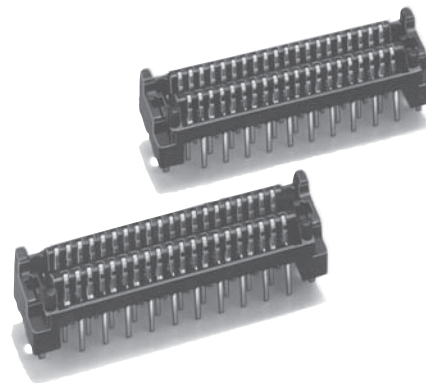


### An Integrated Male/ Female Half-pitch Stacking Connector with Board Space Adjustable from 5 to 11 mm.

- Board space can be adjusted from 5 to 11 mm in 1-mm increments. (Surface-mounted Connectors can be adjusted from 5 to 9 mm in 1-mm increments.)
- The product line includes DIP and SMT Connectors.
- Integrated male/female Connectors.
- All models incorporate fastening pins to secure the terminals, thus preventing floating or falling over during soldering.
- The leaf contact construction resists bending.
- Not mated with XH2 and XH3 Half-pitch Connectors.



### ■ Terminology

#### • SMT

The abbreviation of Surface Mount Technology.

#### • Integrated male/female Connectors

The male (plug) and female (socket) have the same shape.

### ■ 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          | 1.47 N max. per contact                        |
| Total removal force            | 0.15 N min. per contact                        |
| Insertion durability           | 50 times                                       |
| Ambient operating temperature  | –55 to 105°C (with no condensation or icing)   |

**Note:** The contact resistance depends on which XH4A-□□31 Connectors are mated to each other.

### ■ Materials and Finish

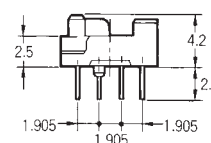
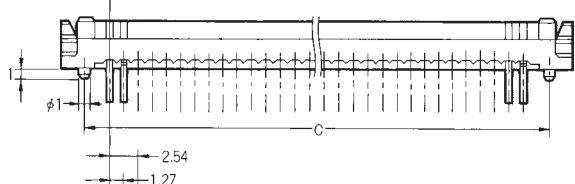
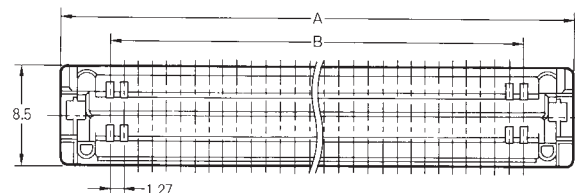
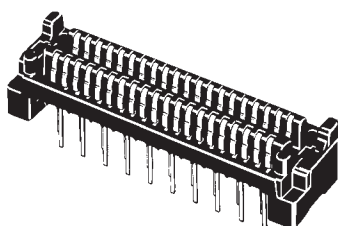
|                |            |   |
|----------------|------------|---|
| Housing        |            | PPS (UL94 V-0)/black                            |
| Locator        |            | PBT (UL94 V-0)/black                            |
| Contacts       | Mating end | Phosphor bronze/nickel base, gold plating       |
|                | Terminal   | Phosphor bronze/nickel base, gold flash plating |
| Fastening pins |            | Copper alloy/tin plating                        |

# XH4A Straight DIP Terminals

## ■ Dimensions

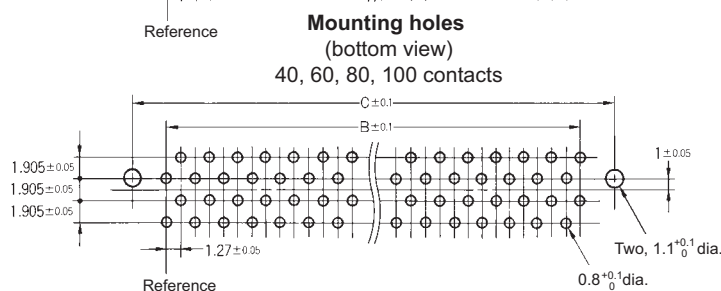
(unit: mm)

XH4A-□□31  
(Straight DIP Terminals)



### Dimensions

| Dimensions (mm) | A     | B     | C     |
|-----------------|-------|-------|-------|
| No. of contacts |       |       |       |
| 40              | 32.73 | 24.13 | 28.63 |
| 50              | 39.08 | 30.48 | 34.98 |
| 60              | 45.43 | 36.83 | 41.33 |
| 80              | 58.13 | 49.53 | 54.03 |
| 100             | 70.83 | 62.23 | 66.73 |



## ■ Ordering Information

| Model           | Straight DIP Terminals |
|-----------------|------------------------|
|                 |                        |
| No. of contacts |                        |
| 40              | XH4A-4031              |
| 50              | XH4A-5031              |
| 60              | XH4A-6031              |
| 80              | XH4A-8031              |
| 100             | XH4A-0131              |

