

### Screw Mount Eliminated to Save Space. Adjustable Stacking Space of 12 to 20 mm Adds Greater Flexibility.

- The stacking space can be adjusted from 12 to 20 mm in 1-mm increments.
- A pitch of 1.27 mm for high-density mounting in double-row arrangements.
- A quadruple-row staggered arrangement (1.27 x 1.905 mm) for board connection.
- All models incorporate fastening pins to secure the terminals, thus preventing floating or falling over during soldering.
- Leaf contact construction enables smooth mating and resistance to bending.
- Space saving mating length of 3.1 mm.
- Press fitting assures long-term contact quality. The gold/palladium plating has been improved for better contact reliability.
- Not mated with XH2 and XH4 Half-pitch Connectors.
- See the "Standards certification / conformity list" for information on conformity to certification standards.

**RoHS Compliant**

### ■ Terminology

#### • Standard

To vertically connect the printed-wiring board, connect the socket straight terminal connector to the mother board (main board) side and connect the plug right-angle terminal connector to the daughter board (sub board) side.

#### • Reverse

To vertically connect the printed-wiring board, connect the plug straight terminal connector to the mother board (main board) side and connect the socket right-angle terminal connector to the daughter board (sub board) side.

#### • Stacking

Connects the printed-wiring boards parallel to each other. The distance between the boards here is called "stacking height".

#### • Horizontal

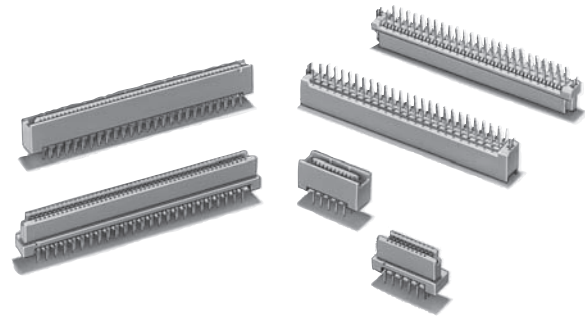
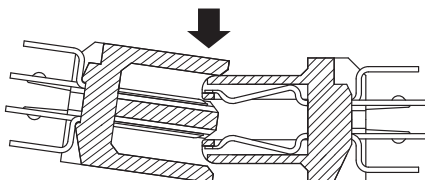
Connect the printed-wiring boards horizontally.

#### • Leaf contact construction

In this structure, contacts are protected by the housing.

#### Mating figure of the XH3A/XH3B

The contacts are protected by the housing when mated so that they do not readily deform.



### ■ Ratings and Characteristics

|                                |                                                |
|--------------------------------|------------------------------------------------|
| Rated current                  | 0.5 A                                          |
| Rated voltage                  | 125 VAC                                        |
| Contact resistance (See note.) | 30 mΩ max. (20 mV max., 100 mA max.)           |
| Insulation resistance          | 1,000 MΩ min. (at 500 VDC)                     |
| Dielectric strength            | 650 VAC for 1 min (leakage current: 1 mA max.) |
| Total insertion force          | 0.78 N max. per contact                        |
| Total removal force            | 0.10 N min. per contact                        |
| Insertion durability           | 400 times                                      |
| Ambient operating temperature  | -55 to 105°C (with no condensation or icing)   |

**Note:** The contact resistance is for the XH3A-□□41 combined with the XH3B-□□41.

### ■ Materials and Finish

| Item           | Type       | Plug                                                | Socket                                              |
|----------------|------------|-----------------------------------------------------|-----------------------------------------------------|
| Housing        |            | PBT (UL94 V-0)/gray                                 |                                                     |
| Locator        |            | PBT (UL94 V-0)/gray                                 |                                                     |
| Contacts       | Mating end | Phosphor bronze/nickel base, gold/palladium plating | Phosphor bronze/nickel base, gold/palladium plating |
|                | Terminal   | Phosphor bronze/nickel base, tin plating            | Phosphor bronze/nickel base, tin plating            |
| Fastening pins |            | Copper alloy/tin plating                            |                                                     |

