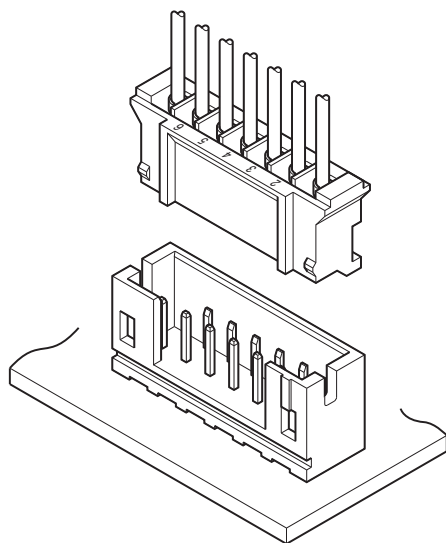


# PH CONNECTOR

2.0 mm pitch/Wire-to-Board connectors/Crimp style and Mating style



With a mounting height of 8 mm and a width of only 4.5 mm in the top-entry version, this low-profile wire-to board connector features a pitch of 2.0 mm. The PH series is suitable for a wide range of applications, including use in high-density PCBs where space in electronic equipment is limited.

- Space-saving design
- High reliability connector
- Boxed-shaped shrouded header
- Excellent functionality in PCB mounting as a wire-to-board connector
- Available in surface mount style with SMT headers ranging from 2 to 16 positions.

## Specifications

- Current rating: 2 A AC/DC (AWG #24)
- Voltage rating: 100 V AC/DC
- Temperature range: -25°C to +85°C  
(including temperature rise in applying electrical current)
- Contact resistance:  
Initial value/ 10 mΩ max.  
After environmental tests/ 20 mΩ max.
- Insulation resistance: 1,000 MΩ min.
- Withstanding voltage:  
There shall be no breakdown or flashover while applying 800 VAC for one minute.
- Applicable wire range:  
Conductor size/ AWG #32 to AWG #24  
Insulation O.D./  $\phi$  0.5 mm to  $\phi$  1.5 mm
- Applicable PC board thickness: 0.8 mm to 1.6 mm

- \* Please refer to the "Handling Precautions for Terminals and Connectors" on our website (listed in the "Technical Documents" column on the Product Information page) before use.
- \* RoHS2 compliance
- \* Dimensional unit: mm
- \* Contact JST for details.

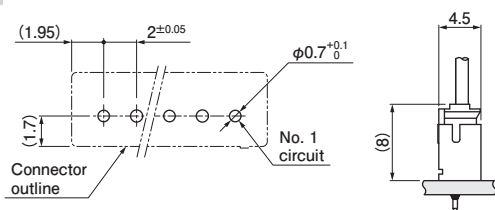
## Standards

For information on overseas standard registrations, please refer to the "List of Registered Overseas Standards" on our website (listed in the "Technical Documents" column on the Product Information page).

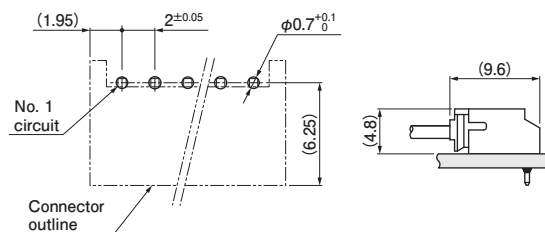
\* Specifications registered to overseas standards may differ from the general specifications listed above.

