

## DF51K Series

# 2mm Pitch, Center Lock, Wire-to-Board Connector (UL/C-UL Listed)



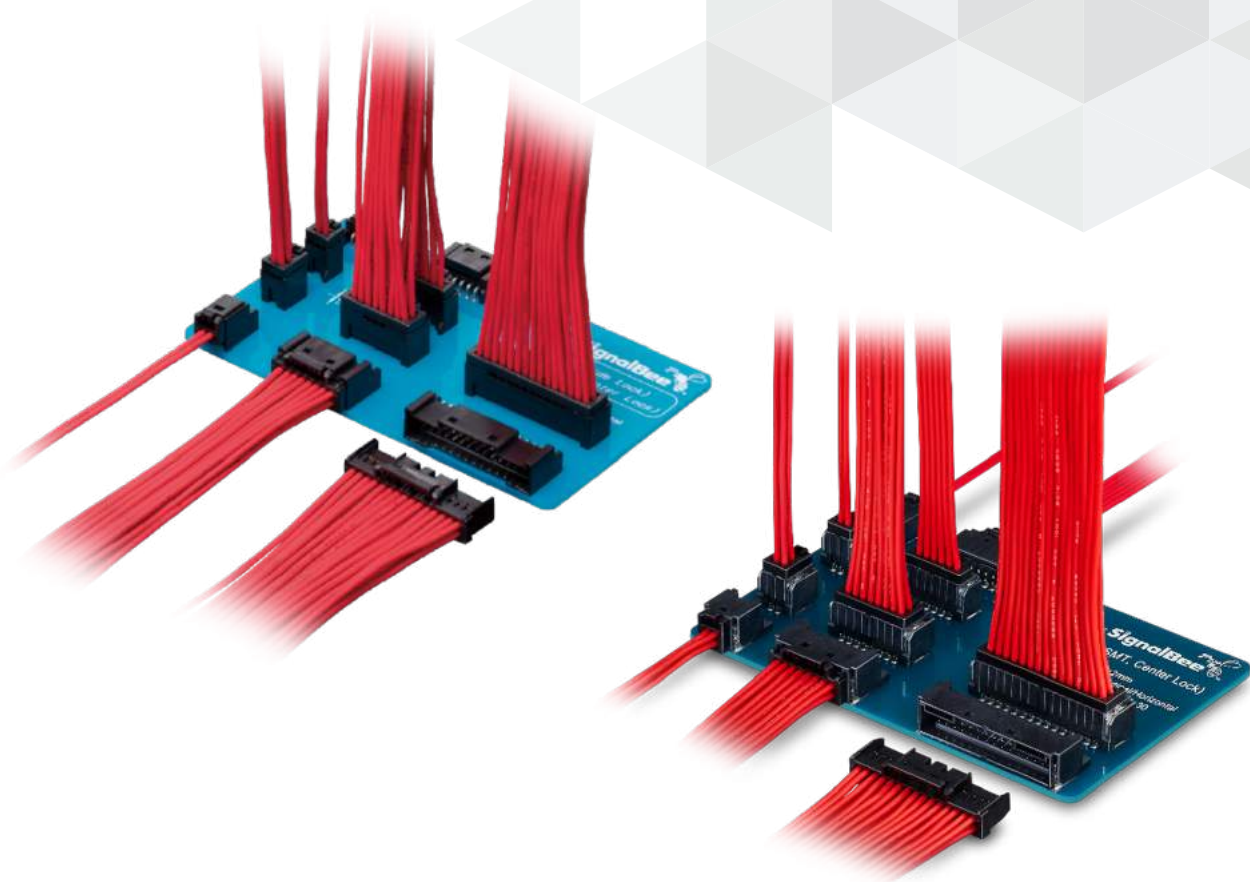
Positive-Lock



P=2.0 mm



Wide Variation



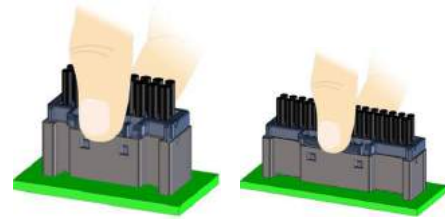
Product Page  
<https://www.hirose.com/en/product/series/DF51K>

## Features

### 1. Wide-Ranging Options to Meet Diverse Customer Needs

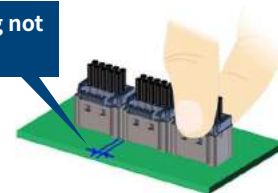
- THT/SMT, Straight/Right Angle, Single/Double row, Gold/Tin Plating, etc.