# XH3A Plug, Straight DIP Terminals

## ■ Dimensions

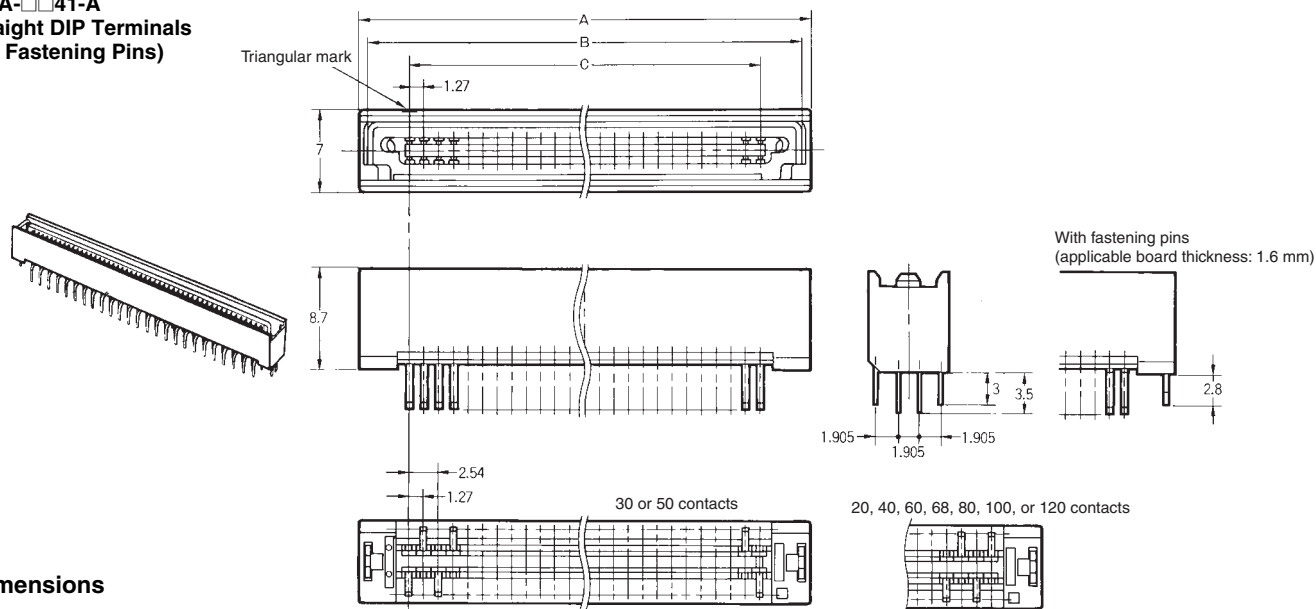
(unit: mm)

XH3A-□□41

(Straight DIP Terminals)

XH3A-□□41-A

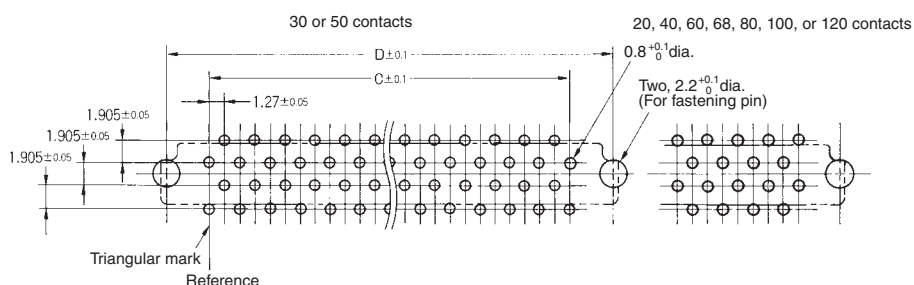
(Straight DIP Terminals  
with Fastening Pins)



### Dimensions

| Dimensions<br>(mm) | A    | B    | C     | D     |
|--------------------|------|------|-------|-------|
| No. of contacts    |      |      |       |       |
| 20                 | 20.0 | 18.7 | 11.43 | 18.54 |
| 30                 | 26.4 | 25.1 | 17.78 | 24.89 |
| 40                 | 32.7 | 31.4 | 24.13 | 31.24 |
| 50                 | 39.1 | 37.8 | 30.48 | 37.59 |
| 60                 | 45.4 | 44.1 | 36.83 | 43.94 |
| 68                 | 50.5 | 49.2 | 41.91 | 49.02 |
| 80                 | 58.1 | 56.8 | 49.53 | 56.64 |
| 100                | 70.8 | 69.5 | 62.23 | 69.34 |
| 120                | 83.5 | 82.2 | 74.93 | 82.04 |

### Mounting holes (bottom view)



## ■ Ordering Information

| Model           | Plug/Straight DIP Terminals | Plug/Straight DIP Terminals with fastening pins (See note.) |
|-----------------|-----------------------------|-------------------------------------------------------------|
| No. of contacts |                             |                                                             |
| 20              | XH3A-2041                   | XH3A-2041-A                                                 |
| 30              | XH3A-3041                   | XH3A-3041-A                                                 |
| 40              | XH3A-4041                   | XH3A-4041-A                                                 |
| 50              | XH3A-5041                   | XH3A-5041-A                                                 |
| 60              | XH3A-6041                   | XH3A-6041-A                                                 |
| 68              | XH3A-6841                   | XH3A-6841-A                                                 |
| 80              | XH3A-8041                   | XH3A-8041-A                                                 |
| 100             | XH3A-0141                   | XH3A-0141-A                                                 |
| 120             | XH3A-0241                   | XH3A-0241-A                                                 |

