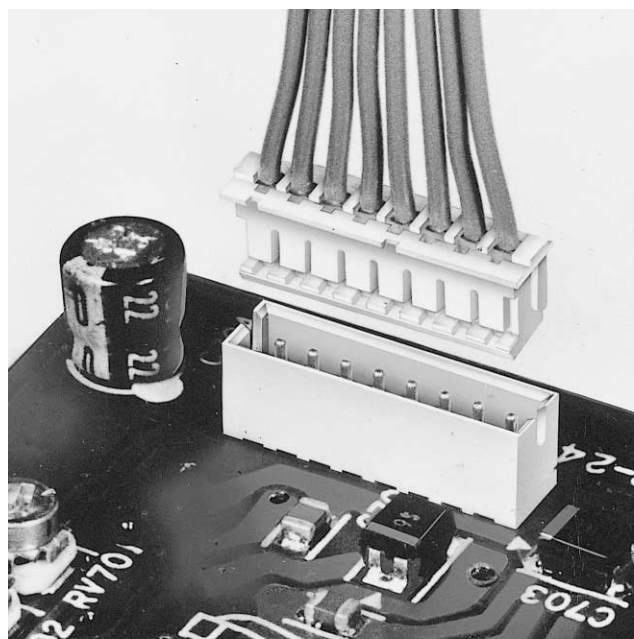
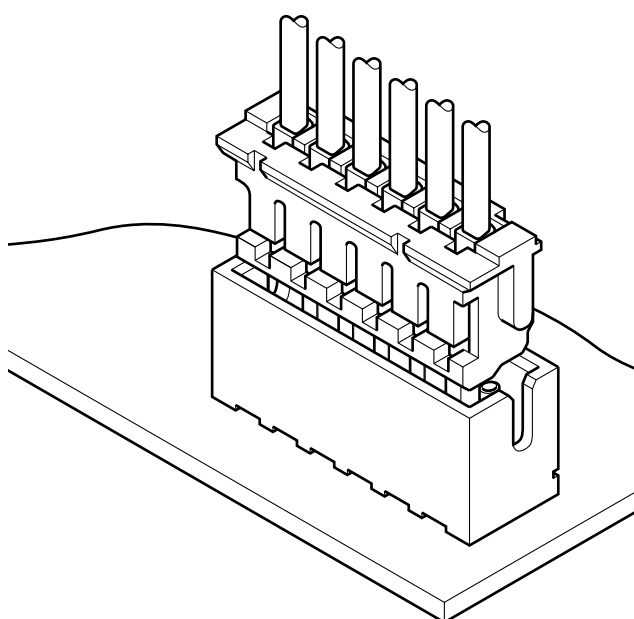


# ZH CONNECTOR

Disconnectable Crimp style connectors



**The ZH connector is very small with a mounting height of 5.6mm (.220") and a thickness of only 3.5mm (.138"). Contact retention lances on the housing make insertion easier, while the dimple at the center of the contact ensures reliable contact with the post.**



## Features

### • Compact, low profile design

The ZH connector requires only about 45% of the installation space required by the standard JST 2.0mm (.079") pitch connector.

### • Housing lances

The contact retention lances on the resilient housing allow visual confirmation of contact lock-in for easy and secure insertion.

### • Reliable contact construction

The dimple at the center of the contact ensures positive contact and low contact resistance at all times, even when the connector is subjected to vibration or distortion. Therefore this connector is ideal for use under low current, low voltage conditions.

### • Distortion resistant construction

The header is fully shrouded and thus protects the receptacle from damage that could be caused by mating the connectors at an angle or by otherwise mismatching the connectors.

### • Compatible with the ZR insulation displacement connectors

The same shrouded header can be used for either the ZR IDC-style connector or the ZH crimp style connector. This allows both types of connector to be used interchangeably without replacing the header.