### 2. Center Lock Design for High-Density Mounting and Easy Operation



Center lock lever with various widths enables user-friendly operation.

Extra spacing not required



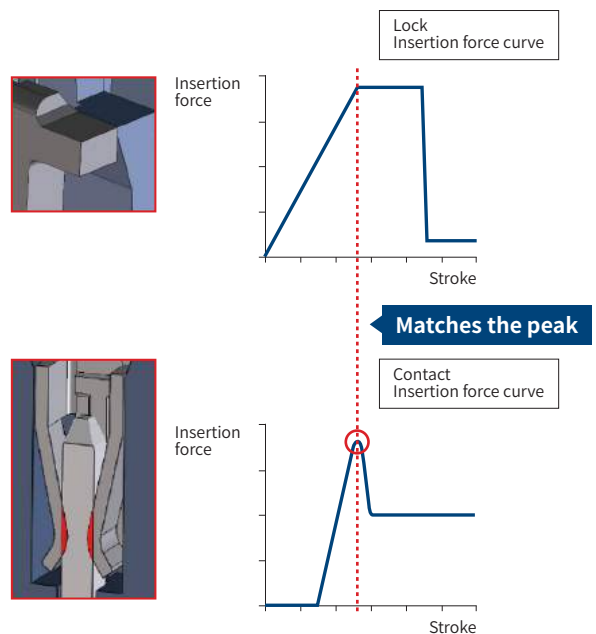
High density mounting contributes to space saving.

### 3. Secure Mating with Clear Tactile Click

Prevents incomplete insertion, featuring a design where the lock and contact insertion force peaks align to produce a noticeable click.

### 4. High contact reliability with long effective mating length and 2-point contact design

A clear tactile click prevents incomplete insertion

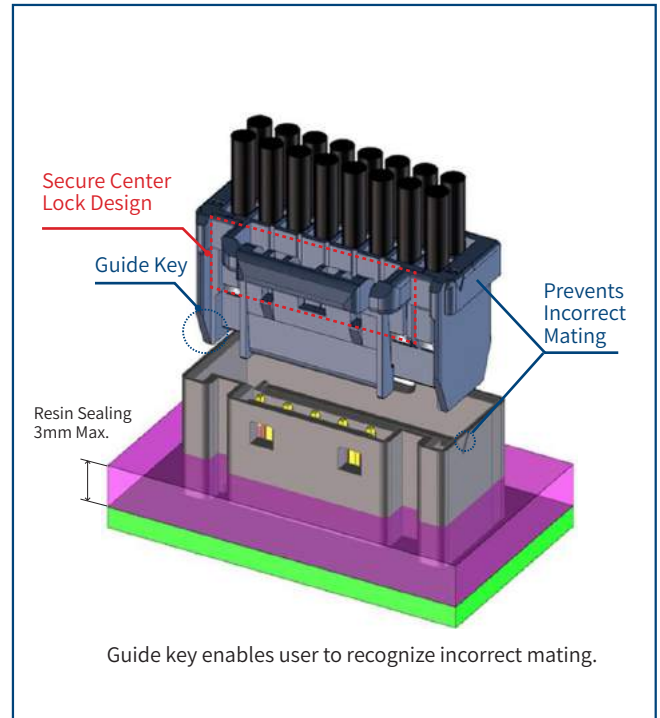


## 5. Prevents Incorrect Mating

Visual and mechanical polarized design prevents reverse and incorrect mating between different numbers of positions.

## 6. Suitable for Potting

Designed to support potting up to 3mm (applicable only to the straight THT header).



## 7. Compatible Crimping Tools

Utilizes the same crimp tools as the DF11 Series, accommodating a wide cable range of 22 to 30 AWG.

(Note : The crimp contacts of DF51K and DF11 are not interchangeable.)

## 8. UL, C-UL certified

- THT & SMT Type

## Applications

Office equipment, Industrial machinery, Industrial robots, Amusement equipment, Medical equipment, etc.