**Note:** Applicable board thickness is 1.6 mm.

# XH3A Plug, Straight DIP Terminals

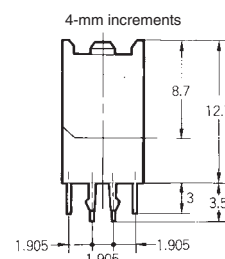
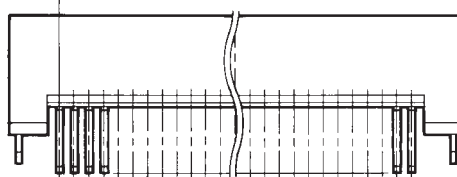
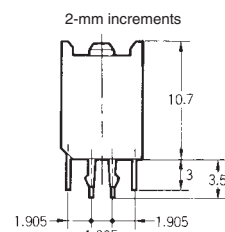
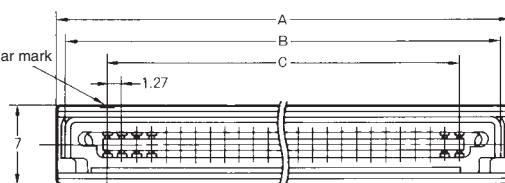
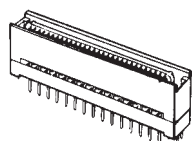
## Stacking Space Adjustable in Increments of 2 or 4 mm

### ■ Dimensions

(unit: mm)

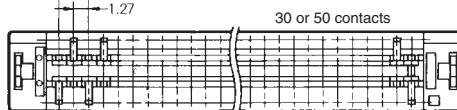
XH3A-□□41-2A (2-mm Increments)  
(Straight DIP Terminals with Fastening Pins)

XH3A-□□41-4A (4-mm Increments)  
(Straight DIP Terminals with Fastening Pins)

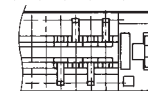


### Dimensions

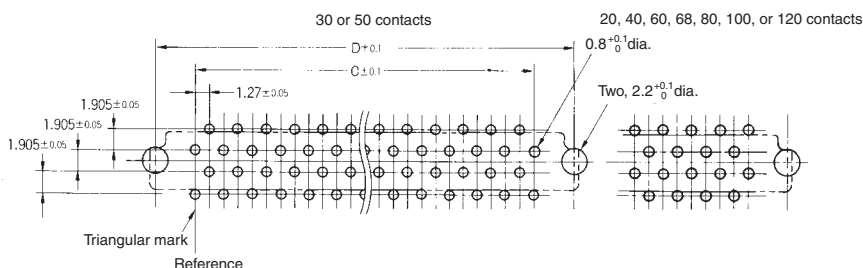
| Dimensions (mm) | A    | B    | C     | D     |
|-----------------|------|------|-------|-------|
| No. of contacts |      |      |       |       |
| 20              | 20.0 | 18.7 | 11.43 | 18.54 |
| 30              | 26.4 | 25.1 | 17.78 | 24.89 |
| 40              | 32.7 | 31.4 | 24.13 | 31.24 |
| 50              | 39.1 | 37.8 | 30.48 | 37.59 |
| 60              | 45.4 | 44.1 | 36.83 | 43.94 |
| 68              | 50.5 | 49.2 | 41.91 | 49.02 |
| 80              | 58.1 | 56.8 | 49.53 | 56.64 |
| 100             | 70.8 | 69.5 | 62.23 | 69.34 |
| 120             | 83.5 | 82.2 | 74.93 | 82.04 |



20, 40, 60, 68, 80, 100, or 120 contacts



Reference  
Mounting holes  
(bottom view)



### ■ Ordering Information

| Model           | Plug/Straight DIP Terminals with fastening pins (2-mm Increments) (See note.) | Plug/Straight DIP Terminals with fastening pins (4-mm Increments) (See note.) |
|-----------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| No. of contacts |                                                                               |                                                                               |
| 20              | XH3A-2041-2A                                                                  | XH3A-2041-4A                                                                  |
| 30              | XH3A-3041-2A                                                                  | XH3A-3041-4A                                                                  |
| 40              | XH3A-4041-2A                                                                  | XH3A-4041-4A                                                                  |
| 50              | XH3A-5041-2A                                                                  | XH3A-5041-4A                                                                  |
| 60              | XH3A-6041-2A                                                                  | XH3A-6041-4A                                                                  |
| 68              | XH3A-6841-2A                                                                  | XH3A-6841-4A                                                                  |
| 80              | XH3A-8041-2A                                                                  | XH3A-8041-4A                                                                  |
| 100             | XH3A-0141-2A                                                                  | XH3A-0141-4A                                                                  |
| 120             | XH3A-0241-2A                                                                  | XH3A-0241-4A                                                                  |

