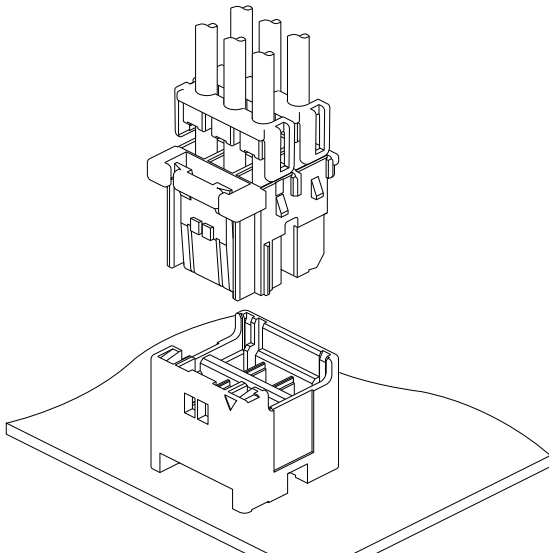


# HYV CONNECTOR

5.0mm pitch/Disconnectable Crimp style connectors



This HYV connector is 5.0 mm pitch wire-to-board type connector and has the mechanism to suppress the incomplete mating in mating operation.

Box-shaped contact to prevent the influence by external forces, thereby increasing safety of large current circuit connection. 4 type key patterns prevents mismatching insertion when using multiple pieces connector in the same model.

- Keying structure
- Secure locking structure
- Inertia lock structure
- Retainer mountable type
- Header suitable for potting process

## Specifications

- Current rating: 10 A AC, DC (Refer to the table below.)
- Voltage rating: 300 V AC, DC
- Temperature range: -30°C to +105°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: 1,500 VAC/minute
- Applicable wire: Conductor size 21 type/ AWG #22 to #18  
41 type/ AWG #18 to #16  
Insulation O.D. 21 type/ 1.8 mm to 2.7 mm  
41 type/ 2.3 mm to 3.0 mm  
(41 type: Insulation O.D. when mounting a retainer/ 2.3 mm to 2.9 mm)
- Applicable PC board thickness: 1.6 mm

Note: The current rating differs depending on the number of circuits and the wire size used in each connector. The table below lists the current rating as a function of the number of circuits and the wire size.

Current unit: A

| No. of circuits | Wire size (AWG) |     |     |     |
|-----------------|-----------------|-----|-----|-----|
|                 | #16             | #18 | #20 | #22 |
| 2               | 10              | 7   | 5   | 3   |
| 3               | 9               | 7   | 5   | 3   |
| 4               | 9               | 7   | 5   | 3   |
| 6               | 8               | 7   | 5   | 3   |

Note: Do not branch in parallel current which exceeds the rated current (e.g. more than 10 A in the case of 2 circuits with AWG #16). If branched in parallel, current imbalance or other problems may develop. If it is absolutely necessary to branch such a large current in parallel, design the circuits without causing any imbalance and provide an extra margin for each circuit.

- \* Refer to "General Instruction and Notice when using Terminals and Connectors" at the end of this catalog.
- \* Contact JST for details.
- \* Compliant with RoHS.

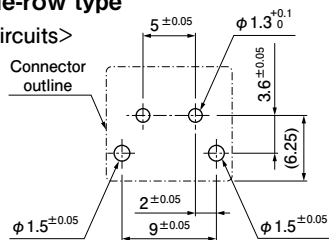
## Standards

- Ⓜ Recognized E60389
- Ⓢ Certified LR20812

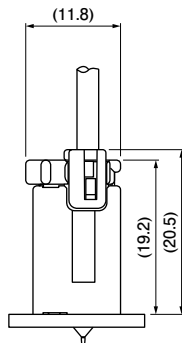
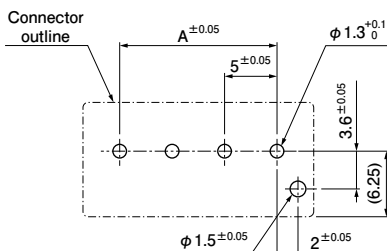
## PC board layout and Assembly layout

