

## ■ Features

### 1. 5 Amps capacity

When used with 20 AWG wire, this connector has a maximum capacity of 5A.

(For rated current with other types of wires, please refer to the table on the next page)

### 2. Secure lock mechanism

Outer locking mechanism prevents accidental unmating due to external shocks or drops. (Fig.1)

### 3. Accurate board placement

Guide posts are used to help with board placement and prevent incorrect mating to the PCB.

### 4. Supports resin sealing

Accepts resin sealing up to 6.5mm without affecting the performance.

### 5. Short circuit prevention

The housing protects each contact by enclosing them in a “box” which also makes each contact independent of each other. This design prevents short circuits between adjacent contacts.

### 6. Excellent contact retention

A retainer is available to increase contact/cable retention and to assure complete contact insertion. The retainer should also be used when any mechanical stress could be applied to the cable.

### 7. Prevents solder cracking

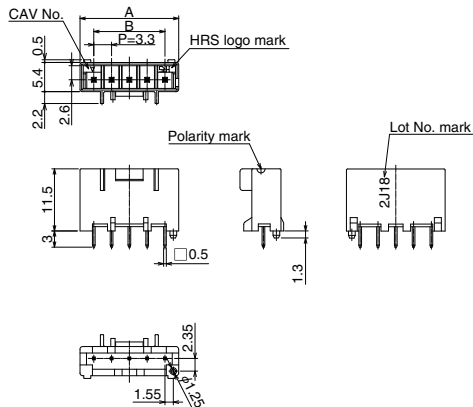
To avoid solder crack, a glass-filled resin is used in the header housing to decrease thermal shrinkage.

### 8. Easy mating operation

A clear tactile click is delivered upon the completion of the mating process. This simplifies mating and increases work efficiency, especially when operating in a noisy environment.



### Single row straight pin header



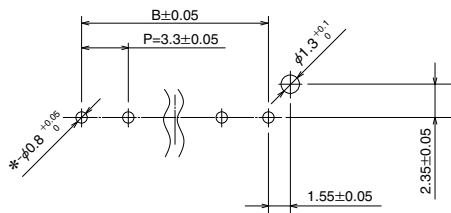
#### Standard type (Resin: White)

Unit : mm

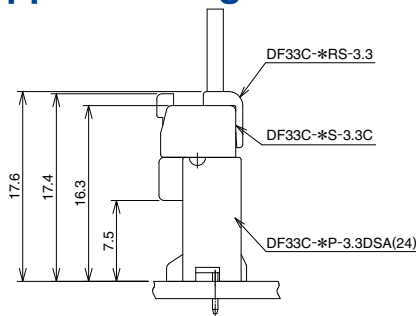
| Part No.            | HRS No.       | No. of Contacts | A    | B    | Packing     |
|---------------------|---------------|-----------------|------|------|-------------|
| DF33C-2P-3.3DSA(24) | 676-1131-2 24 | 2               | 8.4  | 3.3  | 135pcs/tray |
| DF33C-3P-3.3DSA(24) | 676-1132-5 24 | 3               | 11.7 | 6.6  | 95pcs/tray  |
| DF33C-4P-3.3DSA(24) | 676-1133-8 24 | 4               | 15.0 | 9.9  | 75pcs/tray  |
| DF33C-5P-3.3DSA(24) | 676-1134-0 24 | 5               | 18.3 | 13.2 | 60pcs/tray  |
| DF33C-6P-3.3DSA(24) | 676-1135-3 24 | 6               | 21.6 | 16.5 | 50pcs/tray  |