**Note:** Applicable board thickness is 1.6 mm.

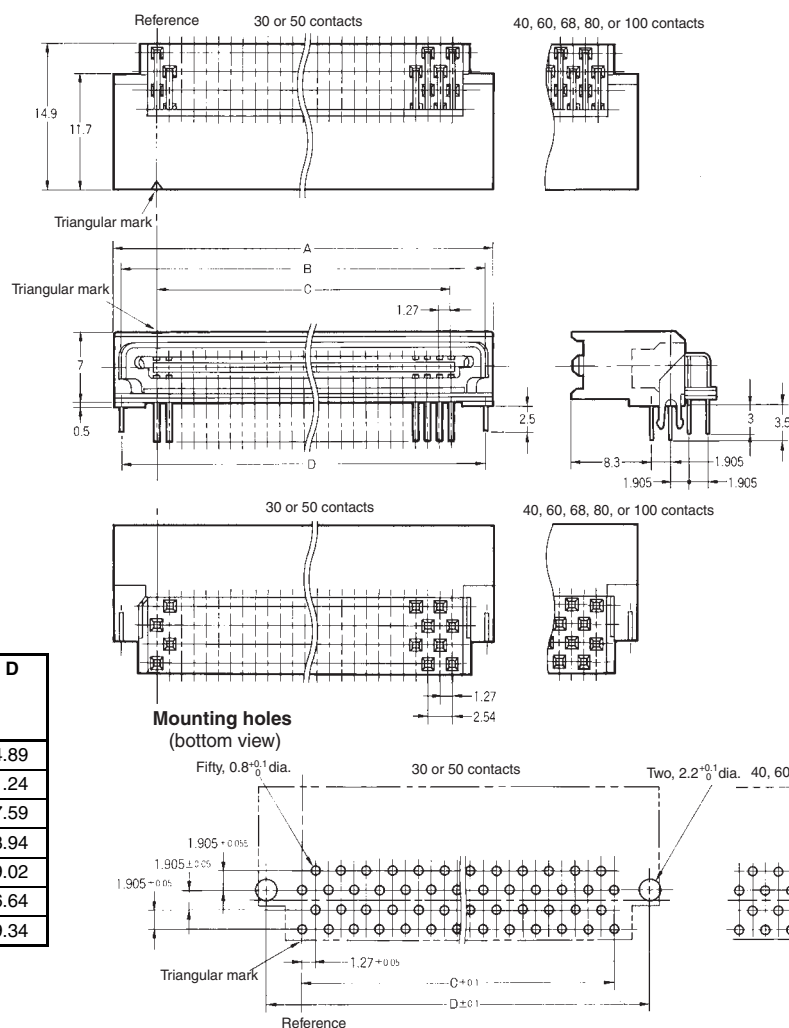
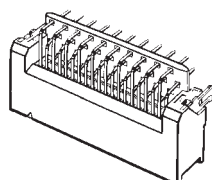
# XH3A Plug, Right-angle DIP Terminals

## ■ Dimensions

(unit: mm)

XH3-□□42-A

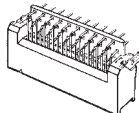
(Right-angle DIP Terminals with Fastening Pins)



### Dimensions

| Dimensions (mm) | A    | B    | C     | D     |
|-----------------|------|------|-------|-------|
| No. of contacts |      |      |       |       |
| 30              | 26.4 | 25.1 | 17.78 | 24.89 |
| 40              | 32.7 | 31.4 | 24.13 | 31.24 |
| 50              | 39.1 | 37.8 | 30.48 | 37.59 |
| 60              | 45.4 | 44.1 | 36.83 | 43.94 |
| 68              | 50.5 | 49.2 | 41.91 | 49.02 |
| 80              | 58.1 | 56.8 | 49.53 | 56.64 |
| 100             | 70.8 | 69.5 | 62.23 | 69.34 |

## ■ Ordering Information

| Model           | Plug/Right-angle DIP Terminals with fastening pins (See note.)                      |
|-----------------|-------------------------------------------------------------------------------------|
| No. of contacts |  |
| 30              | XH3A-3042-A                                                                         |
| 40              | XH3A-4042-A                                                                         |
| 50              | XH3A-5042-A                                                                         |
| 60              | XH3A-6042-A                                                                         |
| 68              | XH3A-6842-A                                                                         |
| 80              | XH3A-8042-A                                                                         |
| 100             | XH3A-0142-A                                                                         |

**Note:** Applicable board thickness is 1.6 mm.

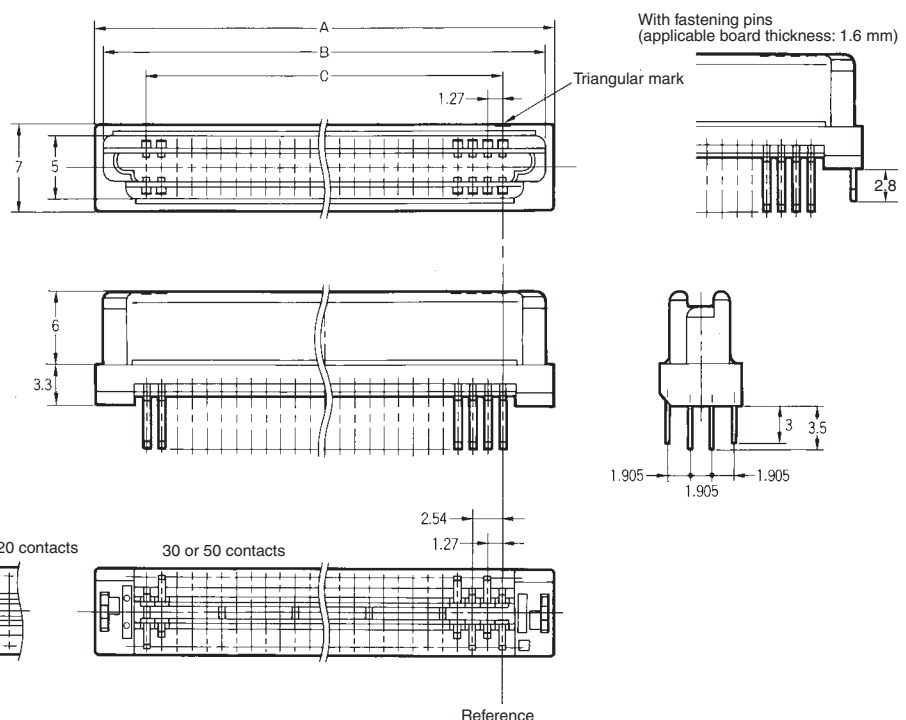
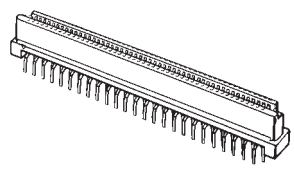
# XH3B Socket, Straight DIP Terminals