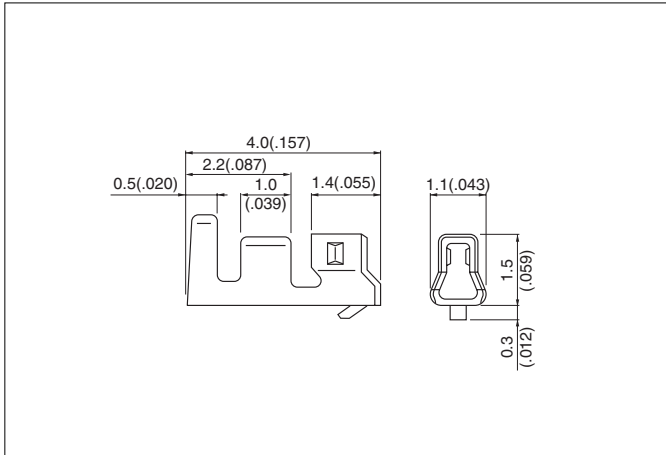
## Specifications

- Current rating: 1.0A AC, DC (AWG #26)
  - Voltage rating: 50V AC, DC
  - Temperature range: -25°C to +85°C  
(including temperature rise in applying electrical current)
  - Contact resistance: Initial value/20m Ω max.  
After environmental testing/30m Ω max.
  - Insulation resistance: 500M Ω min.
  - Withstanding voltage: 500V AC/minute
  - Applicable wire: AWG #32 to #26
  - Applicable PC board thickness: 0.6 to 1.2mm (.024" to .047"),  
1.6mm (.063")
- \* Contact JST if Lead-Free product is required.  
\* Refer to "General Instruction and Notice when using Terminals and Connectors" at the end of this catalog.  
\* Contact JST for details.

## Standards

- Ⓜ Recognized E60389
- Ⓢ Certified LR20812
- Ⓜ R9351092

## Contact

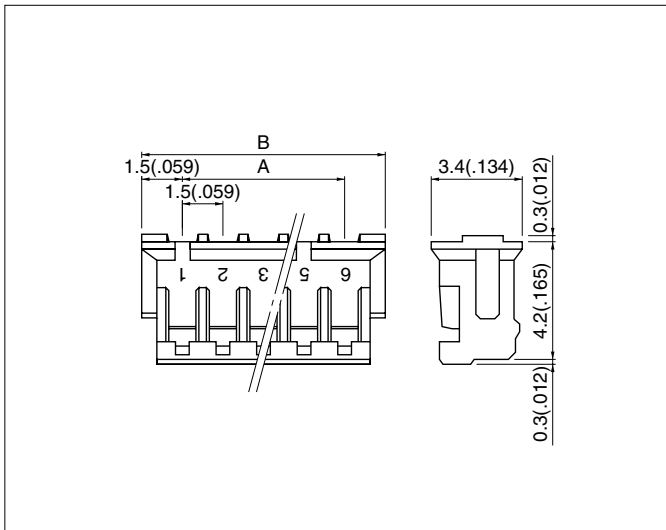


| Model No.            | Applicable wire |          |                          | Q'ty / reel |
|----------------------|-----------------|----------|--------------------------|-------------|
|                      | mm <sup>2</sup> | AWG #    | Insulation O.D. mm(in.)  |             |
| <b>SZH-002T-P0.5</b> | 0.08 to 0.13    | 28 to 26 | 0.8 to 1.1(.031 to .043) | 13,000      |
| <b>SZH-003T-P0.5</b> | 0.032 to 0.08   | 32 to 28 | 0.5 to 0.9(.020 to .035) | 16,000      |

### Material and Finish

Phosphor bronze, tin-plated

## Housing



| Circuits | Model No.          | Dimensions mm(in.) |            | Q'ty / bag |
|----------|--------------------|--------------------|------------|------------|
|          |                    | A                  | B          |            |
| 2        | <b>ZHR- 2</b>      | 1.5(.059)          | 4.5(.177)  | 1,000      |
| 3        | <b>ZHR- 3</b>      | 3.0(.118)          | 6.0(.236)  | 1,000      |
| 4        | <b>ZHR- 4</b>      | 4.5(.177)          | 7.5(.295)  | 1,000      |
| 5        | <b>ZHR- 5</b>      | 6.0(.236)          | 9.0(.354)  | 1,000      |
| 6        | <b>ZHR- 6</b>      | 7.5(.295)          | 10.5(.413) | 1,000      |
| 6        | <b>ZHR- 6(3.0)</b> | 15.0(.591)         | 18.0(.709) | 1,000      |
| 7        | <b>ZHR- 7</b>      | 9.0(.354)          | 12.0(.472) | 1,000      |
| 8        | <b>ZHR- 8</b>      | 10.5(.413)         | 13.5(.531) | 1,000      |
| 9        | <b>ZHR- 9</b>      | 12.0(.472)         | 15.0(.591) | 1,000      |
| 10       | <b>ZHR-10</b>      | 13.5(.531)         | 16.5(.650) | 1,000      |
| 11       | <b>ZHR-11</b>      | 15.0(.591)         | 18.0(.709) | 1,000      |
| 12       | <b>ZHR-12</b>      | 16.5(.650)         | 19.5(.768) | 1,000      |
| 13       | <b>ZHR-13</b>      | 18.0(.709)         | 21.0(.827) | 1,000      |

### Material

Nylon 66, UL94V-0, natural (white)

### Note:

1. ZHR-6(3.0) is 6 circuits 3.0mm (.118") pitch plugged up.

As for this housing, only circuit No.1 is marked.

