

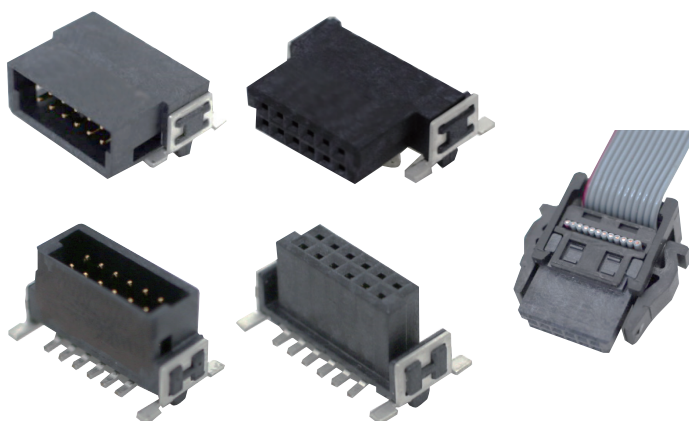
# XH5-N

Half-pitch SMT Connectors (Board to Board and Board to Cable Connectors)

## SMT Connectors with a 1.27-mm Pitch

- These SMT Connectors can be mounted on the back surfaces of circuit boards.
- Circuit board positioning bosses provide for accurate mounting on circuit boards.
- Compatible with reflow mounting.
- Board-to-board stacking height of 8 to 12.3 mm with stacking connections.

RoHS Compliant



## Terminology

### ● SMT

An abbreviation for surface-mount technology.

### ● Stacking connections

Stacking circuit boards and connecting them parallel to each other.

The distance between the stacked circuit boards is called the stacking height.




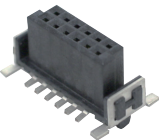
### ● Vertical connection


Connecting a circuit board so that it is vertical.

### ● Horizontal connection

Connecting a circuit board so that it is horizontal.

## Connectors

Model	XH5A-□□15-N	XH5E-□□15-□N	XH5F-□□15-N	XH5B-□□15-□N
Appearance	Plug, Right-angle, SMT Pins 	Plug, Straight, SMT Pins 	Socket, Right-angle, SMT Pins 	Socket, Straight, SMT Pins 
Page	Page 3		Page 5	

Model	XH5H-□□10-□□N
Appearance	Cable with Connectors on Both Ends (Socket/Socket) 
Page	Page 7

# XH5-N

## Part Number Structure

### Half-pitch Connectors

XH5   -    15 -   N  
(1)        (2)        (3)

(1) Type

Code	Type
A	Right-angle Plug
B	Straight Socket
E	Straight Plug
F	Right-angle Socket

(2) Number of contacts

Code	Number of contacts
12	12 pins
26	26 pins
50	50 pins
68	68 pins
80	80 pins

(3) Height of Straight Plug/Socket

Code	Height
NO	- (Right-angle Plug/Socket)
1	6.75mm
2	8.25mm
4	6.25mm
5	9.05mm

### Half-pitch Connectors Cable with Connectors on Both Ends

XH5H -   10 -    N  
(1)        (2)

(1) Number of contacts

Code	Number of contacts
12	12 pins
26	26 pins
50	50 pins
68	68 pins
80	80 pins

(2) Cable Length

Code	Length
10	100 mm
20	200 mm
30	300 mm

## Ratings / Characteristics

Rated current	1A
Rated voltage	100 VAC
Contact resistance	25 mΩ max. (at 20 m VDC, 100 mA max.)
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength	500 VAC for 1 min (leakage current: 1 mA max.)
Insertion durability	500 times
Ambient operating temperature	-55 to 105°C (with no condensation or icing)

## Materials and Finish

Housing		LCP (UL94 V-0)/black
Contacts	Mating end	Copper alloy/gold plated
	Terminals	Copper alloy/tin plated
Hold-down		Copper alloy/tin plated

## XH5A-N/XH5E-N

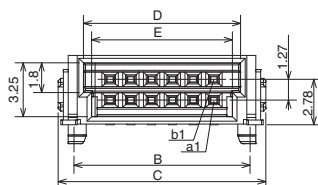
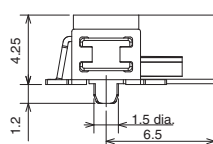
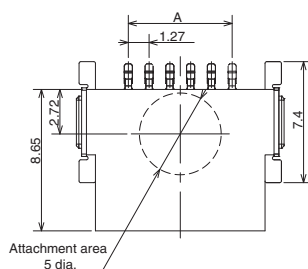
Plug, Right-angle, SMT Pins, Straight, SMT Pins