## ■ Dimensions

(unit: mm)

XH3B-□□41  
(Straight DIP Terminals)

XH3B-□□41-A  
(Straight DIP Terminals with Fastening Pins)

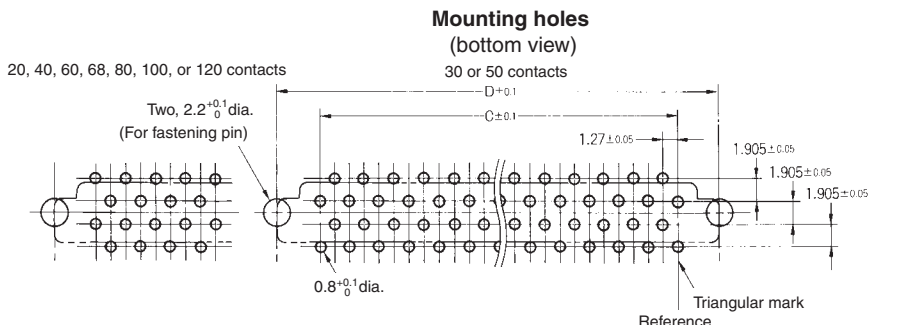


20, 40, 60, 68, 80, 100, or 120 contacts

30 or 50 contacts

### Dimensions

| Dimensions (mm) | A    | B    | C     | D     |
|-----------------|------|------|-------|-------|
| No. of contacts |      |      |       |       |
| 20              | 20.0 | 18.6 | 11.43 | 18.54 |
| 30              | 26.4 | 25.0 | 17.78 | 24.89 |
| 40              | 32.7 | 31.3 | 24.13 | 31.24 |
| 50              | 39.1 | 37.7 | 30.48 | 37.59 |
| 60              | 45.4 | 44.0 | 36.83 | 43.94 |
| 68              | 50.5 | 49.1 | 41.91 | 49.02 |
| 80              | 58.1 | 56.7 | 49.53 | 56.64 |
| 100             | 70.8 | 69.4 | 62.23 | 69.34 |
| 120             | 83.5 | 82.1 | 74.93 | 82.04 |



## ■ Ordering Information

| Model           | Socket/Straight DIP Terminals | Socket/Straight DIP Terminals with fastening pins (See note.) |
|-----------------|-------------------------------|---------------------------------------------------------------|
| No. of contacts |                               |                                                               |
| 20              | XH3B-2041                     | XH3B-2041-A                                                   |
| 30              | XH3B-3041                     | XH3B-3041-A                                                   |
| 40              | XH3B-4041                     | XH3B-4041-A                                                   |
| 50              | XH3B-5041                     | XH3B-5041-A                                                   |
| 60              | XH3B-6041                     | XH3B-6041-A                                                   |
| 68              | XH3B-6841                     | XH3B-6841-A                                                   |
| 80              | XH3B-8041                     | XH3B-8041-A                                                   |
| 100             | XH3B-0141                     | XH3B-0141-A                                                   |
| 120             | XH3B-0241                     | XH3B-0241-A                                                   |