2. ZHR-6 (3.0) is not UL/CSA approved.

<For reference> As the color identification,

the following alphabet shall be put in the underlined part.

For availability, delivery and minimum order quantity, contact JST.

ex. **ZHR-2-oo**

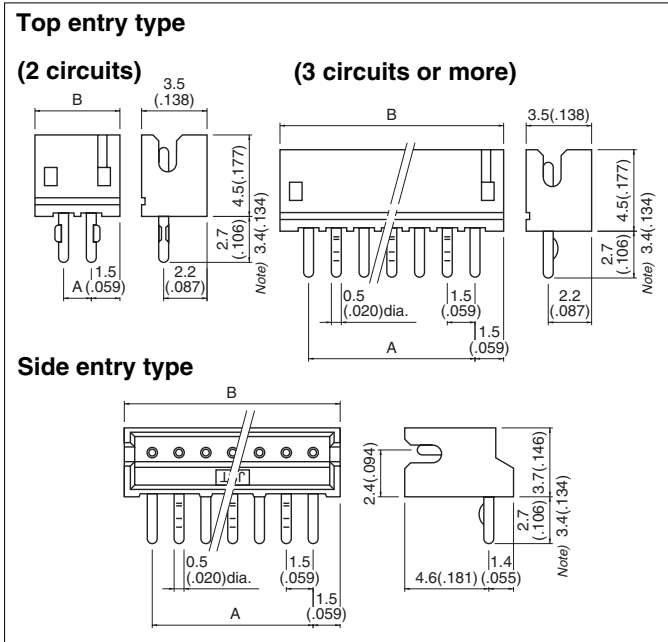
(blank)...natural (white)

K...black R...red E...blue M...green

# ZH CONNECTOR

## Through-hole type shrouded header

The shrouded headers are interchangeable with those of the ZR insulation displacement connectors.



| Circuits | Model No.      |                 |                      |                       | Dimensions mm(in.) |            | Q'ty / box     |                 |
|----------|----------------|-----------------|----------------------|-----------------------|--------------------|------------|----------------|-----------------|
|          | Top entry type | Side entry type | Note) Top entry type | Note) Side entry type | A                  | B          | Top entry type | Side entry type |
| 2        | <b>B 2B-ZR</b> | <b>S 2B-ZR</b>  | <b>B 2B-ZR-3.4</b>   | <b>S 2B-ZR-3.4</b>    | 1.5(.059)          | 4.5(.177)  | 2,000          | 2,000           |
| 3        | <b>B 3B-ZR</b> | <b>S 3B-ZR</b>  | <b>B 3B-ZR-3.4</b>   | <b>S 3B-ZR-3.4</b>    | 3.0(.118)          | 6.0(.236)  | 2,000          | 2,000           |
| 4        | <b>B 4B-ZR</b> | <b>S 4B-ZR</b>  | <b>B 4B-ZR-3.4</b>   | <b>S 4B-ZR-3.4</b>    | 4.5(.177)          | 7.5(.295)  | 2,000          | 2,000           |
| 5        | <b>B 5B-ZR</b> | <b>S 5B-ZR</b>  | <b>B 5B-ZR-3.4</b>   | <b>S 5B-ZR-3.4</b>    | 6.0(.236)          | 9.0(.354)  | 2,000          | 1,000           |
| 6        | <b>B 6B-ZR</b> | <b>S 6B-ZR</b>  | <b>B 6B-ZR-3.4</b>   | <b>S 6B-ZR-3.4</b>    | 7.5(.295)          | 10.5(.413) | 2,000          | 1,000           |
| 7        | <b>B 7B-ZR</b> | <b>S 7B-ZR</b>  | <b>B 7B-ZR-3.4</b>   | <b>S 7B-ZR-3.4</b>    | 9.0(.354)          | 12.0(.472) | 1,000          | 1,000           |
| 8        | <b>B 8B-ZR</b> | <b>S 8B-ZR</b>  | <b>B 8B-ZR-3.4</b>   | <b>S 8B-ZR-3.4</b>    | 10.5(.413)         | 13.5(.531) | 1,000          | 1,000           |
| 9        | <b>B 9B-ZR</b> | <b>S 9B-ZR</b>  | <b>B 9B-ZR-3.4</b>   | <b>S 9B-ZR-3.4</b>    | 12.0(.472)         | 15.0(.591) | 1,000          | 1,000           |
| 10       | <b>B10B-ZR</b> | <b>S10B-ZR</b>  | <b>B10B-ZR-3.4</b>   | <b>S10B-ZR-3.4</b>    | 13.5(.531)         | 16.5(.650) | 1,000          | 1,000           |
| 11       | <b>B11B-ZR</b> | <b>S11B-ZR</b>  | <b>B11B-ZR-3.4</b>   | <b>S11B-ZR-3.4</b>    | 15.0(.591)         | 18.0(.709) | 1,000          | 500             |
| 12       | <b>B12B-ZR</b> | <b>S12B-ZR</b>  | <b>B12B-ZR-3.4</b>   | <b>S12B-ZR-3.4</b>    | 16.5(.650)         | 19.5(.768) | 1,000          | 500             |
| 13       | <b>B13B-ZR</b> | <b>S13B-ZR</b>  | <b>B13B-ZR-3.4</b>   | <b>S13B-ZR-3.4</b>    | 18.0(.709)         | 21.0(.827) | 500            | 500             |