## Dimensions

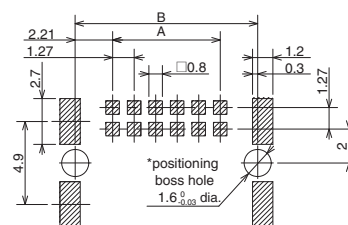
(Unit: mm)

XH5A-□□15-N  
(Right-angle, SMT Pins)

CAD Data



## Mounting Holes

(Tolerance:  $\pm 0.03$ )**Note:** The overall pattern pitch tolerance for the board is  $\pm 0.03$ .

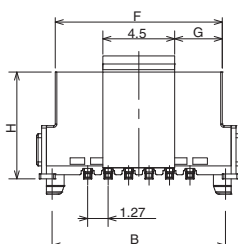
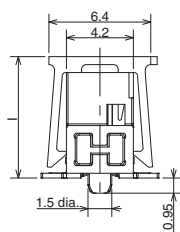
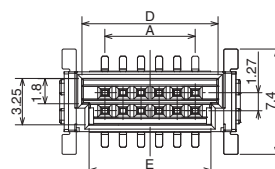
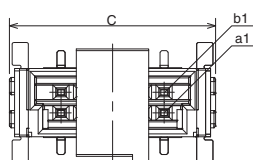
\* Do not accumulate error.  
The 1.6 $^{+0.03}_{-0.03}$  diameter holes are for the positioning bosses. Use metal masks to prevent solder from entering these holes.

Table of Dimensions

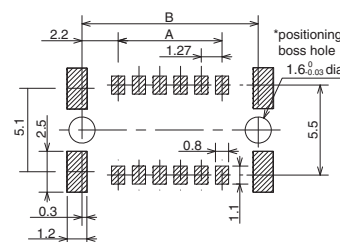
Model	Number of contacts	A	B	C	D	E
XH5A-1215-N	12	6.35	10.77	12.70	9.57	8.57
XH5A-2615-N	26	15.24	19.66	21.59	18.46	17.46
XH5A-5015-N	50	30.48	34.90	36.83	33.70	32.70
XH5A-6815-N	68	41.91	46.33	48.26	45.13	44.13
XH5A-8015-N	80	49.53	53.95	55.88	52.75	51.75

XH5E-□□15-□N  
(Straight, SMT Pins)

CAD Data



## Mounting Holes

(Tolerance:  $\pm 0.03$ )**Note:** The overall pattern pitch tolerance for the board is  $\pm 0.03$ .

\* Do not accumulate error.  
The 1.6 $^{+0.03}_{-0.03}$  diameter holes are for the positioning bosses. Use metal masks to prevent solder from entering these holes.

Table of Dimensions

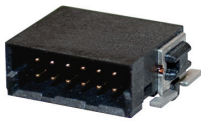
Model	Number of contacts	A	B	C	D	E	F	G	H	I
XH5E-1215-□N	12	6.35	10.77	12.70	9.57	8.57	10.37	2.96	1: 6.6 2: 8.1	1: 7.6 2: 9.1
XH5E-2615-□N	26	15.24	19.66	21.59	18.46	17.46	19.26	7.40		
XH5E-5015-□N	50	30.48	34.90	36.83	33.70	32.70	34.50	15.02		
XH5E-6815-□N	68	41.91	46.33	48.26	44.13	44.13	45.93	20.74		
XH5E-8015-□N	80	49.53	53.95	55.88	52.75	51.75	53.55	24.55		

**Note:** □ is replaced by 1 to 2 to indicate the connector height type.

# XH5-N

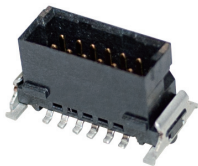
## Ordering Information

Right-angle, SMT Pins



Number of contacts	Model	Quantity per reel (pcs)
12	XH5A-1215-N	560
26	XH5A-2615-N	
50	XH5A-5015-N	
68	XH5A-6815-N	
80	XH5A-8015-N	