## PC board layout and Assembly layout (Through-hole type)

### Top entry type



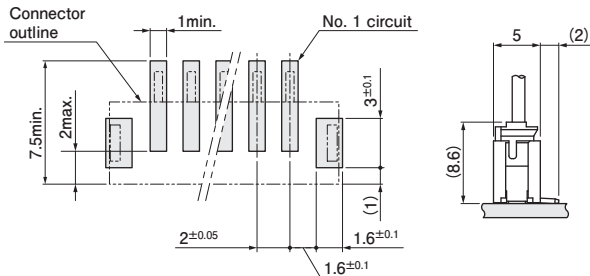
### Side entry type



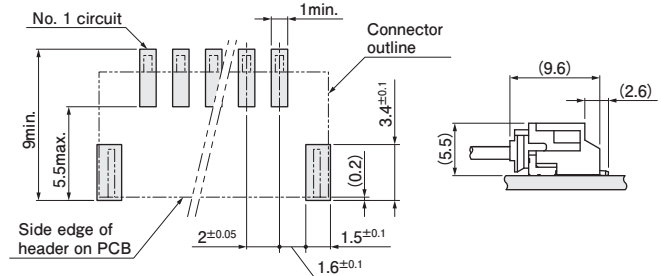
- Note: 1. The PC board layout figure shown is viewed from the connector mounting surface.
2. Tolerance for the PCB hole pitch shall be  $\pm 0.05$  and shall not accumulate.
3. Hole dimensions differ depending on the type of PCB and PCB drilling method.  
When using PCB made of hard material composed of fiberglass cloth, please consider a larger hole diameter.  
The above dimensions are for reference only. Please contact JST for further details.

## PC board layout and Assembly layout (SMT type)

### Top entry type

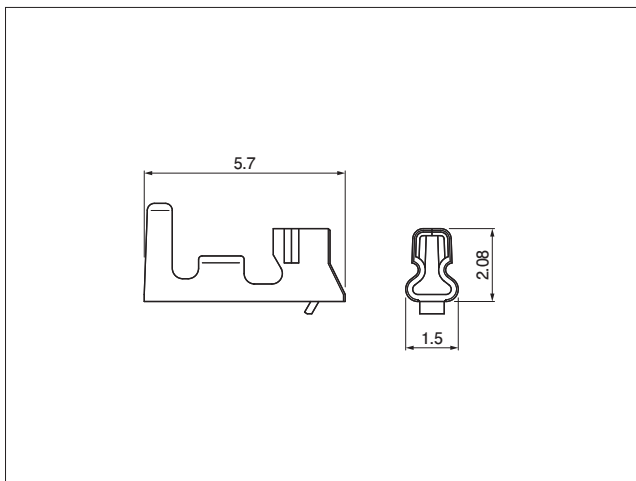


### Side entry type



Note: 1. The PC board layout figure shown is viewed from the connector mounting surface.  
 2. Tolerance for the PCB pattern pitch shall be  $\pm 0.05$  and shall not accumulate.  
 The above dimensions are for reference only. Please contact JST for further details.

## Contact



| Model No.      | Applicable wire range                 |                      | Q'ty/<br>reel |
|----------------|---------------------------------------|----------------------|---------------|
|                | Conductor size AWG (mm <sup>2</sup> ) | Insulation O.D. (mm) |               |
| SPH-004T-P0.5S | #32 to #28 (0.032 to 0.08)            | 0.5 to 0.9           | 10,000        |
| SPH-002T-P0.5S | #30 to #24 (0.05 to 0.22)             | 0.8 to 1.5           | 8,000         |
| SPH-002T-P0.5L | #28 to #24 (0.08 to 0.22)             | 0.8 to 1.5           |               |

Material and Surface finish, etc.

Copper alloy, tin-plated

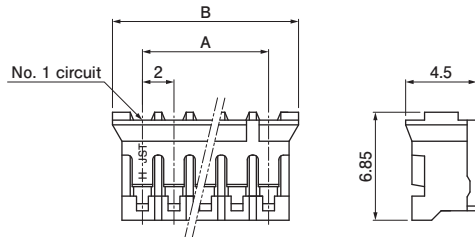
Note: 1. Contact JST for gold-plated products.  
 2. SPH-002T-P0.5L is a low-insertion force type contact for easier insertion/withdrawal operation. Please take the application and environment into consideration as the low-insertion force type contact is less resistant to vibration. Please note that the crimp height is different from the standard PH contact. Please contact JST for further details.