## Product Specifications

|                           |                |            |             |        |        |             |        |        |                          |                         |
|---------------------------|----------------|------------|-------------|--------|--------|-------------|--------|--------|--------------------------|-------------------------|
| Rated Current<br>(Note 1) | THT & SMT Type | Single-row | No. of Pos. | 22 AWG | 24 AWG | 26 AWG      | 28 AWG | 30 AWG | Operating Temperature    | -55 to +105° C (Note 2) |
|                           |                |            | 2           | 3A     | 2.5A   | 2A          | 1A     | 0.5A   | Operating Humidity Range | 20 to 80% (Note 3)      |
|                           |                | 3-6        | 2A          | 2A     | 4      |             |        |        | 3A                       | 2.5A                    |
|                           |                | 6-30       | 2A          | 2A     |        | 1.5A        |        |        |                          |                         |
| Rated Voltage             | THT Type       |            | Straight    |        |        | Right Angle |        |        | Storage Humidity Range   | 40 to 70% (Note 4)      |
|                           |                | Single-row | 250V AC/DC  |        |        |             |        |        |                          |                         |
|                           |                | Double-row | 250V AC/DC  |        |        |             |        |        |                          |                         |
|                           | SMT Type       |            | Straight    |        |        | Right Angle |        |        |                          |                         |
|                           |                | Single-row | 250V AC/DC  |        |        | 250V AC/DC  |        |        |                          |                         |
|                           |                | Double-row | 250V AC/DC  |        |        | 100V AC/DC  |        |        |                          |                         |

|                                                                 |                        |           |              |        |
|-----------------------------------------------------------------|------------------------|-----------|--------------|--------|
| UL/C-UL Safety Standard Approved Specification (THT & SMT Type) | Rated Current (Note 1) | 22 AWG    | 24 to 28 AWG | 30 AWG |
|                                                                 |                        | 2A        | 1A           | 0.5A   |
|                                                                 | Rated Voltage          | 30V AC/DC |              |        |

UL/C-UL File No. and Recognition No. E132750

| Items                              | Specifications                                                                         | Conditions                                                                                                           |
|------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Insulation Resistance              | No less than 1,000MΩ                                                                   | Measured at 500V DC                                                                                                  |
| Withstanding Voltage               | No insulation breakdown                                                                | 650V AC is applied for 1 minute<br>(*Double-row Right Angle SMT Header : 500V AC for 1min.)                          |
| Contact Resistance                 | No more than 30mΩ                                                                      | Measured at 1mA and no higher than 20mV                                                                              |
| Mating Durability                  | Contact resistance : no more than 30mΩ                                                 | Tin plated : 30 mating cycles,<br>Gold plated : 50 mating cycles                                                     |
| Vibration Resistance               | No electrical discontinuity of 1μs or greater                                          | Frequency : 10 to 55Hz, half amplitude 0.75mm,<br>10 times in each of the 3 directions                               |
| Shock Resistance                   | No electrical discontinuity of 1μs or greater                                          | Acceleration velocity : 490m/s <sup>2</sup> for 11ms,<br>half-sine wave in 3 directions, 3 times for each directions |
| Moisture Resistance (Steady State) | Contact resistance : no more than 30mΩ<br>Insulation resistance : no less than 500MΩ   | Temperature : 40±2°C, humidity : 90 to 95%,<br>left as it is for 96 hours                                            |
| Temperature Cycle                  | Contact resistance : no more than 30mΩ<br>Insulation resistance : no less than 1,000MΩ | -55°C : 30 minutes → +105°C : 30 minutes, 5 cycles                                                                   |

Note 1 : The rated current varies based on the cable size used.

Note 2 : Includes temperature rise caused by current flow.

Note 3 : Use without condensation on parts.

Note 4 : The storage condition refers to long-term storage of the product on the shelf before assembly.

Please use the operating temperature for temporary storage such as pre-assembly and during shipping.

## Materials / Finish

| Product        | Component     | Material                                                | Color / Finish            | UL Regulation |
|----------------|---------------|---------------------------------------------------------|---------------------------|---------------|
| THT Header     | Insulator     | Straight : PA66<br>Right Angle : PBT (Glass-reinforced) | Black                     | UL94V-0       |
|                | Contact       | Brass                                                   | Tin Plated or Gold Plated | -             |
| SMT Header     | Insulator     | LCP                                                     | Black                     | UL94V-0       |
|                | Contact       | Brass                                                   | Tin Plated or Gold Plated | -             |
|                | Retention Tab | Brass                                                   | Tin Plated                | -             |
| Crimp Socket   | Insulator     | PBT (Glass-reinforced)                                  | Black                     | UL94V-0       |
| Socket Contact | Contact       | Phosphor Bronze                                         | Tin Plated or Gold Plated | -             |

## Product Number Structure

Refer to the chart below when determining the product specifications from the product number.  
Please select from the product numbers listed in this catalog when placing orders.