Straight, SMT Pins



Number of contacts	Height (mm)	Model	Quantity per reel (pcs)
12	6.75	XH5E-1215-1N	280
	8.25	XH5E-1215-2N	
26	6.75	XH5E-2615-1N	
	8.25	XH5E-2615-2N	
50	6.75	XH5E-5015-1N	
	8.25	XH5E-5015-2N	
68	6.75	XH5E-6815-1N	
	8.25	XH5E-6815-2N	
80	6.75	XH5E-8015-1N	
	8.25	XH5E-8015-2N	

**Note:** Order in multiples of minimum packing unit.

## XH5F-N/XH5B-N

Socket, Right-angle, SMT Pins, Straight, SMT Pins

## Dimensions

(Unit: mm)

XH5F-□□15-N  
(Right-angle, SMT Pins)

CAD Data

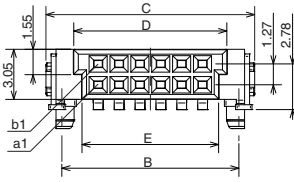
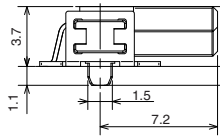
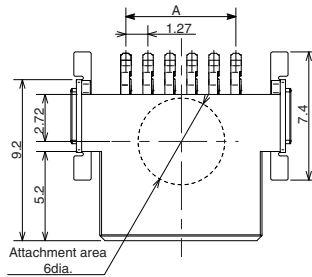
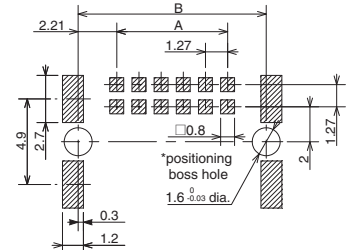


Table of Dimensions

Model	Number of contacts	A	B	C	D	E
XH5F-1215-N	12	6.35	10.77	12.70	9.37	8.37
XH5F-2615-N	26	15.24	19.66	21.59	18.26	17.26
XH5F-5015-N	50	30.48	34.90	36.83	33.50	32.50
XH5F-6815-N	68	41.91	46.33	48.26	44.93	43.93
XH5F-8015-N	80	49.53	53.95	55.88	52.55	51.55

## Mounting Holes

(Tolerance:  $\pm 0.03$ )

**Note:** The overall pattern pitch tolerance for the board is  $\pm 0.03$ .

\* Do not accumulate error.

The 1.6 $^{+0.03}_{-0.03}$  diameter holes are for the positioning bosses. Use metal masks to prevent solder from entering these holes.

XH5B-□□15-□N  
(Straight, SMT Pins)

CAD Data

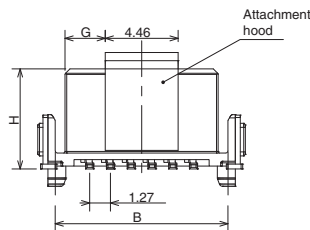
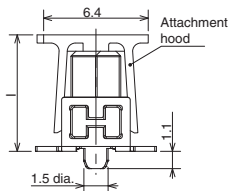
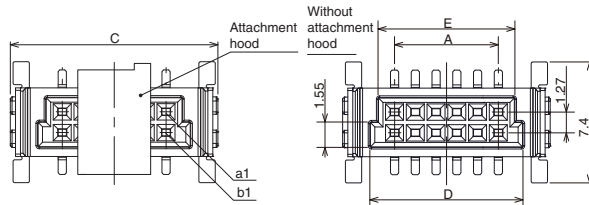
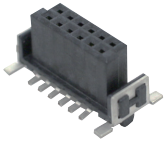
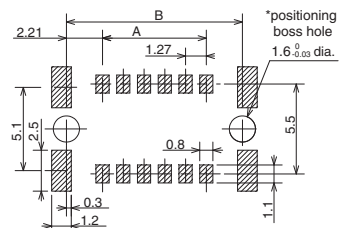


Table of Dimensions

Model	Number of contacts	A	B	C	D	E	G	H	I
XH5B-1215-□N	12	6.35	10.77	12.70	9.37	8.37	2.46	4: 6.25 5: 9.05	4: 7.1 5: 9.9
XH5B-2615-□N	26	15.24	19.66	21.59	18.26	17.26	7.54		
XH5B-5015-□N	50	30.48	34.90	36.83	33.50	32.50	15.16		
XH5B-6815-□N	68	41.91	46.33	48.26	44.93	43.93	20.24		
XH5B-8015-□N	80	49.53	53.95	55.88	52.55	51.55	24.05		

**Note:** □ is replaced by 4 to 5 to indicate the connector height type.

## Mounting Holes

(Tolerance:  $\pm 0.03$ )

**Note:** The overall pattern pitch tolerance for the board is  $\pm 0.03$ .

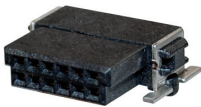
\* Do not accumulate error.