### Single-row type

<2 circuits>

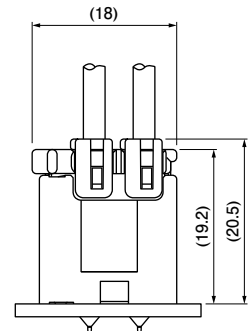
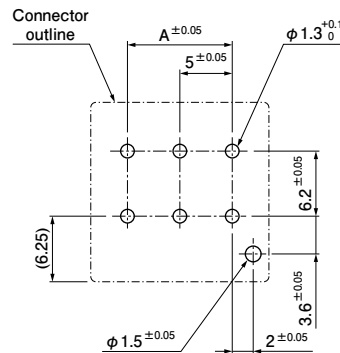


<3 & 4 circuits>



### Dual-row type

<4 & 6 circuits>



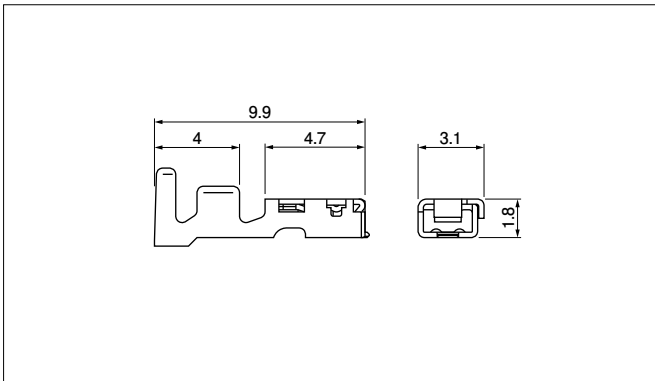
Note: 1. The above figure is the figure viewed from the connector mounting side .

2. Tolerances are non-cumulative: ± 0.05 mm for all centers.

3. Hole dimensions differ according to the type of PC board and piercing method. The dimensions above should serve as a guideline. Contact JST for details.

# HYV CONNECTOR

## Contact



| Model No.      | Applicable wire |          | Insulation O.D. (mm) | Q'ty/reel |
|----------------|-----------------|----------|----------------------|-----------|
|                | mm <sup>2</sup> | AWG#     |                      |           |
| SHYVF-21T-M0.5 | 0.33 to 0.83    | 22 to 18 | 1.8 to 2.7           | 4,000     |
| SHYVF-41T-M0.5 | 0.83 to 1.25    | 18 to 16 | 2.3 to 3.0           | 3,000     |

### Material and Finish

Copper alloy, tin-plated (reflow treatment)

### RoHS compliance

Note: Insulation O.D. of 41 barrel when mounting a retainer shall be 2.3 mm to 2.9 mm dia.

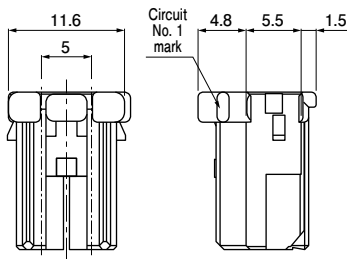
| Contact        | Crimping machine | Applicator       |                |                            |
|----------------|------------------|------------------|----------------|----------------------------|
|                |                  | Crimp applicator | Dies           | Crimp applicator with dies |
| SHYVF-21T-M0.5 | AP-K2N           | MKS-L            | MK/SHYVF-21-05 | APLMK SHYVF21-05           |
|                |                  | —                | —              | —                          |
| SHYVF-41T-M0.5 | —                | MKS-L            | MK/SHYVF-41-05 | APLMK SHYVF41-05           |
|                |                  | —                | —              | —                          |

Note: Contact JST for fully automatic crimping applicator.