### Material and Finish

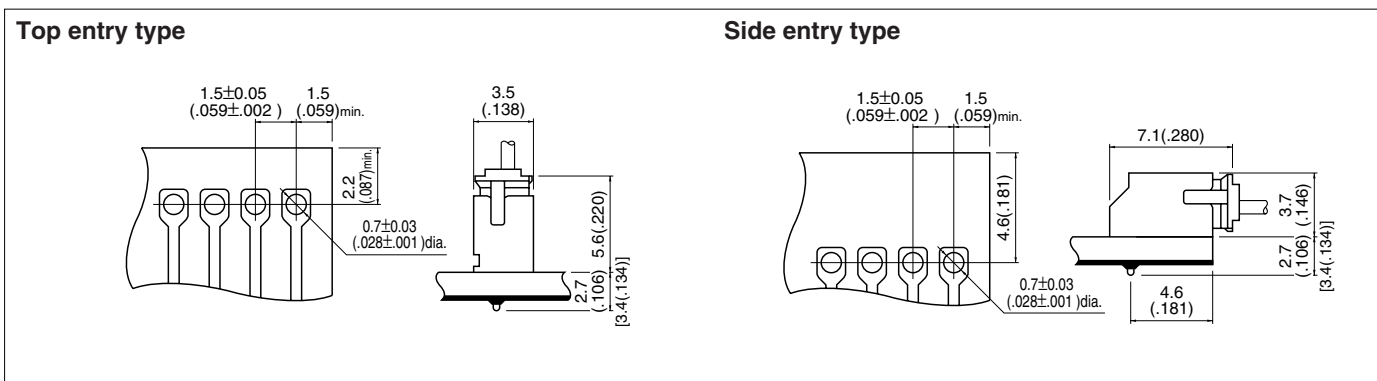
Pin: Brass, copper-undercoated, tin/lead-plated  
 Wafer: Glass-filled nylon 66, UL94V-0, natural (ivory)

Note: Headers with 3.4mm(.134") long solder tails, suited for the 1.6mm(.063") thick PC board.

<For reference> As the color identification, the following alphabet shall be put in the underlined part. For availability, delivery and minimum order quantity, contact JST.

ex. **B2B-ZR-3.4-oo**  
 (blank)...natural (ivory)  
 K...black R...red E...blue M...green

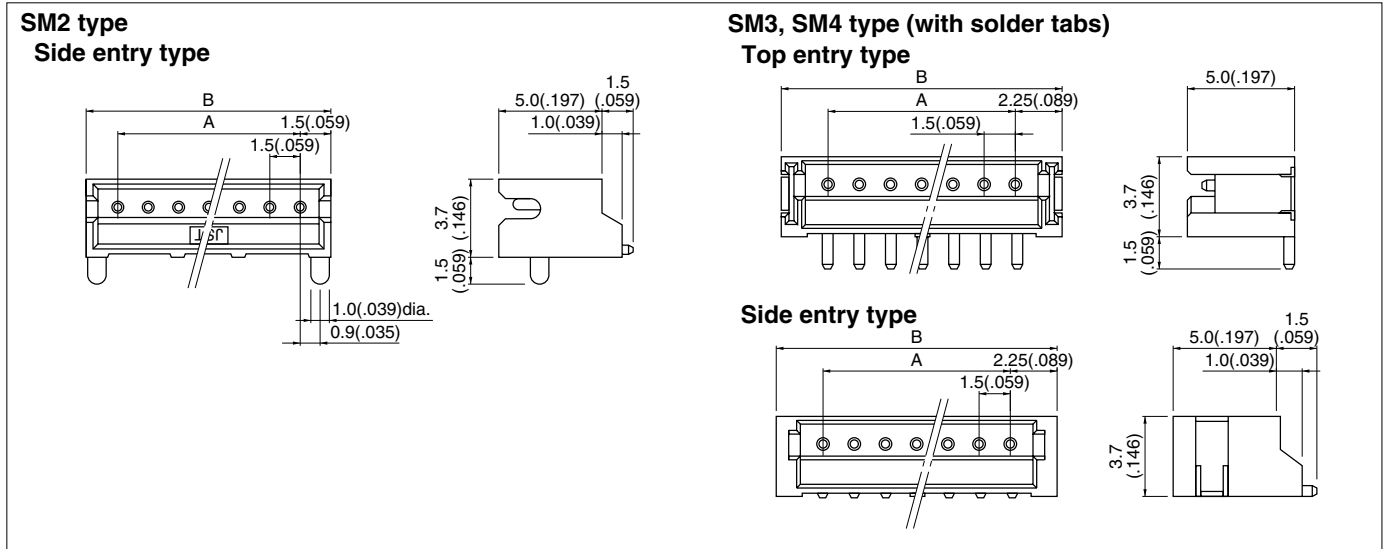
## Through-hole type PC board layout (viewed from soldering side) and Assembly layout



