.2	6.0	7.6
34	8.6	6.4	8.0
36	9.0	6.8	8.4
38	9.4	7.2	8.8
40	9.8	7.6	9.2
42	10.2	8.0	9.6
44	10.6	8.4	10.0
50	11.8	9.6	11.2
54	12.6	10.4	12.0
60	13.8	11.6	13.2
64	14.6	12.4	14.0
70	15.8	13.6	15.2
80	17.8	15.6	17.2

# AXE3, 4

## ■ Socket and Header are mated



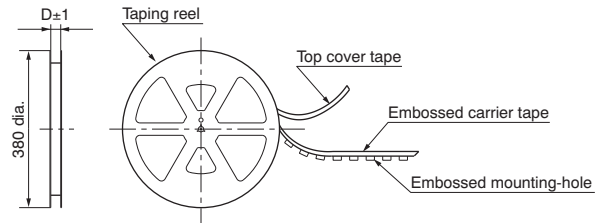
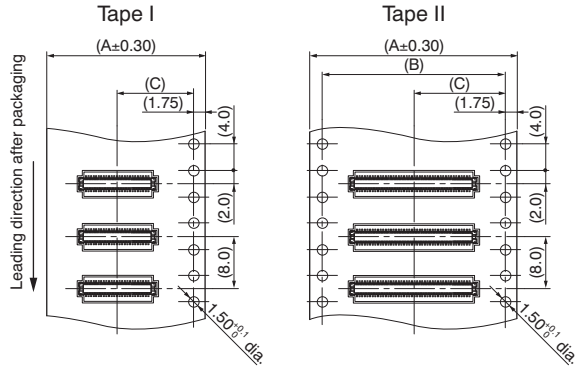
## EMBOSSED TAPE DIMENSIONS (Unit: mm) (Common for respective contact types, sockets and headers)

### ■ Specifications for taping

(In accordance with JIS C 0806-1990. However, not applied to the mounting-hole pitch of some connectors.)

### ■ Specifications for the plastic reel

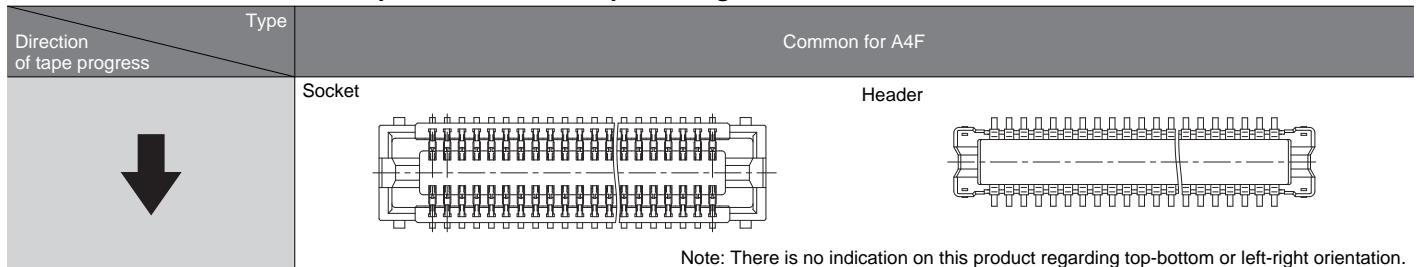
(In accordance with EIAJ ET-7200B.)

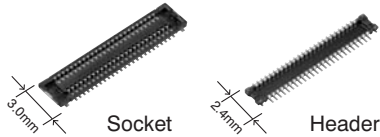


## ■ Dimension table (Unit: mm)

Type/Mated height	Number of contacts	Type of taping	A	B	C	D	Quantity per reel
Common for sockets and headers 0.6 mm	24 or less	Tape I	16.0	—	7.5	17.4	5,000
	26 to 70	Tape II	24.0	—	11.5	25.4	5,000
	80	Tape II	32.0	28.4	14.2	33.4	5,000

## ■ Connector orientation with respect to embossed tape feeding direction





## FEATURES

- 3,000 insertion and removals (when as recommended)**
- Same external dimensions and foot pattern as standard type.**
- Improved mating**  
Insertion and removal have become easier due to a reduction in the mating retention force required by the simple locking structure and also in the amount of force needed for insertion and removal. (We cannot warrant anything regarding mating retention.)

## APPLICATIONS

Ideal for module unit inspection and equipment assembly inspection

## TABLE OF PRODUCT TYPES

☆: Available for sale

Product name	Number of contacts																						
	10	12	14	16	20	22	24	26	28	30	32	34	36	38	40	42	44	50	54	60	64	70	80
A4F for inspection	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆

- Notes: 1. Please inquire about numbers of contacts other than those given above.  
 2. Please inquire with us regarding delivery times.  
 3. Please keep the minimum unit for ordering no less than 50 pieces per lot.  
 4. Please inquire for further information.

## PRODUCT TYPES

Specifications		Part No.	Specifications		Part No.
Socket	Without positioning bosses	AXE3E**26	Header	Without positioning bosses	AXE4E**26

Note: When placing an order, substitute the "\*" (asterisk) in the above part number with the number of contacts for the required connector.

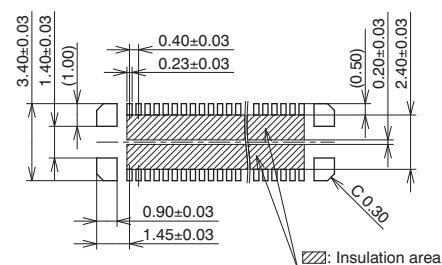
## NOTES

### Recommended PC board and metal mask patterns

Appropriate control of solder amount is required to minimize solder bridges and other defects for connectors with 0.4-mm or 0.5-mm pitch terminals, which require high-density mounting. Refer to the right-hand drawing for recommended patterns.

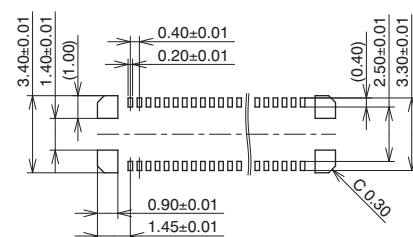
#### • Socket (Mated height: 0.6 mm)

Recommended PC board pattern (TOP VIEW)



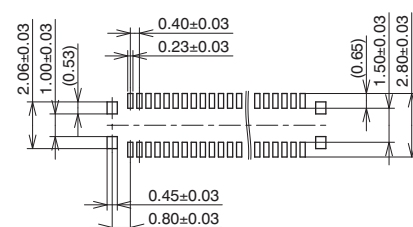
#### Recommended metal mask opening pattern

Metal mask thickness: When 120μm  
 (Terminal opening ratio: 70%)  
 (Metal-part opening ratio: 100%)



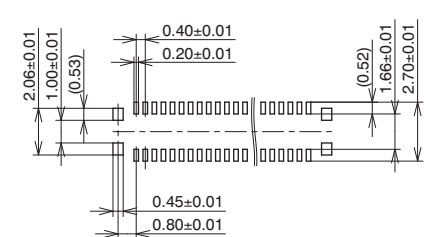
#### • Header (Mated height: 0.6 mm)

Recommended PC board pattern (TOP VIEW)



#### Recommended metal mask opening pattern

Metal mask thickness: When 120μm  
 (Terminal opening ratio: 70%)  
 (Metal-part opening ratio: 100%)



For Cautions for Use, see the "GENERAL NOTES ON USING ADVANCED SERIES NARROW-PITCH CONNECTORS" of the [Connector Technical Information](#). For other details, please verify with the product specification sheets.