### Connector

**DF51K** **B** - **#** **P** - **2** **DSA**

①      ②      ③   ④      ⑤      ⑥

### Crimp Contact

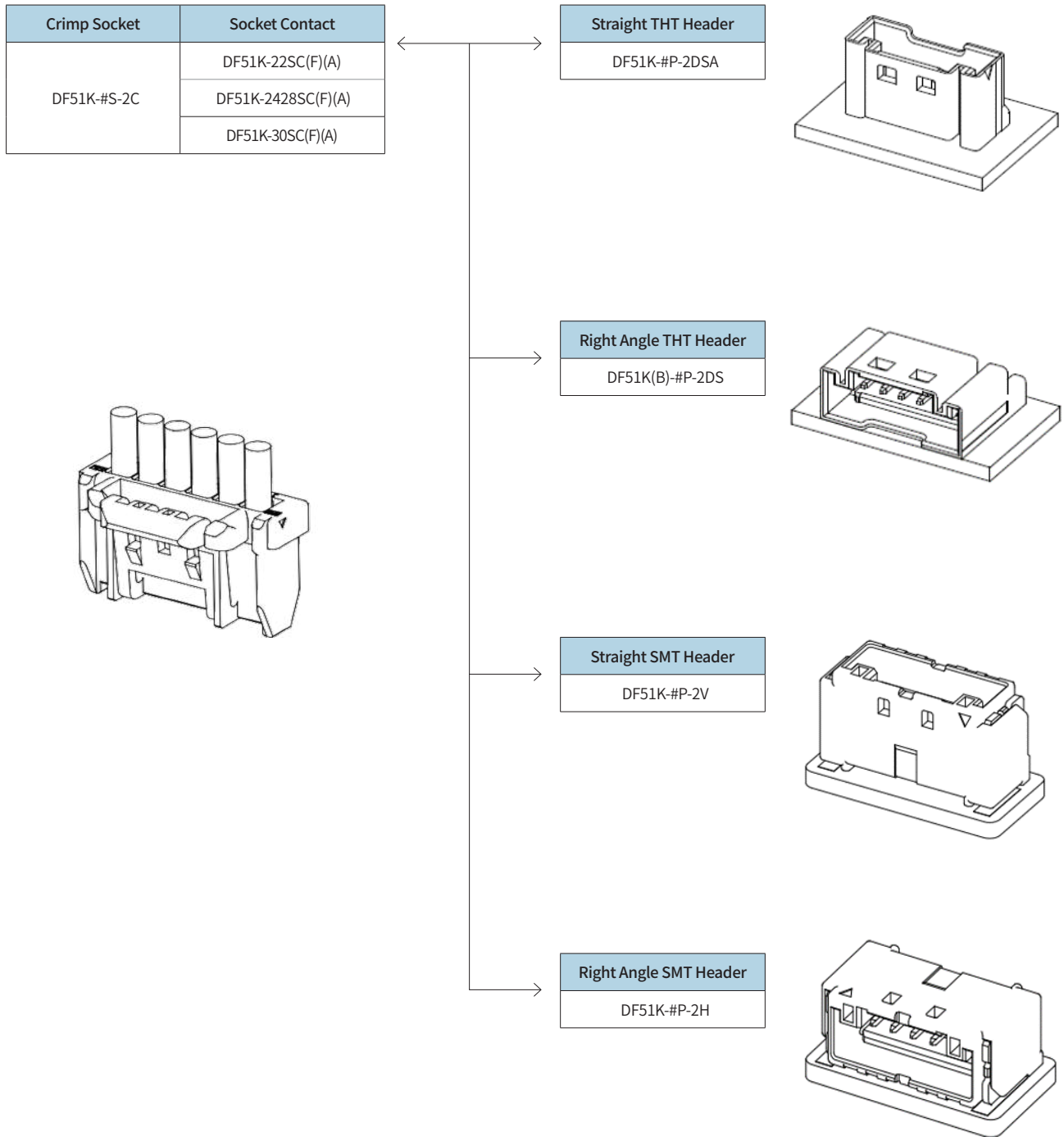
**DF51K** - **2428** **SCF** **A**

①              ⑦      ⑧      ⑨

|                  |                                                                                                                        |                          |                                                                                                           |
|------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------|
| ① Series Name    | DF51K                                                                                                                  | ⑥ Type of Housing        | DSA : Straight THT<br>DS : Right Angle THT<br>V : Straight SMT<br>H : Right Angle SMT<br>C : Crimp Socket |
| ② Form Type      | Blank : Without Guide-boss<br>B : With Guide-boss                                                                      |                          |                                                                                                           |
| ③ No. of Pos.    | Single-row : 2 to 6<br>Double-row : 4 to 30                                                                            | ⑦ Applicable Wire        | 22 : 22 AWG<br>2428 : 24 to 28 AWG<br>30 : 30 AWG                                                         |