The 1.6 $^{+0.03}_{-0.03}$  diameter holes are for the positioning bosses. Use metal masks to prevent solder from entering these holes.

# XH5-N

## Ordering Information

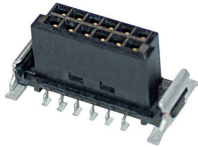
Right-angle, SMT Pins



Number of contacts	Model	Quantity per reel (pcs)
12	XH5F-1215-N	560
26	XH5F-2615-N	
50	XH5F-5015-N	
68	XH5F-6815-N	
80	XH5F-8015-N	

**Note:** Order in multiples of minimum packing unit.

Straight, SMT Pins



Number of contacts	Height (mm)	Model	Quantity per reel (pcs)
12	6.25	XH5B-1215-4N	280
	9.05	XH5B-1215-5N	
26	6.25	XH5B-2615-4N	
	9.05	XH5B-2615-5N	
50	6.25	XH5B-5015-4N	
	9.05	XH5B-5015-5N	
68	6.25	XH5B-6815-4N	
	9.05	XH5B-6815-5N	
80	6.25	XH5B-8015-4N	
	9.05	XH5B-8015-5N	

XH5H-N

Cable with Connectors on Both Ends

Dimensions

(Unit: mm)

XH5H-□□10-□□N

CAD Data

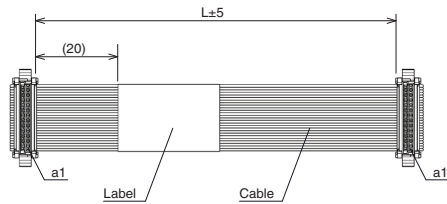


Table of Dimensions

Model	Number of contacts	L
XH5H-1210-10N	12	100
XH5H-1210-20N	12	200
XH5H-1210-30N	12	300
XH5H-2610-10N	26	100
XH5H-2610-20N	26	200
XH5H-2610-30N	26	300
XH5H-5010-10N	50	100
XH5H-5010-20N	50	200
XH5H-5010-30N	50	300
XH5H-6810-10N	68	100
XH5H-6810-20N	68	200
XH5H-6810-30N	68	300
XH5H-8010-10N	80	100
XH5H-8010-20N	80	200
XH5H-8010-30N	80	300

Ordering Information

Cable with Connectors on Both Ends



Number of contacts	Length (mm)	Model	Minimum packaging unit (pcs)
12	100	XH5H-1210-10N	10
	200	XH5H-1210-20N	
	300	XH5H-1210-30N	
26	100	XH5H-2610-10N	
	200	XH5H-2610-20N	
	300	XH5H-2610-30N	
50	100	XH5H-5010-10N	
	200	XH5H-5010-20N	
	300	XH5H-5010-30N	
68	100	XH5H-6810-10N	
	200	XH5H-6810-20N	
	300	XH5H-6810-30N	
80	100	XH5H-8010-10N	
	200	XH5H-8010-20N	
	300	XH5H-8010-30N	

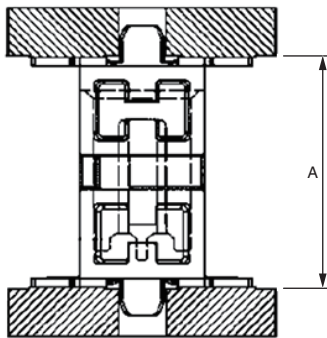
**Note:** Order in multiples of minimum packing unit.