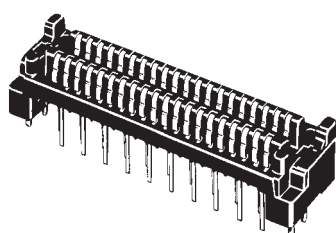
# XH4A Straight DIP Terminals

Stacking Space Adjustable in Standard Size and 1-, 2-, or 3-mm Increments

## ■ Dimensions

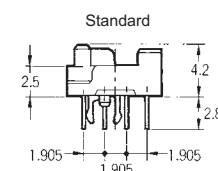
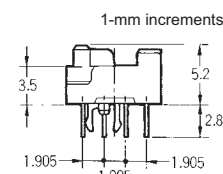
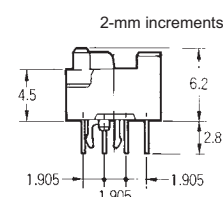
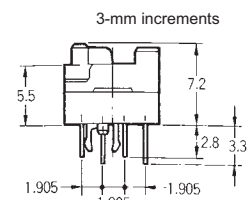
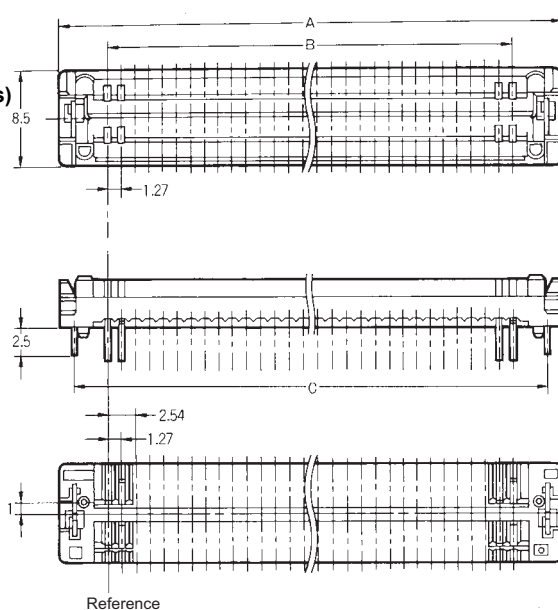
(unit: mm)

XH4A-□□31-A (Standard)  
XH4A-□□31-1A (1-mm Increment)  
XH4A-□□31-2A (2-mm Increments)  
XH4A-□□31-3A (3-mm Increments)  
(Straight DIP Terminals with Fastening Pins)

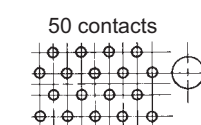
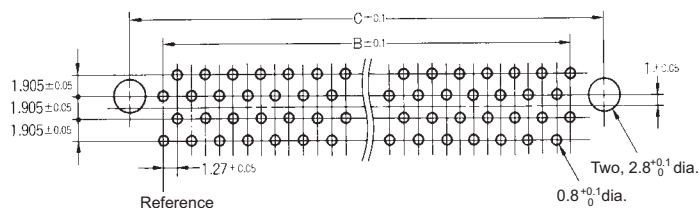


Dimensions

| Dimensions (mm) | A     | B     | C     |
|-----------------|-------|-------|-------|
| No. of contacts |       |       |       |
| 40              | 32.73 | 24.13 | 30.23 |
| 50              | 39.08 | 30.48 | 36.58 |
| 60              | 45.43 | 36.83 | 42.93 |
| 80              | 58.13 | 49.53 | 55.63 |
| 100             | 70.83 | 62.23 | 68.33 |



Mounting holes  
(bottom view)  
40, 60, 80, 100 contacts



## ■ Ordering Information

| Model           | Straight DIP Terminals with fastening pins (See note.) (Standard) | Straight DIP Terminals with fastening pins (See note.) (1-mm increment) | Straight DIP Terminals with fastening pins (See note.) (2-mm increments) | Straight DIP Terminals with fastening pins (See note.) (3-mm increments) |
|-----------------|---|---|--|--|
| No. of contacts |   |   |  |  |
| 40              | XH4A-4031-A   | XH4A-4031-1A  | XH4A-4031-2A   | XH4A-4031-3A   |
| 50              | XH4A-5031-A   | XH4A-5031-1A  | XH4A-5031-2A   | XH4A-5031-3A   |
| 60              | XH4A-6031-A   | XH4A-6031-1A  | XH4A-6031-2A   | XH4A-6031-3A   |
| 80              | XH4A-8031-A   | XH4A-8031-1A  | XH4A-8031-2A   | XH4A-8031-3A   |
| 100             | XH4A-0131-A   | XH4A-0131-1A  | XH4A-0131-2A   | XH4A-0131-3A   |

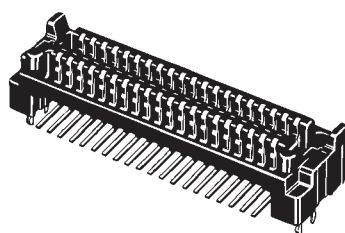
Note: Applicable board thickness is 1.6 mm.