| ④ Connector Type | P : Single-row Pin Header<br>S : Single-row Crimp Socket<br>DP : Double-row Pin Header<br>DS : Double-row Crimp Socket | ⑧ Packaging              | SC : Socket Contacts, Bag<br>SCF : Socket Contacts, Reel                                                  |
|                  |                                                                                                                        | ⑨ Plating Specifications | Blank : Tin plated<br>A : Gold plated                                                                     |
| ⑤ Contact Pitch  | 2mm                                                                                                                    |                          |                                                                                                           |

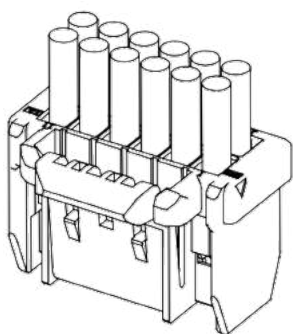
## Diagram of Connector Mating Combinations

### Single-row

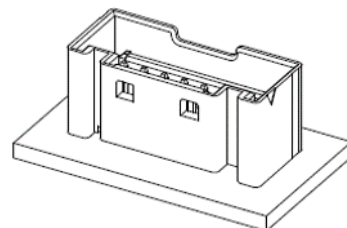


## Double-row

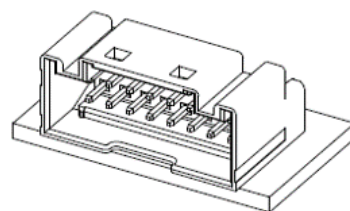
| Crimp Socket | Socket Contact     |
|--------------|--------------------|
| DF51K-#DS-2C | DF51K-22SC(F)(A)   |
|              | DF51K-2428SC(F)(A) |
|              | DF51K-30SC(F)(A)   |



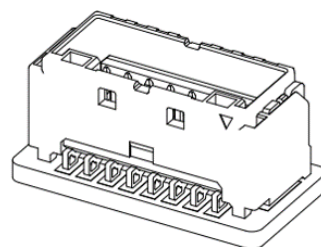
| Straight THT Header |
|---------------------|
| DF51K-#DP-2DSA      |



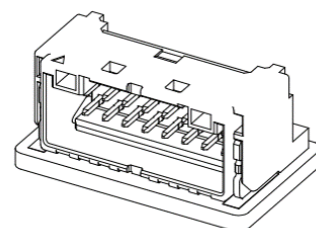
| Right Angle THT Header |
|------------------------|
| DF51K(B)-#DP-2DS       |