[Specification No.]  
(24): Tin plating, tray package specification

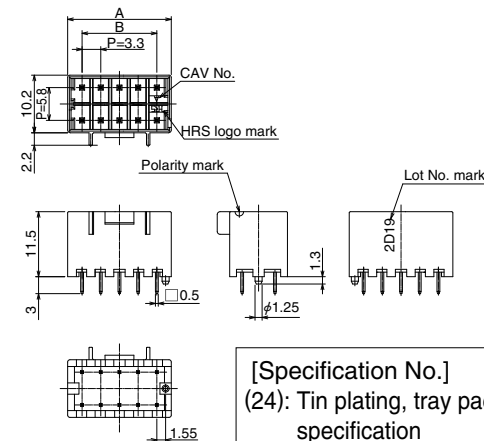
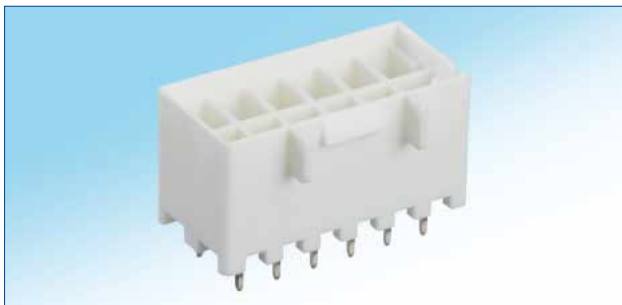
#### Recommended PCB layout (Recommended PCB thickness t=1.6 ±0.1)



#### Dimensions in mated condition Application figure



### Double row, straight pin header



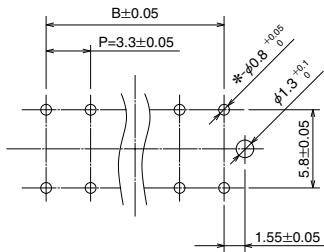
#### Standard type (Resin color: White)

Unit : mm

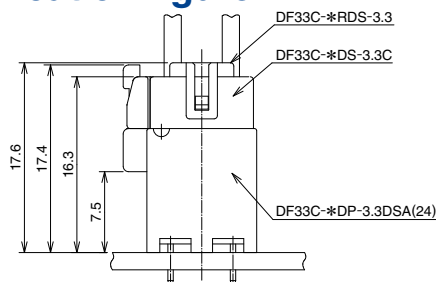
| Part No.              | HRS No.       | No. of Contacts | A    | B    | Packing     |
|-----------------------|---------------|-----------------|------|------|-------------|
| DF33C-4DP-3.3DSA(24)  | 676-1113-0 24 | 4               | 8.4  | 3.3  | 135pcs/tray |
| DF33C-6DP-3.3DSA(24)  | 676-1114-3 24 | 6               | 11.7 | 6.6  | 95pcs/tray  |
| DF33C-8DP-3.3DSA(24)  | 676-1115-6 24 | 8               | 15.0 | 9.9  | 75pcs/tray  |
| DF33C-10DP-3.3DSA(24) | 676-1116-9 24 | 10              | 18.3 | 13.2 | 60pcs/tray  |
| DF33C-12DP-3.3DSA(24) | 676-1117-1 24 | 12              | 21.6 | 16.5 | 50pcs/tray  |

[Specification No.]  
(24): Tin plating, tray package specification

#### Recommended PCB layout (Recommended PCB thickness t=1.6 ±0.1)

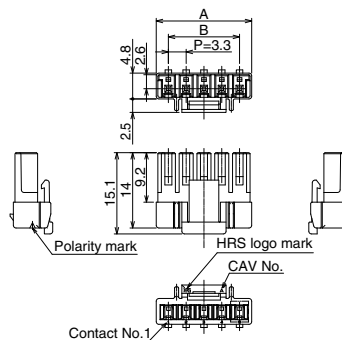


#### Application figure



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## Single row socket



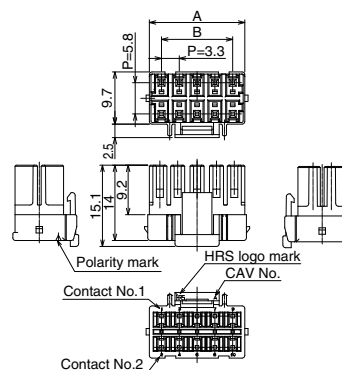
### Standard type (Resin color: White)