# XH4A SMT Terminals

## Stacking Space Adjustable in Standard Size and 1- or 2-mm Increments

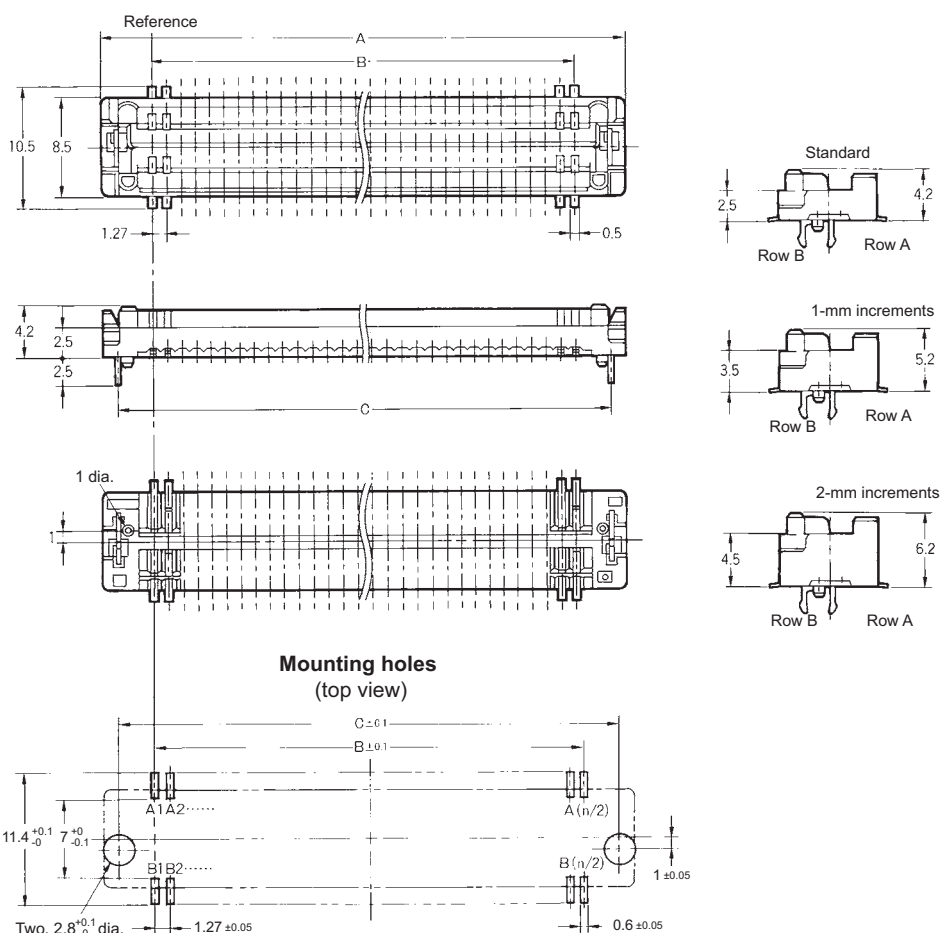
### ■ Dimensions

XH4A-□□35-A (Standard)  
 XH4A-□□35-1A (1-mm Increment)  
 XH4A-□□35-2A (2-mm Increments)  
 (SMT Terminals with Fastening Pins)



#### Dimensions

| Dimensions (mm) | A     | B     | C     |
|-----------------|-------|-------|-------|
| No. of contacts |       |       |       |
| 40              | 32.73 | 24.13 | 30.23 |
| 50              | 39.08 | 30.48 | 36.58 |
| 60              | 45.43 | 36.83 | 42.93 |
| 80              | 58.13 | 49.53 | 55.63 |
| 100             | 70.83 | 62.23 | 68.33 |



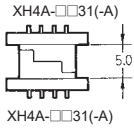
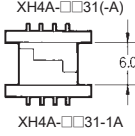
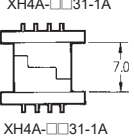
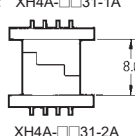
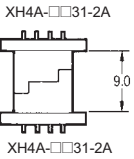
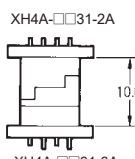
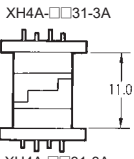
### ■ Ordering Information

| Model           | SMT Terminals with fastening pins<br>(See note.) (Standard) | SMT Terminals with fastening pins<br>(See note.) (1-mm increment) | SMT Terminals with fastening pins<br>(See note.) (2-mm increments) |
|-----------------|---|---|--|
| No. of contacts |   |   |  |
| 40              | XH4A-4035-A   | XH4A-4035-1A  | XH4A-4035-2A   |
| 50              | XH4A-5035-A   | XH4A-5035-1A  | XH4A-5035-2A   |
| 60              | XH4A-6035-A   | XH4A-6035-1A  | XH4A-6035-2A   |
| 80              | XH4A-8035-A   | XH4A-8035-1A  | XH4A-8035-2A   |
| 100             | XH4A-0135-A   | XH4A-0135-1A  | XH4A-0135-2A   |