| Straight SMT Header |
|---------------------|
| DF51K-#DP-2V        |



| Right Angle SMT Header |
|------------------------|
| DF51K-#DP-2H           |

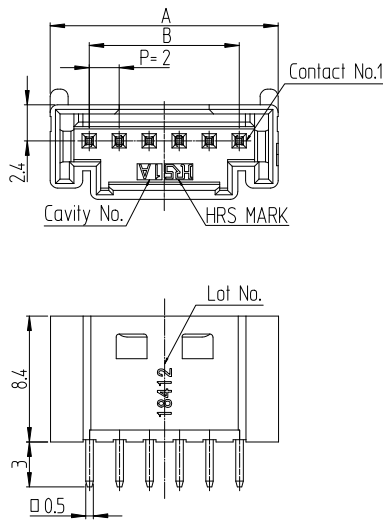


## Single-row THT Header

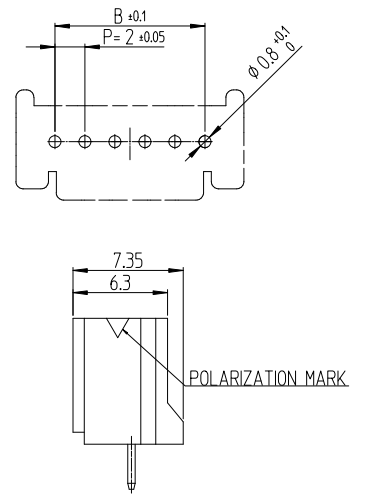
### Straight



[Specification number] - ##, (8##)  
 00 : Tin plated  
 05 : Gold plated



### Recommended PCB Layout (t=1.6mm)



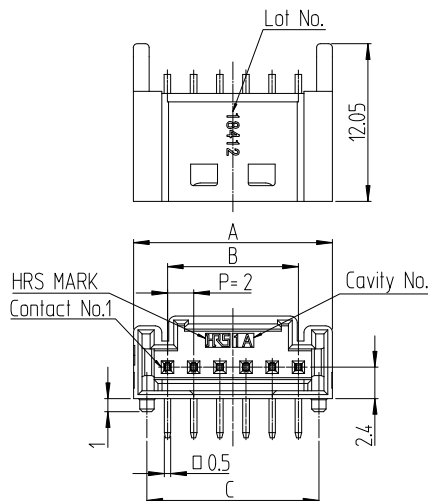
Unit : mm

| Part No.           | HRS No.          | No. of Pos. | A    | B    | Purchase Unit  |
|--------------------|------------------|-------------|------|------|----------------|
| DF51K-2P-2DSA(8##) | CL0480-0542-0-## | 2           | 7.2  | 2.0  | 100pcs per bag |
| DF51K-3P-2DSA(8##) | CL0480-0543-0-## | 3           | 9.2  | 4.0  |                |
| DF51K-4P-2DSA(8##) | CL0480-0544-0-## | 4           | 11.2 | 6.0  |                |
| DF51K-5P-2DSA(8##) | CL0480-0545-0-## | 5           | 13.2 | 8.0  |                |
| DF51K-6P-2DSA(8##) | CL0480-0546-0-## | 6           | 15.2 | 10.0 |                |

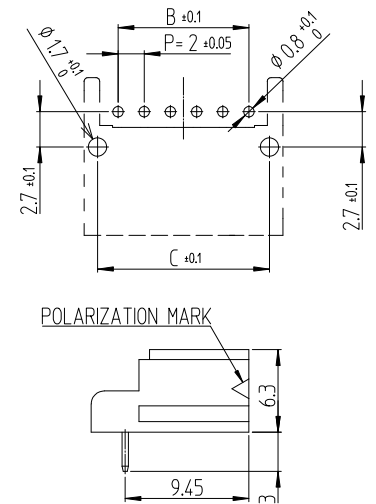
### Right Angle



[Specification number] - ##, (8##)  
 00 : Tin plated  
 05 : Gold plated



### Recommended PCB Layout (t=1.6mm)



\*The above drawing is of guide-boss type.

Unit : mm

| Part No.           | HRS No.          | Guide-Boss   | No. of Pos. | A    | B    | C    | Purchase Unit   |
|--------------------|------------------|--------------|-------------|------|------|------|-----------------|
| DF51KB-2P-2DS(8##) | CL0480-0587-0-## | With boss    | 2           | 7.2  | 2.0  | 5.14 | 420pcs per tray |
| DF51KB-3P-2DS(8##) | CL0480-0588-0-## | With boss    | 3           | 9.2  | 4.0  | 7.14 | 330pcs per tray |
| DF51K-4P-2DS(8##)  | CL0480-0589-0-## | Without boss | 4           | 11.2 | 6.0  | -    | 270pcs per tray |
| DF51K-5P-2DS(8##)  | CL0480-0590-0-## | Without boss | 5           | 13.2 | 8.0  | -    | 230pcs per tray |
| DF51K-6P-2DS(8##)  | CL0480-0591-0-## | Without boss | 6           | 15.2 | 10.0 | -    | 200pcs per tray |