Unit : mm

| Part No.      | HRS No.       | No.of Contacts | A    | B    | Packing         |
|---------------|---------------|----------------|------|------|-----------------|
| DF33C-2S-3.3C | 676-1136-6 00 | 2              | 7.8  | 3.3  | 100pcs/<br>pack |
| DF33C-3S-3.3C | 676-1137-9 00 | 3              | 11.1 | 6.6  |                 |
| DF33C-4S-3.3C | 676-1138-1 00 | 4              | 14.4 | 9.9  |                 |
| DF33C-5S-3.3C | 676-1139-4 00 | 5              | 17.7 | 13.2 |                 |
| DF33C-6S-3.3C | 676-1140-3 00 | 6              | 21.0 | 16.5 |                 |

\*For the retainers, please refer to page 5.

## Double row socket



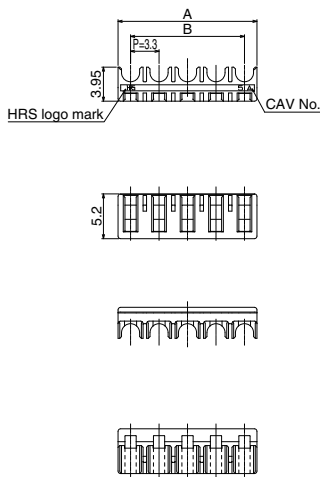
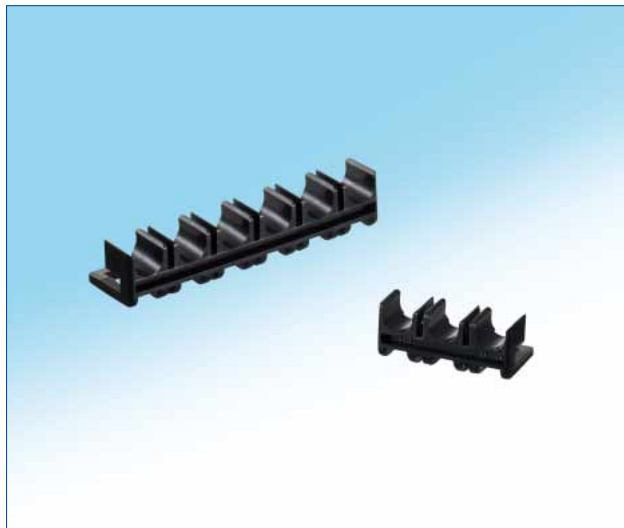
### Standard type (Resin color: White)

Unit : mm

| Part No.        | HRS No.       | No.of Contacts | A    | B    | Packing         |
|-----------------|---------------|----------------|------|------|-----------------|
| DF33C-4DS-3.3C  | 676-1119-7 00 | 4              | 7.8  | 3.3  | 100pcs/<br>pack |
| DF33C-6DS-3.3C  | 676-1120-6 00 | 6              | 11.1 | 6.6  |                 |
| DF33C-8DS-3.3C  | 676-1121-9 00 | 8              | 14.4 | 9.9  |                 |
| DF33C-10DS-3.3C | 676-1122-1 00 | 10             | 17.7 | 13.2 |                 |
| DF33C-12DS-3.3C | 676-1123-4 00 | 12             | 21.0 | 16.5 |                 |

\*For the retainers, please refer to page 5.