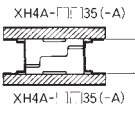
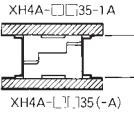
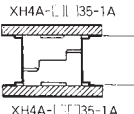
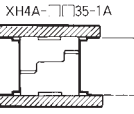
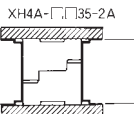
**Note:** Applicable board thickness is 1.6 mm.

# Mating Diagram (unit: mm)

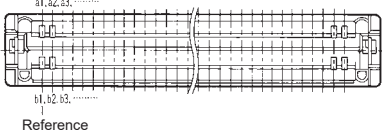
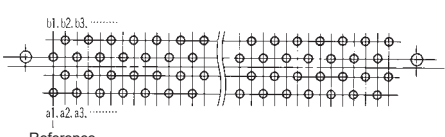
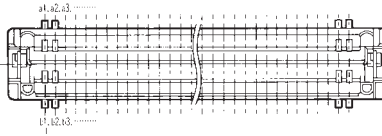

## Stacked DIP Terminals

| Stacking space | 5 mm  | 6 mm  | 7 mm  | 8 mm  |
|----------------|---|---|---|---|
| Mating diagram |  |  |  |  |
| Stacking space | 9 mm  | 10 mm   | 11 mm   |   |
| Mating diagram |  |  |  |   |

## Stacked SMT Terminals

| Stacking space | 5 mm  | 6 mm  | 7 mm  | 8 mm  | 9 mm  |
|----------------|---|---|---|---|---|
| Mating diagram |  |  |  |  |  |

## Contact Numbers

| Item          | Mated Diagram   | Mounting holes  |
|---------------|---|---|
| Model         |   |   |
| DIP Terminals |  | (bottom view)<br> |
| SMT Terminals |  | (top view)<br>   |

• The triangular mark (▼) and contact numbers are not printed on the connectors. Use the raised reference point used to prevent reverse insertion as a guide when designing boards.

• On the mating side, the row of terminals on the raised reference point side are called row a, and the row on the other side is called row b. The numbers are in the order shown.

• XH4A Half-pitch Connectors are integrated male/female connectors. The contact numbers on row a correspond to the contact numbers on row b. Be careful when using these connectors because they function slightly differently from separate male and female connectors (i.e., Plugs and Sockets).

## Precautions

### Correct Use

#### PCB settings

XH4A Half-pitch Connectors are male/female connectors with integrated plugs and sockets.

Refer to **Contact Numbers** above when designing boards.

### Mating Compatibility

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

### Soldering Conditions

Straight DIP Terminals (Automated Soldering)

- (1) Soldering temperature: 250±5°C
- (2) Continuous soldering time: Within 5±1 s

Be sure to wash the board after automated soldering is completed.

### SMT Terminals

Recommended reflow conditions

Pre-heat temperature: 150±10°C

Pre-heat time: 60 to 120 s

Soldering temperature: 200 to 240°C

Soldering time: Within 30 s

(Within 10 s at the maximum temperature of 240°C)

## ■ Approval Standard

The approval rating values for overseas standards are different from the performance values determined individually. Confirm the values before use.

| Model        | Standard                          | File No. | Rating        |
|--------------|-----------------------------------|----------|---------------|
| XH4A-□□31    | UL certified product (Recognized) | E103202  | 29.9 V, 0.5 A |
| XH4A-□□31-A  | UL certified product (Recognized) | E103202  | 29.9 V, 0.5 A |
| XH4A-□□31-1A | UL certified product (Recognized) | E103202  | 29.9 V, 0.5 A |
| XH4A-□□31-2A | UL certified product (Recognized) | E103202  | 29.9 V, 0.5 A |
| XH4A-□□31-3A | UL certified product (Recognized) | E103202  | 29.9 V, 0.5 A |
| XH4A-□□35-A  | UL certified product (Recognized) | E103202  | 29.9 V, 0.5 A |
| XH4A-□□35-1A | UL certified product (Recognized) | E103202  | 29.9 V, 0.5 A |
| XH4A-□□35-2A | UL certified product (Recognized) | E103202  | 29.9 V, 0.5 A |



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Device & Module Solutions Company

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