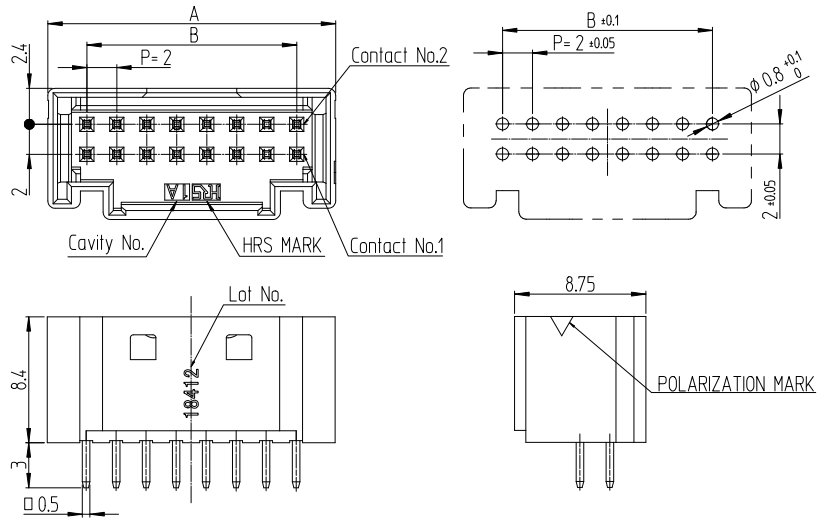
## Double-row THT Header

### Straight



[Specification number] - ##, (8##)  
 00 : Tin plated  
 05 : Gold plated

Recommended PCB Layout (t=1.6mm)



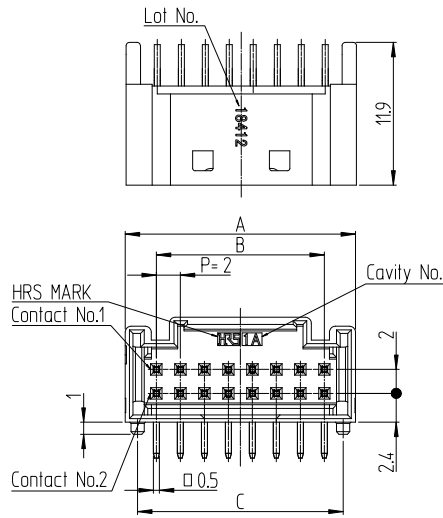
Unit : mm

| Part No.             | HRS No.          | No. of Pos. | A    | B    | Purchase Unit  |
|----------------------|------------------|-------------|------|------|----------------|
| DF51K-4DP-2DSA(8##)  | CL0480-0547-0-## | 4           | 7.2  | 2.0  | 100pcs per bag |
| DF51K-6DP-2DSA(8##)  | CL0480-0548-0-## | 6           | 9.2  | 4.0  |                |
| DF51K-8DP-2DSA(8##)  | CL0480-0549-0-## | 8           | 11.2 | 6.0  |                |
| DF51K-10DP-2DSA(8##) | CL0480-0550-0-## | 10          | 13.2 | 8.0  |                |
| DF51K-12DP-2DSA(8##) | CL0480-0551-0-## | 12          | 15.2 | 10.0 |                |
| DF51K-14DP-2DSA(8##) | CL0480-0552-0-## | 14          | 17.2 | 12.0 |                |
| DF51K-16DP-2DSA(8##) | CL0480-0553-0-## | 16          | 19.2 | 14.0 |                |
| DF51K-18DP-2DSA(8##) | CL0480-0554-0-## | 18          | 21.2 | 16.0 |                |
| DF51K-20DP-2DSA(8##) | CL0480-0555-0-## | 20          | 23.2 | 18.0 |                |
| DF51K-22DP-2DSA(8##) | CL0480-0556-0-## | 22          | 25.2 | 20.0 |                |
| DF51K-24DP-2DSA(8##) | CL0480-0557-0-## | 24          | 27.2 | 22.0 |                |
| DF51K-26DP-2DSA(8##) | CL0480-0558-0-## | 26          | 29.2 | 24.0 |                |
| DF51K-28DP-2DSA(8##) | CL0480-0559-0-## | 28          | 31.2 | 26.0 |                |
| DF51K-30DP-2DSA(8##) | CL0480-0560-0-## | 30          | 33.2 | 28.0 |                |

### Right Angle

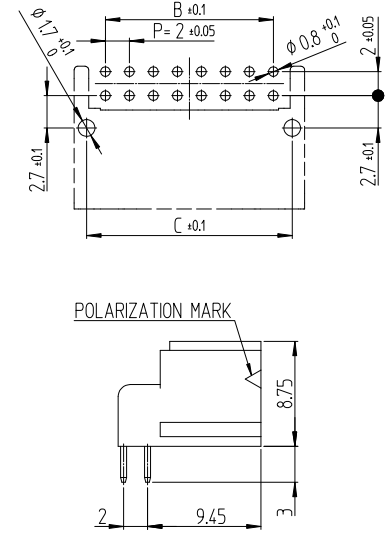


[Specification number] - ##, (8##)  
 00 : Tin plated  
 05 : Gold plated



\*The above drawing is of guide-boss type.