XH5-N

Mating Diagram

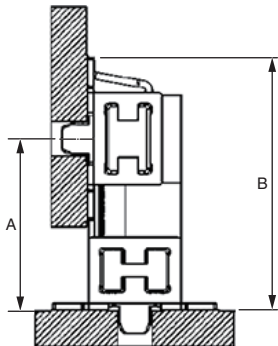
(Unit: mm)

● Stacking connections



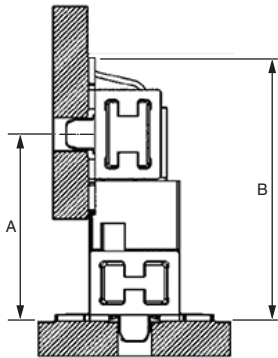
Model combination		A
Plug	Socket	
XH5E-□□15-1N	XH5B-□□15-4N	8.0
XH5E-□□15-2N	XH5B-□□15-4N	9.5
XH5E-□□15-1N	XH5B-□□15-5N	10.8
XH5E-□□15-2N	XH5B-□□15-5N	12.3

● Vertical connection  
Right-angle Pins: Plug  
Straight Pins: Socket



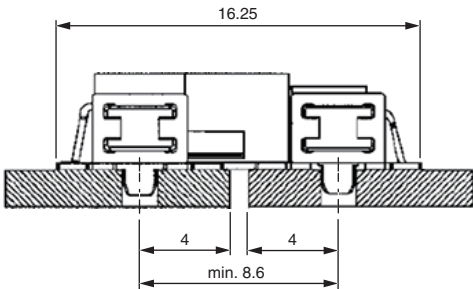
Model combination		A	B
Plug	Socket		
XH5A-□□15-N	XH5B-□□15-4N	7.7	11.53
	XH5B-□□15-5N	11.5	14.33

Right-angle Pins: Socket  
Straight Pins: Plug



Model combination		A	B
Plug	Socket		
XH5E-□□15-1N	XH5F-□□15-N	8.75	12.58
XH5E-□□15-2N		10.25	14.08

● Horizontal connection



Model combination	
Plug	Socket
XH5A-□□15-N	XH5F-□□15-N



## Precautions

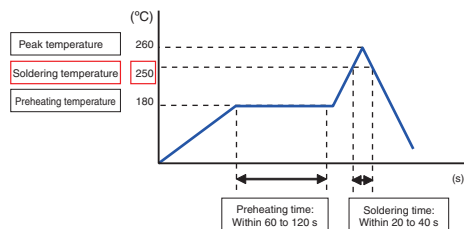
### Precautions for Correct Use

#### ● Soldering Conditions

##### • Recommended Reflow Conditions

Maximum temperature: 260°C

Time: Within 20 to 40 s



These conditions, however, depend on the type of solder, the manufacturer, the amount of solder, the size of the circuit board, and the other mounting materials. You must check and select the actual conditions.

#### ● Metal Mask Thickness for Cream Solder Printing

We recommend a metal mask thickness of 0.18 to 0.20 mm for cream solder printing. These conditions, however, depend on the type of solder, the manufacturer, the amount of solder, the size of the circuit board, and the other mounting materials. You must check and select the actual conditions.

#### ● Pin Deformation

The pins will deform if you subject them to an excessive load. Deformed pins will reduce solderability when the Connectors are mounted. Do not drop the Connectors or handle them roughly. Do not connect or disconnect Connectors that are not mounted to a circuit board. Doing so may deform the pins.

#### ● Soldering in an Automatic Solder Bath after Reflow Soldering

To prevent the rise of flux, mask the circuit board positioning boss holes with tape before you perform automatic soldering. If you mount Connectors on the edges of the circuit boards, make sure that the solder surface does not come into contact with the Connectors and that flux does not adhere to contact surfaces.

#### ● Application Precautions

- Confirm that there is no excessive misalignment or inclination in the mating contact portion between the plug and socket before mating the Connector. Make sure that the Connector is mated all the way to the back. If the Connector is not mated all the way to the back, contact reliability may be lost.
- Do not apply an extreme load during Connector insertion or removal. The Connector may be damaged, and contact failure may result. Twist the plug and socket as little as possible when mating the Connector. Not doing so may deform the terminals or housing or crack the housing.
- Do not insert a foreign object, such as tweezers, into the Connector mating contact portion. Doing so may cause the plating to peel off or deform the terminals.

#### ● Board Mounting Precautions

Be careful of board warping. Warping that is too severe may cause faulty soldering.

#### ● Storage

- (1) Do not store the Connectors in locations subject to dust or high humidity.
- (2) Do not store the Connectors in locations close to sources of gasses such ammonia gas or sulfide gas.

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

## OMRON Corporation

Electronic and Mechanical Components Company

### Regional Contact

#### Americas

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

#### Asia-Pacific

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

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#### Europe

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

#### China

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

#### Japan

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