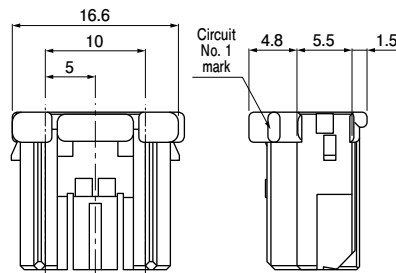
## Housing

### Single-row type

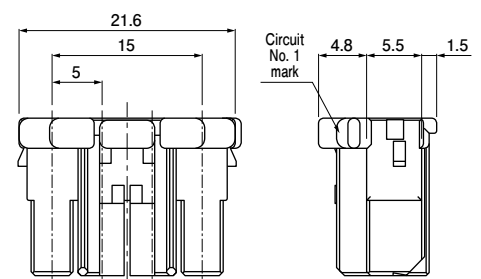
<2 circuits>



<3 circuits>

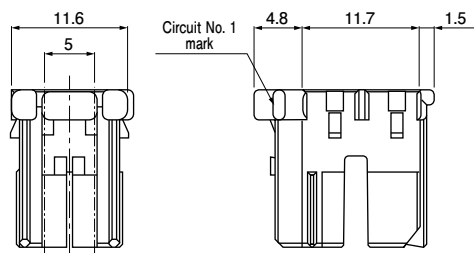


<4 circuits>

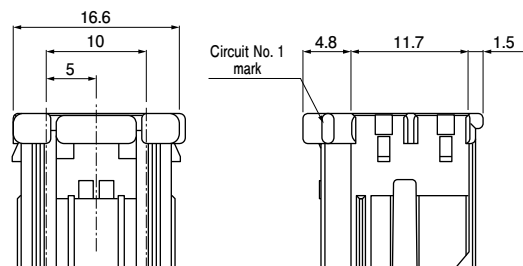


### Dual-row type

<4 circuits>



<6 circuits>



| Type            | No. of circuits | Model No.       | Q'ty/bag |
|-----------------|-----------------|-----------------|----------|
| Single-row type | 2               | HYVRP-02V-A-S   | 1,000    |
|                 | 3               | HYVRP-03V-A-S   | 1,000    |
|                 | 4               | HYVRP-04V-A-S   | 600      |
| Dual-row type   | 4               | HYVRP-04V-W-A-S | 600      |
|                 | 6               | HYVRP-06V-W-A-S | 600      |

### Material

Glass-filled PA 66, UL94V-0, natural

### RoHS compliance

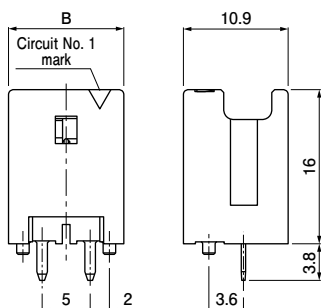
Note: Contact JST for key pattern.