### Note:

1. Tolerances are non-cumulative:  $\pm 0.05\text{mm}$  ( $\pm 0.002''$ ) for all centers.
2. Hole dimension differ according to the kind of PC board and piercing method. If PC boards made of hard material are used, the hole dimensions should be larger. The dimensions above should serve as a guideline. Contact JST for details.

## SMT type shrouded header



| Cir-<br>cuits | SM2 type               |                    |            |                | SM3 type               |                         |                    |            |                |                 |
|---------------|------------------------|--------------------|------------|----------------|------------------------|-------------------------|--------------------|------------|----------------|-----------------|
|               | Model No.              | Dimensions mm(in.) |            | Q'ty /<br>reel | Model No.              |                         | Dimensions mm(in.) |            | Q'ty / reel    |                 |
|               | Side entry type        | A                  | B          |                | Top entry type         | Side entry type         | A                  | B          | Top entry type | Side entry type |
| 2             | <b>S 2B-ZR-SM2-TF</b>  | 1.5(.059)          | 4.5(.177)  | 1,000          | <b>B 2B-ZR-SM3-TF</b>  | <b>S 2B-ZR-SM3A-TF</b>  | 1.5(.059)          | 6.0(.236)  | 1,000          | 1,000           |
| 3             | <b>S 3B-ZR-SM2-TF</b>  | 3.0(.118)          | 6.0(.236)  | 1,000          | <b>B 3B-ZR-SM3-TF</b>  | <b>S 3B-ZR-SM3A-TF</b>  | 3.0(.118)          | 7.5(.295)  | 1,000          | 1,000           |
| 4             | <b>S 4B-ZR-SM2-TF</b>  | 4.5(.177)          | 7.5(.295)  | 1,000          | <b>B 4B-ZR-SM3-TF</b>  | <b>S 4B-ZR-SM3A-TF</b>  | 4.5(.177)          | 9.0(.354)  | 1,000          | 1,000           |
| 5             | <b>S 5B-ZR-SM2-TF</b>  | 6.0(.236)          | 9.0(.354)  | 1,000          | <b>B 5B-ZR-SM3-TF</b>  | <b>S 5B-ZR-SM3A-TF</b>  | 6.0(.236)          | 10.5(.413) | 1,000          | 1,000           |
| 6             | <b>S 6B-ZR-SM2-TF</b>  | 7.5(.295)          | 10.5(.413) | 1,000          | <b>B 6B-ZR-SM3-TF</b>  | <b>S 6B-ZR-SM3A-TF</b>  | 7.5(.295)          | 12.0(.472) | 1,000          | 1,000           |
| 7             | <b>S 7B-ZR-SM2-TF</b>  | 9.0(.354)          | 12.0(.472) | 1,000          | <b>B 7B-ZR-SM3-TF</b>  | <b>S 7B-ZR-SM3A-TF</b>  | 9.0(.354)          | 13.5(.531) | 1,000          | 1,000           |
| 8             | <b>S 8B-ZR-SM2-TF</b>  | 10.5(.413)         | 13.5(.531) | 1,000          | <b>B 8B-ZR-SM3-TF</b>  | <b>S 8B-ZR-SM3A-TF</b>  | 10.5(.413)         | 15.0(.591) | 1,000          | 1,000           |
| 9             | <b>S 9B-ZR-SM2-TF</b>  | 12.0(.472)         | 15.0(.591) | 1,000          | <b>B 9B-ZR-SM3-TF</b>  | <b>S 9B-ZR-SM3A-TF</b>  | 12.0(.472)         | 16.5(.650) | 1,000          | 1,000           |
| 10            | <b>S 10B-ZR-SM2-TF</b> | 13.5(.531)         | 16.5(.650) | 1,000          | <b>B 10B-ZR-SM3-TF</b> | <b>S 10B-ZR-SM3A-TF</b> | 13.5(.531)         | 18.0(.709) | 1,000          | 1,000           |
| 11            | <b>S 11B-ZR-SM2-TF</b> | 15.0(.591)         | 18.0(.709) | 1,000          | <b>B 11B-ZR-SM3-TF</b> | <b>S 11B-ZR-SM3A-TF</b> | 15.0(.591)         | 19.5(.768) | 1,000          | 1,000           |
| 12            | <b>S 12B-ZR-SM2-TF</b> | 16.5(.650)         | 19.5(.768) | 1,000          | <b>B 12B-ZR-SM3-TF</b> | <b>S 12B-ZR-SM3A-TF</b> | 16.5(.650)         | 21.0(.827) | 1,000          | 1,000           |
| 13            | <b>S 13B-ZR-SM2-TF</b> | 18.0(.709)         | 21.0(.827) | 1,000          | <b>B 13B-ZR-SM3-TF</b> | <b>S 13B-ZR-SM3A-TF</b> | 18.0(.709)         | 22.5(.886) | 1,000          | 1,000           |