**Note:** Applicable board thickness is 1.6 mm.

# XH3B Socket, Straight DIP Terminals

## Stacking Space Adjustable in Increments of 1, 3, and 4 mm

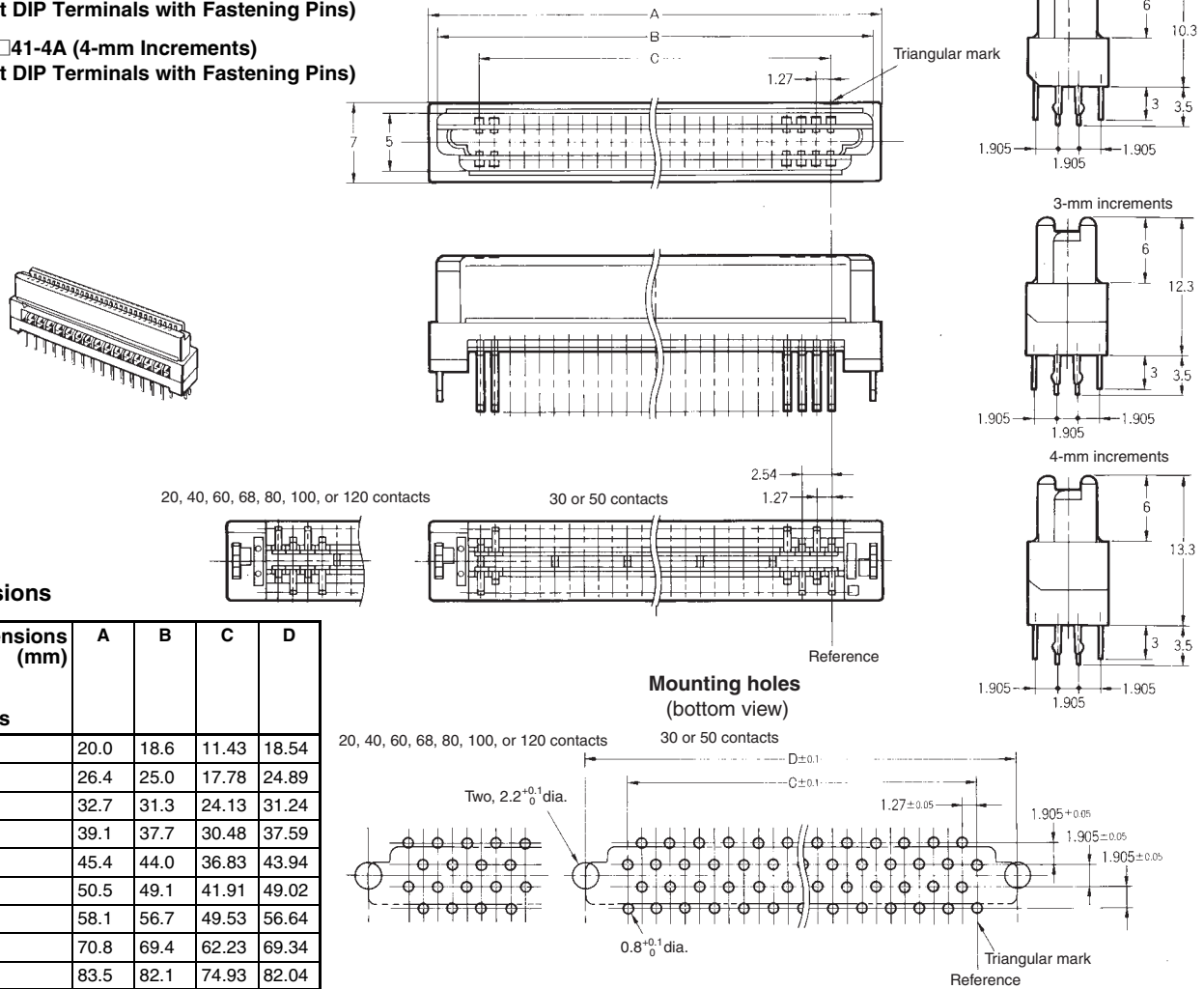
### ■ Dimensions

(unit: mm)

XH3B-□□41-1A (1-mm Increment)  
(Straight DIP Terminals with Fastening Pins)

XH3B-□□41-3A (3-mm Increments)  
(Straight DIP Terminals with Fastening Pins)

XH3B-□□41-4A (4-mm Increments)  
(Straight DIP Terminals with Fastening Pins)



### Dimensions

| Dimensions (mm) | A    | B    | C     | D     |
|-----------------|------|------|-------|-------|
| No. of contacts |      |      |       |       |
| 20              | 20.0 | 18.6 | 11.43 | 18.54 |
| 30              | 26.4 | 25.0 | 17.78 | 24.89 |
| 40              | 32.7 | 31.3 | 24.13 | 31.24 |
| 50              | 39.1 | 37.7 | 30.48 | 37.59 |
| 60              | 45.4 | 44.0 | 36.83 | 43.94 |
| 68              | 50.5 | 49.1 | 41.91 | 49.02 |
| 80              | 58.1 | 56.7 | 49.53 | 56.64 |
| 100             | 70.8 | 69.4 | 62.23 | 69.34 |
| 120             | 83.5 | 82.1 | 74.93 | 82.04 |