# HYV CONNECTOR

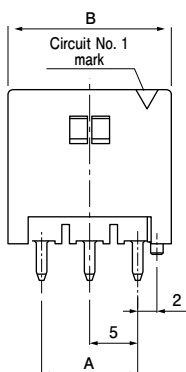
## Header

### Single-row type

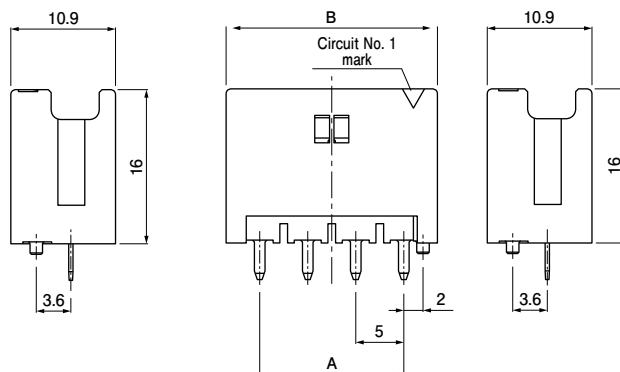
<2 circuits>



<3 circuits>

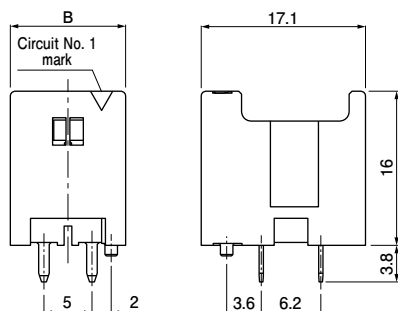


<4 circuits>

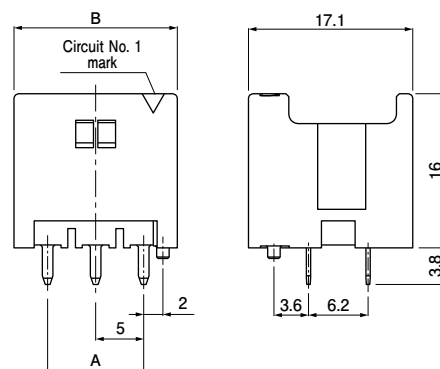


### Dual-row type

<4 circuits>



<6 circuits>



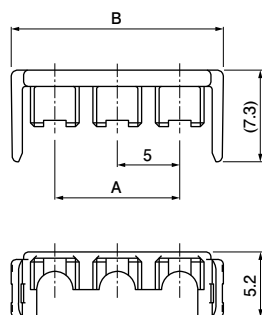
| Type            | No. of circuits | Model No.       | Dimensions (mm) |      | Q'ty/box |
|-----------------|-----------------|-----------------|-----------------|------|----------|
|                 |                 |                 | A               | B    |          |
| Single-row type | 2               | B02B-HYVSS-A-1  | —               | 12.0 | 150      |
|                 | 3               | B03B-HYVSS-A-1  | 10.0            | 17.0 | 100      |
|                 | 4               | B04B-HYVSS-A-1  | 15.0            | 22.0 | 100      |
| Dual-row type   | 4               | B04B-HYVSS-A-1W | —               | 12.0 | 100      |
|                 | 6               | B06B-HYVSS-A-1W | 10.0            | 17.0 | 50       |

#### Material and Finish

Post: Copper alloy, copper-undercoated, tin-plated (reflow treatment)  
Wafer: Glass-filled PA 66, UL94V-0

RoHS compliance  
Note: Contact JST for key pattern.

## Retainer



| No. of circuits | Model No. | Dimensions (mm) |      | Q'ty/bag |
|-----------------|-----------|-----------------|------|----------|
|                 |           | A               | B    |          |
| 2               | HYVS-02V  | —               | 12.0 | 2,000    |
| 3               | HYVS-03V  | 10.0            | 17.0 | 2,000    |
| 4               | HYVS-04V  | 15.0            | 22.0 | 1,000    |

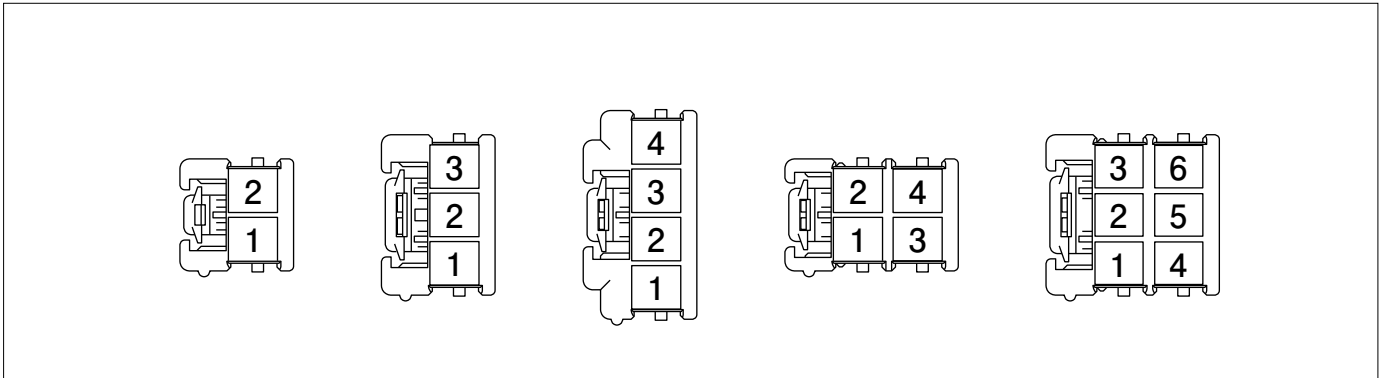
#### Material

Glass-filled PA 66, UL94V-0, natural

RoHS compliance

# HYV CONNECTOR

## Contact position location numbers



## Model number allocation

### Contact

**S HYV F - 21 T - M 0.5**

Form: S...Strip form

Series name

Shape: F...Socket contact

Applicable wire range: 21...AWG #22 to AWG #18  
41...AWG #18 to AWG #16

Surface finish: T...Tin-plated (reflow treatment)

Material: M...Copper alloy

Terminal size

### Housing

**HYV RP - 02 V - - A - S**

Series name

Part name: Plug (Retainer mountable type)

No. of circuits: 2 to 6

Flammability: V...UL94V-0

Shape: None...Single-row, W...Dual-row

Key pattern: A...Key pattern A

Color: S...Natural

### Header

**B 02 B - HYV S S - A - 1**

Shape of assembled product

No. of circuits: 2 to 6

Part name: Header

Series name

Color: S...Natural

Indication of clinch: S...Straight pin

Key pattern: A...Key pattern A

With/Without boss: 1...With boss

Shape: None...Single-row, W...Dual-row

### Retainer

**HYV S - 02 V**

Series name

Part name: Retainer

No. of circuits: 2 to 4

Flammability: V...UL94V-0