### Material and Finish

Pin: Brass, copper-undercoated, tin/lead-plated  
 Wafer: Glass-filled nylon 46, UL94V-0, natural (white)  
 Solder tab: Brass, copper-undercoated, tin/lead-plated

Note: 1. The products listed above are supplied on embossed-tape.  
 2. Contact JST for the top entry type headers with suction cap.

<For reference> As the color identification,  
 the following alphabet shall be put in the underlined part.  
 For availability, delivery and minimum order quantity, contact JST.

ex. **S2B-ZR-SM3A-oo-TF**  
 (blank)...natural (white)  
 K...black R...red E...blue M...green

# ZH CONNECTOR

## SMT type shrouded header

| Circuits | SM4 type              |                        | Dimensions mm(in.) |            | Q'ty / reel    |                 |
|----------|-----------------------|------------------------|--------------------|------------|----------------|-----------------|
|          | Top entry type        | Side entry type        | A                  | B          | Top entry type | Side entry type |
| 2        | <b>B 2B-ZR-SM4-TF</b> | <b>S 2B-ZR-SM4A-TF</b> | 1.5(.059)          | 6.0(.236)  | 1,000          | 1,000           |
| 3        | <b>B 3B-ZR-SM4-TF</b> | <b>S 3B-ZR-SM4A-TF</b> | 3.0(.118)          | 7.5(.295)  | 1,000          | 1,000           |
| 4        | <b>B 4B-ZR-SM4-TF</b> | <b>S 4B-ZR-SM4A-TF</b> | 4.5(.177)          | 9.0(.354)  | 1,000          | 1,000           |
| 5        | <b>B 5B-ZR-SM4-TF</b> | <b>S 5B-ZR-SM4A-TF</b> | 6.0(.236)          | 10.5(.413) | 1,000          | 1,000           |
| 6        | <b>B 6B-ZR-SM4-TF</b> | <b>S 6B-ZR-SM4A-TF</b> | 7.5(.295)          | 12.0(.472) | 1,000          | 1,000           |
| 7        | <b>B 7B-ZR-SM4-TF</b> | <b>S 7B-ZR-SM4A-TF</b> | 9.0(.354)          | 13.5(.531) | 1,000          | 1,000           |
| 8        | <b>B 8B-ZR-SM4-TF</b> | <b>S 8B-ZR-SM4A-TF</b> | 10.5(.413)         | 15.0(.591) | 1,000          | 1,000           |
| 9        | <b>B 9B-ZR-SM4-TF</b> | <b>S 9B-ZR-SM4A-TF</b> | 12.0(.472)         | 16.5(.650) | 1,000          | 1,000           |
| 10       | <b>B10B-ZR-SM4-TF</b> | <b>S10B-ZR-SM4A-TF</b> | 13.5(.531)         | 18.0(.709) | 1,000          | 1,000           |
| 11       | <b>B11B-ZR-SM4-TF</b> | <b>S11B-ZR-SM4A-TF</b> | 15.0(.591)         | 19.5(.768) | 1,000          | 1,000           |
| 12       | <b>B12B-ZR-SM4-TF</b> | <b>S12B-ZR-SM4A-TF</b> | 16.5(.650)         | 21.0(.827) | 1,000          | 1,000           |
| 13       | <b>B13B-ZR-SM4-TF</b> | <b>S13B-ZR-SM4A-TF</b> | 18.0(.709)         | 22.5(.886) | 1,000          | 1,000           |