### ■ Ordering Information

| Model           | Socket/Straight DIP Terminals with fastening pins (1-mm increment) (See note.) | Socket/Straight DIP Terminals with fastening pins (3-mm increments) (See note.) | Socket/Straight DIP Terminals with fastening pins (4-mm increments) (See note.) |
|-----------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| No. of contacts |                                                                                |                                                                                 |                                                                                 |
| 20              | XH3B-2041-1A                                                                   | XH3B-2041-3A                                                                    | XH3B-2041-4A                                                                    |
| 30              | XH3B-3041-1A                                                                   | XH3B-3041-3A                                                                    | XH3B-3041-4A                                                                    |
| 40              | XH3B-4041-1A                                                                   | XH3B-4041-3A                                                                    | XH3B-4041-4A                                                                    |
| 50              | XH3B-5041-1A                                                                   | XH3B-5041-3A                                                                    | XH3B-5041-4A                                                                    |
| 60              | XH3B-6041-1A                                                                   | XH3B-6041-3A                                                                    | XH3B-6041-4A                                                                    |
| 68              | XH3B-6841-1A                                                                   | XH3B-6841-3A                                                                    | XH3B-6841-4A                                                                    |
| 80              | XH3B-8041-1A                                                                   | XH3B-8041-3A                                                                    | XH3B-8041-4A                                                                    |
| 100             | XH3B-0141-1A                                                                   | XH3B-0141-3A                                                                    | XH3B-0141-4A                                                                    |
| 120             | XH3B-0241-1A                                                                   | XH3B-0241-3A                                                                    | XH3B-0241-4A                                                                    |

**Note:** Applicable board thickness is 1.6 mm.

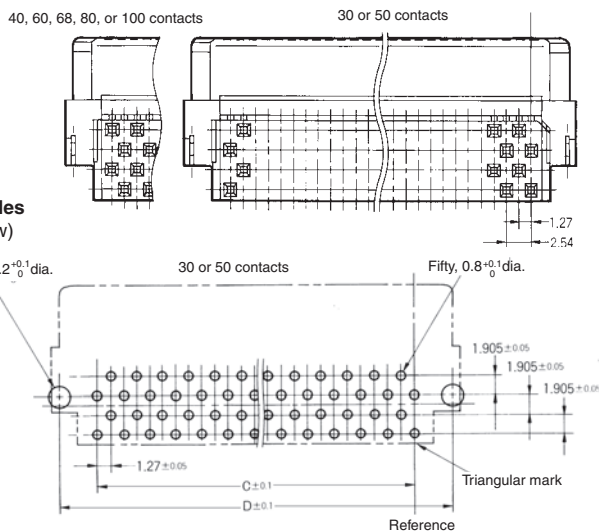
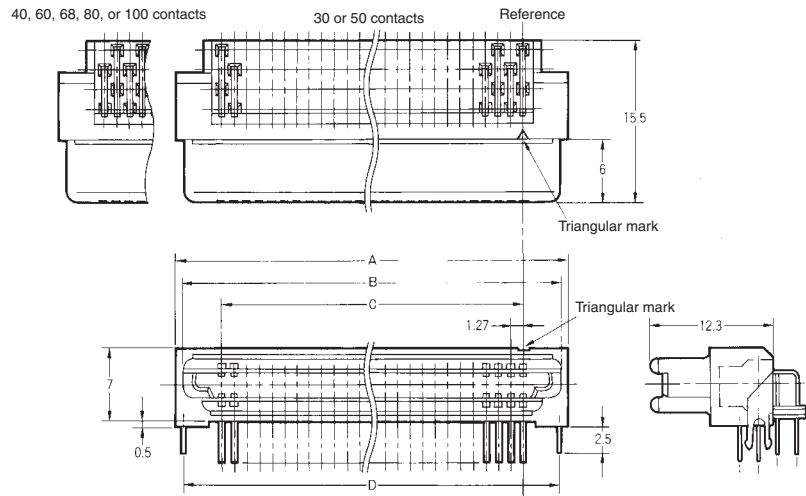
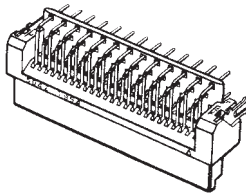
# XH3B Socket, Right-angle DIP Terminals

## ■ Dimensions

(unit: mm)

XH3B-□□42-A

(Right-angle DIP Terminals with Fastening Pins)



Dimensions

| Dimensions (mm) | A    | B    | C     | D     |
|-----------------|------|------|-------|-------|
| No. of contacts |      |      |       |       |
| 30              | 26.4 | 25.0 | 17.78 | 24.89 |
| 40              | 32.7 | 31.3 | 24.13 | 31.24 |
| 50              | 39.1 | 37.7 | 30.48 | 37.59 |
| 60              | 45.4 | 44.0 | 36.83 | 43.94 |
| 68              | 50.5 | 49.1 | 41.91 | 49.02 |
| 80              | 58.1 | 56.7 | 49.53 | 56.64 |
| 100             | 70.8 | 69.4 | 62.23 | 69.34 |

## ■ Ordering Information

| Model           | Plug/Right-angle DIP Terminals with fastening pins (See note.) |
|-----------------|----------------------------------------------------------------|
|                 |                                                                |
| No. of contacts |                                                                |
| 30              | XH3B-3042-A                                                    |
| 40              | XH3B-4042-A                                                    |
| 50              | XH3B-5042-A                                                    |
| 60              | XH3B-6042-A                                                    |
| 68              | XH3B-6842-A                                                    |
| 80              | XH3B-8042-A                                                    |
| 100             | XH3B-0142-A                                                    |