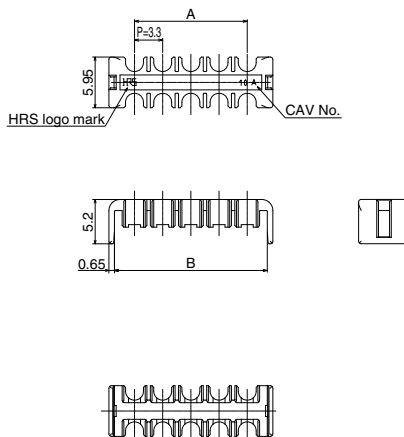
### Single row retainer



Unit : mm

| Part No.      | HRS No.       | No.of Contacts | A    | B    | Packing         |
|---------------|---------------|----------------|------|------|-----------------|
| DF33C-2RS-3.3 | 676-1141-6 00 | 2              | 6.2  | 3.3  | 100pcs/<br>pack |
| DF33C-3RS-3.3 | 676-1142-9 00 | 3              | 9.5  | 6.6  |                 |
| DF33C-4RS-3.3 | 676-1143-1 00 | 4              | 12.8 | 9.9  |                 |
| DF33C-5RS-3.3 | 676-1144-4 00 | 5              | 16.1 | 13.2 |                 |
| DF33C-6RS-3.3 | 676-1145-7 00 | 6              | 19.4 | 16.5 |                 |

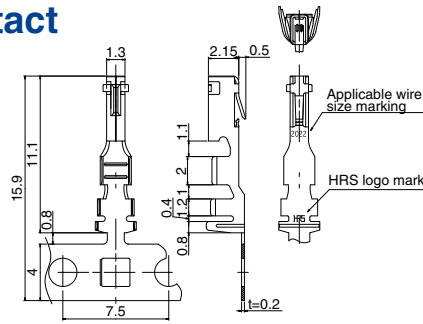
### Double row retainer



Unit : mm

| Part No.        | HRS No.       | No.of Contacts | A    | B    | Packing         |
|-----------------|---------------|----------------|------|------|-----------------|
| DF33C-4RDS-3.3  | 676-1125-0 00 | 4              | 3.3  | 8.0  | 100pcs/<br>pack |
| DF33C-6RDS-3.3  | 676-1126-2 00 | 6              | 6.6  | 11.3 |                 |
| DF33C-8RDS-3.3  | 676-1127-5 00 | 8              | 9.9  | 14.6 |                 |
| DF33C-10RDS-3.3 | 676-1128-8 00 | 10             | 13.2 | 17.9 |                 |
| DF33C-12RDS-3.3 | 676-1129-0 00 | 12             | 16.5 | 21.2 |                 |

◆ Socket crimp contact



| Part No.      | HRS No.       | Applicable cable |                 |           |                         | Packaging    | Finish     |
|---------------|---------------|------------------|-----------------|-----------|-------------------------|--------------|------------|
|               |               | Style            | Jacket diameter | Wire size | Stranded wire conductor |              |            |
| DF33A-2022SCF | 676-1093-5 00 | 1007             | φ1.5 to 1.9mm   | 22 AWG    | 17/0.16mm               | 10,000 /reel | Tin plated |
|               |               |                  |                 | 20 AWG    | 21/0.18mm               |              |            |
| DF33A-2022SC  | 676-1094-8    | 1007             | φ1.7mm          | 22 AWG    | 17/0.06mm               | 100 /pack    |            |
|               |               |                  | φ1.8mm          | 20 AWG    | 21/0.18mm               |              |            |

Note 1 : Applicable wire with tin plated solid soft conductor.

Note 2 : For applicable cable other than those listed above, refer to Crimp Condition Table. Crimp Condition Table is available on product web page.

(If you are using a cable that is not listed in Crimp Condition Table, please contact a Hirose sales representative.)