### Material and Finish

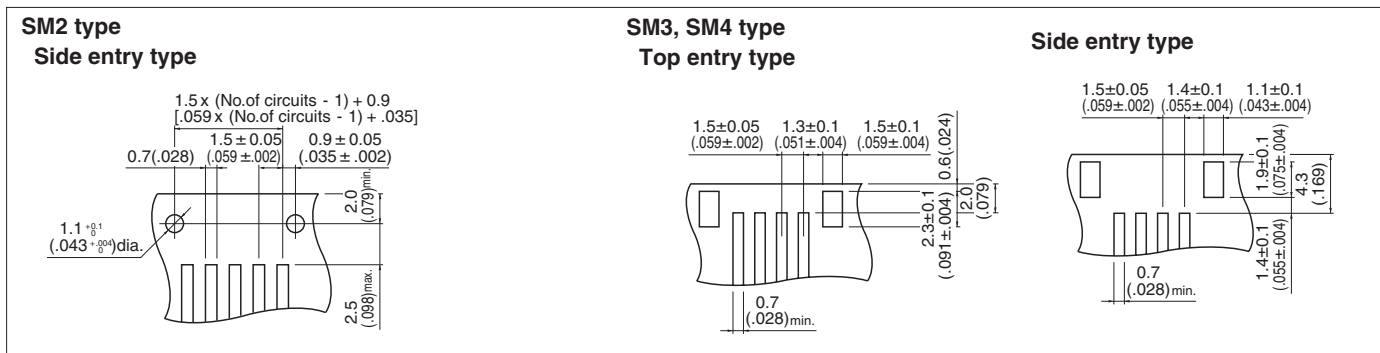
Pin: Brass, copper-undercoated, tin-plated  
 Wafer: Modified PA6T, UL94V-0, natural (white)  
 Solder tab: Brass, nickel-undercoated, tin/copper alloy-plated

Note: 1. The products listed above are supplied on embossed-tape.  
 2. Contact JST for the top entry type headers with suction cap.

<For reference> As the color identification, the following alphabet shall be put in the underlined part. For availability, delivery and minimum order quantity, contact JST.

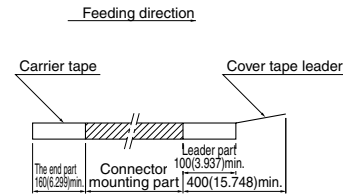
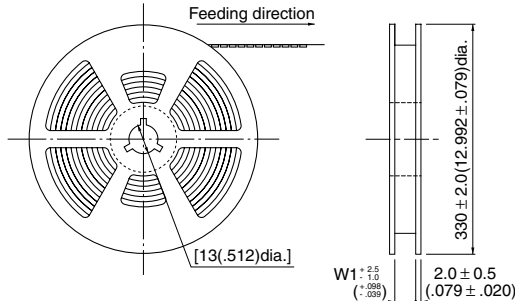
ex. **S2B-ZR-SM3A-oo-TF**  
 (blank)...natural (white)  
 K...black R...red E...blue M...green

## SMT type PC board layout (viewed from component side)



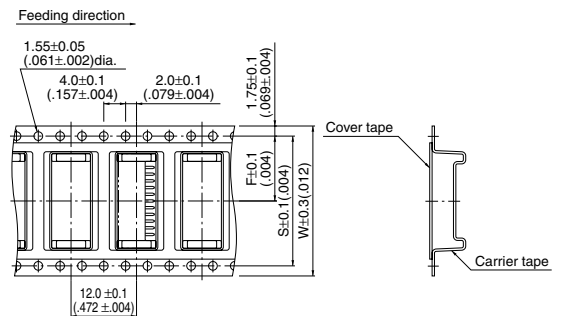
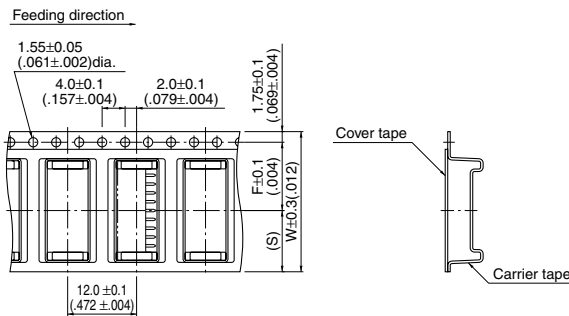
Note: 1. Tolerances are non-cumulative:  $\pm 0.05\text{mm}(\pm .002")$  for all centers.  
 2. The dimensions above should serve as a guideline. Contact JST for details.