### Crimping machine

| Contact        | Crimping machine | Applicator | Crimp applicator with dies |
|----------------|------------------|------------|----------------------------|
| SPH-004T-P0.5S | AP-K2N           | MKS-L-10   | APLMK SPH004-05S           |
| SPH-002T-P0.5S |                  | MKS-L      | APLMK SPH002-05S           |
| SPH-002T-P0.5L |                  |            | APLMK SPH002-05L           |

Note: Contact JST for fully automatic crimping applicator

## Housing



| No. of circuits | Model No. | Dimensions (mm) |      | Q'ty/bag |
|-----------------|-----------|-----------------|------|----------|
|                 |           | A               | B    |          |
| 2               | PHR-2     | 2.0             | 5.8  | 2,000    |
| 3               | PHR-3     | 4.0             | 7.8  | 2,000    |
| 4               | PHR-4     | 6.0             | 9.8  | 2,000    |
| 5               | PHR-5     | 8.0             | 11.8 | 2,000    |
| 6               | PHR-6     | 10.0            | 13.8 | 2,000    |
| 7               | PHR-7     | 12.0            | 15.8 | 2,000    |
| 8               | PHR-8     | 14.0            | 17.8 | 1,000    |
| 9               | PHR-9     | 16.0            | 19.8 | 1,000    |
| 10              | PHR-10    | 18.0            | 21.8 | 1,000    |
| 11              | PHR-11    | 20.0            | 23.8 | 1,000    |
| 12              | PHR-12    | 22.0            | 25.8 | 1,000    |
| 13              | PHR-13    | 24.0            | 27.8 | 1,000    |
| 14              | PHR-14    | 26.0            | 29.8 | 1,000    |
| 15              | PHR-15    | 28.0            | 31.8 | 1,000    |
| 16              | PHR-16    | 30.0            | 33.8 | 1,000    |

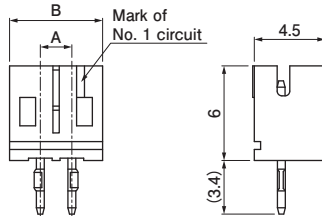
Material and Surface finish, etc.

PA, natural (white)

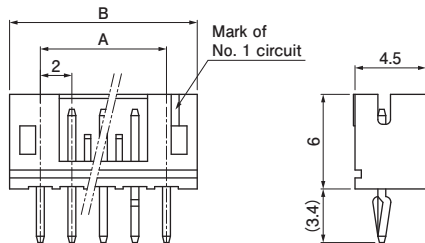
Note: For flame retardant grade of resin material used, please refer to the "List of Registered Overseas Standards" on our website (listed in the "Technical Documents" column on the Product Information page).

## Header (Through-hole type)

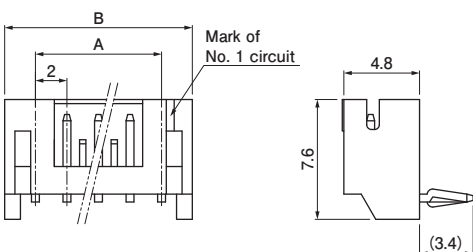
### Top entry type <2 circuits>



### <3 circuits or more>



### Side entry type



| No. of circuits | Model No.      |                 | Dimensions (mm) |      | Q'ty/box       |                 |
|-----------------|----------------|-----------------|-----------------|------|----------------|-----------------|
|                 | Top entry type | Side entry type | A               | B    | Top entry type | Side entry type |
| 2               | B2B-PH-K-S     | S2B-PH-K-S      | 2.0             | 5.9  | 1,000          | 1,000           |
| 3               | B3B-PH-K-S     | S3B-PH-K-S      | 4.0             | 7.9  | 1,000          | 1,000           |
| 4               | B4B-PH-K-S     | S4B-PH-K-S      | 6.0             | 9.9  | 1,000          | 500             |
| 5               | B5B-PH-K-S     | S5B-PH-K-S      | 8.0             | 11.9 | 1,000          | 500             |
| 6               | B6B-PH-K-S     | S6B-PH-K-S      | 10.0            | 13.9 | 1,000          | 500             |
| 7               | B7B-PH-K-S     | S7B-PH-K-S      | 12.0            | 15.9 | 500            | 500             |
| 8               | B8B-PH-K-S     | S8B-PH-K-S      | 14.0            | 17.9 | 500            | 250             |
| 9               | B9B-PH-K-S     | S9B-PH-K-S      | 16.0            | 19.9 | 500            | 250             |
| 10              | B10B-PH-K-S    | S10B-PH-K-S     | 18.0            | 21.9 | 500            | 250             |
| 11              | B11B-PH-K-S    | S11B-PH-K-S     | 20.0            | 23.9 | 500            | 250             |
| 12              | B12B-PH-K-S    | S12B-PH-K-S     | 22.0            | 25.9 | 400            | 250             |
| 13              | B13B-PH-K-S    | S13B-PH-K-S     | 24.0            | 27.9 | 250            | 250             |
| 14              | B14B-PH-K-S    | S14B-PH-K-S     | 26.0            | 29.9 | 250            | 250             |
| 15              | B15B-PH-K-S    | S15B-PH-K-S     | 28.0            | 31.9 | 250            | 200             |
| 16              | B16B-PH-K-S    | S16B-PH-K-S     | 30.0            | 33.9 | 250            | 200             |