Strip length: 2.7 to 3.5mm

◆ Applicable crimp tool

| Type                  | Part No.              | HRS No.       | Applicable Contact            |
|-----------------------|-----------------------|---------------|-------------------------------|
| Applicator            | AP105-DF33-2022S      | 901-4603-0 00 | DF33A-2022SCF                 |
|                       | CHS893300H-UP(Note 3) | -             |                               |
| Press main body       | CM-105C               | 901-0001-0 00 | -                             |
| Hand tool             | HT304/DF33-2022S      | 550-0300-1    | DF33A-2022SC                  |
| Contact unmating tool | DF33-C-PO             | 902-4551-2 00 | DF33A-2022SCF<br>DF33A-2022SC |

Note 1 : Hirose does not guarantee products that have been damaged from the use of inapplicable tools

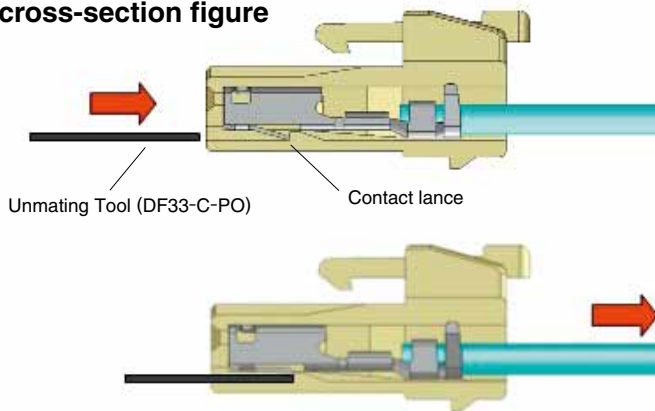
Note 2 : Please do the crimping operations according to the "Crimping quality standard" and "Crimp condition".

Note 3 : Applicator manufactured by JAPAN AUTOMATIC MACHINE (J.A.M.). Please access to HP of J.A.M., if you make inquiries about the applicator or crimp defect. (URL : <http://www.jam-net.co.jp>)

◆ Unmating Procedure

- Contact unmating tool: DF33-C-PO
- Applicable contact: DF33A-2022SCF, DF33A-2022SC
- Operation method (Example) DF33C-\*S-3.3C, DF33A-2022SCF

Housing cross-section figure



1. Insert the unmating tool and move or disengage the contact lance. (as shown in the example on the left)

2. Make sure that the lance has moved sufficiently enough to allow the terminated wire to be removed easily.

Note : Lance strength may have decreased due to the repair work. It is recommended to use new crimp terminals instead of reusing repaired crimp terminals. The case can be reused.

**Caution**

There are parts on the crimp contact that can cause injuries, please use caution when unmating the contacts.

## ◆ Operating Precautions

- These connectors can become damaged if excessive force is applied during extraction. If you experience difficulty when unmating this connector, gently push it further into the housing and then operate the lock and release the connector.
- When performing a resin sealing, pay attention to the surface tension of the resin and fill accordingly.
- Wire routing inside the device can cause added tension to be applied to the contacts. Use of a retainer will help remedy the stress placed on the contact.
- Prior to reusing a terminated wire, make sure that the contact's lance is raised to the proper height.
- There may be a slight variance in the color of the molding between production lots, this variance will not affect the performance of the connector.
- Black spots may appear on the mold resin but this does not affect the product quality.
- Please refer to the documents "Cable assembly Procedure", "Crimp condition" and "Crimp quality standards" for the cable assembly procedures.
- Please refer to the "Nylon Connector Guide" for handling instructions.

## ◆ Ratings

If the connector is rated at 3A, and the wire used with the connector only has a 1A capacity, the connection will be regarded as a 1A connection. Please make sure that you do not place too much current through this connector. Even though the connector may be rated to take the current applied to it, currents are not always distributed equally due to the differences in wiring path or contact resistance. Due to this precaution, the current may exceed the ratings previously discussed. In these cases, use 1/3 of the noted rating as the maximum. Do not mate/unmate this connector when energized with a live current

(Note 1) "Live" mating and unmating is defined as "to conduct the mating and unmating process while the system is conducting electricity"

## ◆ Usage Under Harsh Environments

When using these connectors in a harsh environment such as one with repeated high and low temperatures, please contact us for advice.