## Taping specifications



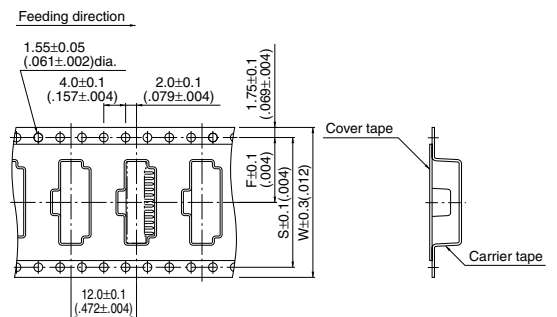
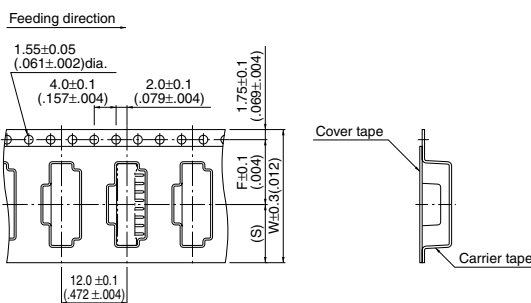
**SM2 type**  
 (Side entry type) 2 to 11 circuits  
**SM3, SM4 type**  
 (Side entry type) 2 to 10 circuits

**SM2 type**  
 (Side entry type) 12 to 13 circuits  
**SM3, SM4 type**  
 (Side entry type) 11 to 13 circuits



**SM3, SM4 type**  
 (Top entry type)  
 2 to 10 circuits

**SM3, SM4 type**  
 (Top entry type)  
 11 to 13 circuits



| Circuits     |                 | Taping dimensions mm(in.) |            |             | Reel dimensions mm(in.) | Q'ty / reel |             |       |
|--------------|-----------------|---------------------------|------------|-------------|-------------------------|-------------|-------------|-------|
|              |                 | F                         | S          | W           | W1                      |             |             |       |
| SM2 Type     | Side entry type | 2 to 6                    | 7.5(.295)  | 6.75(.266)  | 16.0(.630)              | 17.5(.689)  | 1,000       |       |
|              |                 | 7 to 11                   | 11.5(.453) | 10.75(.423) | 24.0(.945)              | 25.5(1.004) | 1,000       |       |
|              |                 | 12 to 13                  | 14.2(.559) | 28.4(1.118) | 32.0(1.260)             | 33.5(1.319) | 1,000       |       |
| SM3 SM4 Type | Top entry type  | 2                         | 5.5(.217)  | 4.75(.187)  | 12.0(.472)              | 13.5(.531)  | 1,000       |       |
|              |                 |                           | 3 to 5     | 7.5(.295)   | 6.75(.266)              | 16.0(.630)  | 17.5(.689)  | 1,000 |
|              |                 |                           | 6 to 10    | 11.5(.453)  | 10.75(.423)             | 24.0(.945)  | 25.5(1.004) | 1,000 |
|              | Side entry type |                           | 11 to 13   | 14.2(.559)  | 28.4(1.118)             | 32.0(1.260) | 33.5(1.319) | 1,000 |
|              |                 |                           | 2 to 5     | 7.5(.295)   | 6.75(.266)              | 16.0(.630)  | 17.5(.689)  | 1,000 |
|              |                 |                           | 6 to 10    | 11.5(.453)  | 10.75(.423)             | 24.0(.945)  | 25.5(1.004) | 1,000 |
|              |                 |                           | 11 to 12   | 14.2(.559)  | 28.4(1.118)             | 32.0(1.260) | 33.5(1.319) | 1,000 |
|              |                 | 13                        | 20.2(.795) | 40.4(1.591) | 44.0(1.732)             | 45.5(1.791) | 1,000       |       |

**Note:**

- Specifications conform to JIS C 0806. The tape width, connector recess dimensions, etc. are determined by the number of circuits and external shape of the connector to be loaded.
- Specifications are subject to change without prior notice.

# ZH CONNECTOR

## Applicator for the semi-automatic press AP-K2N

| Contact              | Crimp applicator MKS-L |                      | Compact crimp applicator MKS-LS |                      | Strip-crimp applicator MKS-SC |
|----------------------|------------------------|----------------------|---------------------------------|----------------------|-------------------------------|
|                      | with safety cover      | without safety cover | with safety cover               | without safety cover | with safety cover             |
| <b>SZH-002T-P0.5</b> | APLMK SZH002-05        | APLNC SZH002-05      | -                               | -                    | -                             |
| <b>SZH-003T-P0.5</b> | APLMK SZH003-05        | APLNC SZH003-05      | -                               | -                    | APLSC SZH003-05               |