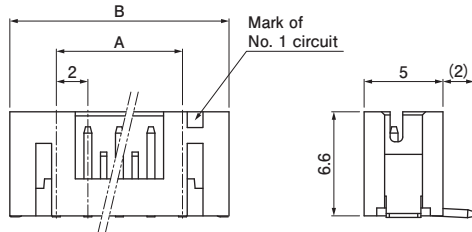
Material and Surface finish, etc.

Post: Copper alloy, tin-plated  
Base housing: PA, natural (white)

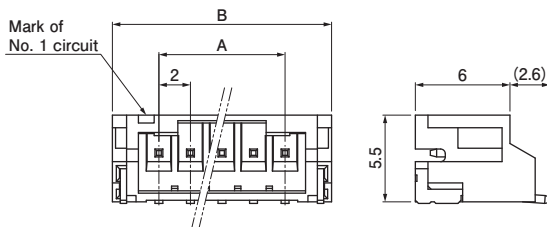
Note: 1. This product displays (LF) (SN) on a label.  
2. For flame retardant grade of resin material used, please refer to the "List of Registered Overseas Standards" on our website (listed in the "Technical Documents" column on the Product Information page).

## Header (SMT type)

### Top entry type



### Side entry type



### Top entry type

| No. of circuits | Model No.      | Dimensions (mm) |       | Q'ty/reel |
|-----------------|----------------|-----------------|-------|-----------|
|                 |                | A               | B     |           |
| 2               | B2B-PH-SM4-TB  | 2.0             | 7.95  | 1,000     |
| 3               | B3B-PH-SM4-TB  | 4.0             | 9.95  | 1,000     |
| 4               | B4B-PH-SM4-TB  | 6.0             | 11.95 | 1,000     |
| 5               | B5B-PH-SM4-TB  | 8.0             | 13.95 | 1,000     |
| 6               | B6B-PH-SM4-TB  | 10.0            | 15.95 | 1,000     |
| 7               | B7B-PH-SM4-TB  | 12.0            | 17.95 | 1,000     |
| 8               | B8B-PH-SM4-TB  | 14.0            | 19.95 | 1,000     |
| 9               | B9B-PH-SM4-TB  | 16.0            | 21.95 | 1,000     |
| 10              | B10B-PH-SM4-TB | 18.0            | 23.95 | 1,000     |
| 11              | B11B-PH-SM4-TB | 20.0            | 25.95 | 1,000     |
| 12              | B12B-PH-SM4-TB | 22.0            | 27.95 | 1,000     |
| 13              | B13B-PH-SM4-TB | 24.0            | 29.95 | 1,000     |
| 14              | B14B-PH-SM4-TB | 26.0            | 31.95 | 1,000     |
| 15              | B15B-PH-SM4-TB | 28.0            | 33.95 | 1,000     |
| 16              | B16B-PH-SM4-TB | 30.0            | 35.95 | 1,000     |

#### Material and Surface finish, etc.

Post: Copper alloy, tin-plated

Base housing: PA (Heat resistance), natural (ivory)

Reinforcement: Copper alloy, tin-plated

- Note: 1. This product displays (LF) (SN) on a label.  
 2. Top-entry headers with suction tape are also available.  
 3. For flame retardant grade of resin material used, please refer to the "List of Registered Overseas Standards" on our website (listed in the "Technical Documents" column on the Product Information page).