**Note:** Applicable board thickness is 1.6 mm.

# Mating Diagram

(unit: mm)

## Vertical/Horizontal/Stacking

| Vertical (standard) (See note.) | Vertical (reverse) | Stacking | Horizontal |
|---------------------------------|--------------------|----------|------------|
|                                 |                    |          |            |

**Note:** The function of the standard and reverse models is the same as that of the standard XC5 DIN Connectors.

## Stacking Space Adjustable Models

| Stacking space | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm |
|----------------|-------|-------|-------|-------|-------|
| Mating diagram |       |       |       |       |       |
| Stacking space | 17 mm | 18 mm | 19 mm | 20 mm |       |
| Mating diagram |       |       |       |       |       |

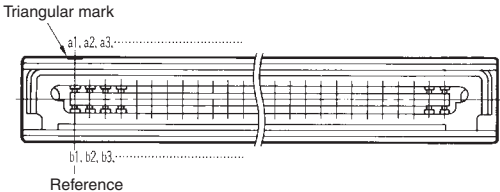
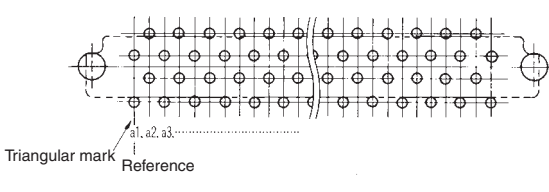
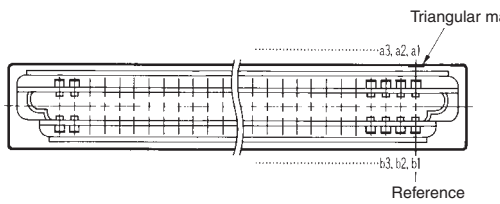
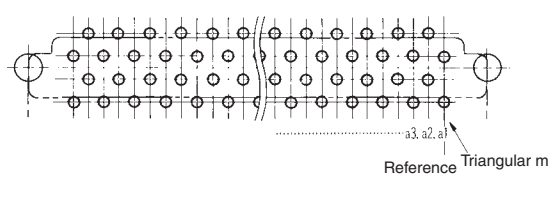
## Combinations

| Socket                         | XH3B-□□41<br>XH3B-□□41-A | 1-mm increment<br>XH3B-□□41-1A | 3-mm increments<br>XH3B-□□41-3A | 4-mm increments<br>XH3B-□□41-4A |
|--------------------------------|--------------------------|--------------------------------|---------------------------------|---------------------------------|
| Plug                           |                          |                                |                                 |                                 |
| XH3A-□□41, XH3A-□□41-A         | 12 mm                    | 13 mm                          | (15 mm) (See note.)             | (16 mm) (See note.)             |
| 2-mm increment<br>XH3A-□□41-2A | 14 mm                    | 15 mm                          | (17 mm) (See note.)             | 18 mm                           |
| 4-mm increment<br>XH3A-□□41-4A | 16 mm                    | 17 mm                          | 19 mm                           | 20 mm                           |

**Note:** Combinations marked with parentheses must be avoided if possible.



■ Contact Numbers

| Item                             | Mated diagram                                                                     | Mounting holes (bottom view)                                                       |
|----------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Model                            |                                                                                   |                                                                                    |
| Plug,<br>Straight<br>Terminals   |  |  |
| Socket,<br>Straight<br>Terminals |  |  |

- Contact numbers are not printed on the connectors. Use the triangular mark (▼) as a guide when designing and mounting to boards.
- On the mating side, the row of terminals on the triangular mark side are called row a, and the row on the other side is called row b. The numbers are in the order shown.
- The triangular marks on the plug and socket must be aligned when mated. The contact numbers on both sides must match.

■ Precautions

Correct Use

**Mating Compatibility**

XH3 Half-pitch Connectors do not mate with XH2 or XH4 Half-pitch Connectors.

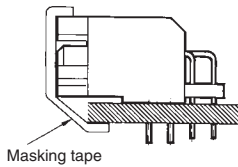
**Flux Rise**

These Connectors were designed for automatic soldering. If you use a foaming device or brush on flux from the front side, the amount of applied flux will increase and may cause flux rise. Do not use these methods to apply flux.

**Soldering**

Automated soldering

Use tape to mask the Right-angle Terminal Connector prior to automated soldering.



**Automated Soldering  
Conditions (Jet Flow)**

1. Soldering temperature:  $250 \pm 5^{\circ}\text{C}$
2. Continuous soldering time: Within  $5 \pm 1$  s  
(Be sure to wash the board after continuous soldering is completed.)

Please check each region's Terms & Conditions by region website.

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## OMRON Corporation

Electronic and Mechanical Components Company

### Regional Contact

#### Americas

<https://www.components.omron.com/>

#### Asia-Pacific

<https://ecb.omron.com.sg/>

#### Korea

<https://www.omron-ecb.co.kr/>

#### Europe

<http://components.omron.eu/>

#### China

<https://www.ecb.omron.com.cn/>

#### Japan

<https://www.omron.co.jp/ecb/>