### Side entry type

| No. of circuits | Model No.      | Dimensions (mm) |      | Q'ty/reel |
|-----------------|----------------|-----------------|------|-----------|
|                 |                | A               | B    |           |
| 2               | S2B-PH-SM4-TB  | 2.0             | 7.9  | 1,000     |
| 3               | S3B-PH-SM4-TB  | 4.0             | 9.9  | 1,000     |
| 4               | S4B-PH-SM4-TB  | 6.0             | 11.9 | 1,000     |
| 5               | S5B-PH-SM4-TB  | 8.0             | 13.9 | 1,000     |
| 6               | S6B-PH-SM4-TB  | 10.0            | 15.9 | 1,000     |
| 7               | S7B-PH-SM4-TB  | 12.0            | 17.9 | 1,000     |
| 8               | S8B-PH-SM4-TB  | 14.0            | 19.9 | 1,000     |
| 9               | S9B-PH-SM4-TB  | 16.0            | 21.9 | 1,000     |
| 10              | S10B-PH-SM4-TB | 18.0            | 23.9 | 1,000     |
| 11              | S11B-PH-SM4-TB | 20.0            | 25.9 | 1,000     |
| 12              | S12B-PH-SM4-TB | 22.0            | 27.9 | 1,000     |
| 13              | S13B-PH-SM4-TB | 24.0            | 29.9 | 1,000     |
| 14              | S14B-PH-SM4-TB | 26.0            | 31.9 | 1,000     |
| 15              | S15B-PH-SM4-TB | 28.0            | 33.9 | 1,000     |

#### Material and Surface finish, etc.

Post: Copper alloy, tin-plated

Base housing: PA (Heat resistance), natural (ivory)

Reinforcement: Copper alloy, tin-plated

- Note: 1. This product displays (LF) (SN) on a label.  
 2. For flame retardant grade of resin material used, please refer to the "List of Registered Overseas Standards" on our website (listed in the "Technical Documents" column on the Product Information page).

## Model number allocation

### Contact

**S PH - 002 T - P 0.5 S**

Supply form: Strip form

Series name

Applicable wire range:  
 Standard type 004...AWG #32 to AWG #28  
 002...AWG #30 to AWG #24  
 Low insertion force type  
 002...AWG #28 to AWG #24

Surface finish: Tin-plated

Material: Copper alloy

Applicable post size

Type: S...Standard type, L...Low insertion force type

### Housing

**PH R - 2 -**

Series name

Type: For receptacle contact

No. of circuits

Color: No indication...Natural (White),  
 BK...Black, BL...Blue, D...Orange, DPK...Dark pink,  
 FY...Fluorescent yellow, H...Gray, L...Lemon yellow,  
 LE...Light blue, M...Green, N...Brown, P...Purple,  
 PK...Pink, R...Red, TR...Tomato red, Y...Yellow

### Header (Through-hole type)

**B 2 B - PH - K - S**

Header type: B...Top entry type  
 S...Side entry type

No. of circuits

Assembly product

Series name

Clinched (Kinked) / Not clinched: Clinched

Color: S...Natural (White),  
 No indication...Ivory, E...Blue, FY...Fluorescent yellow,  
 H...Gray, K...Black, L...Lemon yellow, LE...Light blue,  
 M...Green, N...Brown, O...Orange, P...Purple, PK...Pink,  
 R...Red, TR...Tomato red, Y...Yellow

### Header (SMT type)

**B 2 B - PH - SM 4 - -TB**

Header type:  
 B...Top entry type  
 S...Side entry type

No. of circuits

Assembly product

Series name

SMT type

Product version

Color: No indication...Natural (Ivory),  
 DPK...Dark pink, E...Blue, K...Black,  
 M...Green, L...Lemon yellow, R...Red

Packaging style: Embossed taping

Suction tape: No indication...No, T...Yes