### Recommended PCB Layout (t=1.6mm)



Unit : mm

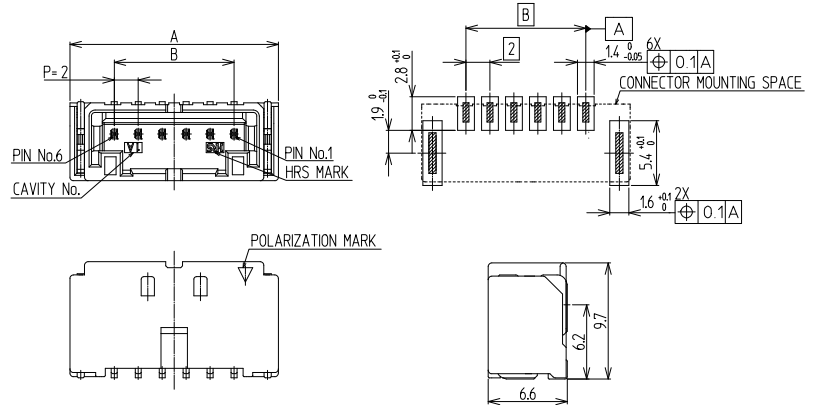
| Part No.            | HRS No.          | Guide-Boss   | No. of Pos. | A    | B    | C    | Purchase Unit   |
|---------------------|------------------|--------------|-------------|------|------|------|-----------------|
| DF51KB-4DP-2DS(8##) | CL0480-0592-0-## | With boss    | 4           | 7.2  | 2.0  | 5.14 | 420pcs per tray |
| DF51KB-6DP-2DS(8##) | CL0480-0593-0-## | With boss    | 6           | 9.2  | 4.0  | 7.14 | 330pcs per tray |
| DF51K-8DP-2DS(8##)  | CL0480-0594-0-## | Without boss | 8           | 11.2 | 6.0  | -    | 270pcs per tray |
| DF51K-10DP-2DS(8##) | CL0480-0595-0-## | Without boss | 10          | 13.2 | 8.0  | -    | 230pcs per tray |
| DF51K-12DP-2DS(8##) | CL0480-0596-0-## | Without boss | 12          | 15.2 | 10.0 | -    | 200pcs per tray |
| DF51K-14DP-2DS(8##) | CL0480-0597-0-## | Without boss | 14          | 17.2 | 12.0 | -    | 170pcs per tray |
| DF51K-16DP-2DS(8##) | CL0480-0598-0-## | Without boss | 16          | 19.2 | 14.0 | -    | 150pcs per tray |
| DF51K-18DP-2DS(8##) | CL0480-0599-0-## | Without boss | 18          | 21.2 | 16.0 | -    | 140pcs per tray |
| DF51K-20DP-2DS(8##) | CL0480-0600-0-## | Without boss | 20          | 23.2 | 18.0 | -    | 130pcs per tray |
| DF51K-22DP-2DS(8##) | CL0480-0601-0-## | Without boss | 22          | 25.2 | 20.0 | -    | 120pcs per tray |
| DF51K-24DP-2DS(8##) | CL0480-0602-0-## | Without boss | 24          | 27.2 | 22.0 | -    | 110pcs per tray |
| DF51K-26DP-2DS(8##) | CL0480-0603-0-## | Without boss | 26          | 29.2 | 24.0 | -    | 100pcs per tray |
| DF51K-28DP-2DS(8##) | CL0480-0604-0-## | Without boss | 28          | 31.2 | 26.0 | -    | 90pcs per tray  |
| DF51K-30DP-2DS(8##) | CL0480-0605-0-## | Without boss | 30          | 33.2 | 28.0 | -    | 90pcs per tray  |

## Single-row SMT Header

### Straight



#### Recommended PCB Layout (t=1.6mm)



[Specification number] - ##, (8##)  
00 : Tin plated  
05 : Gold plated

Unit : mm

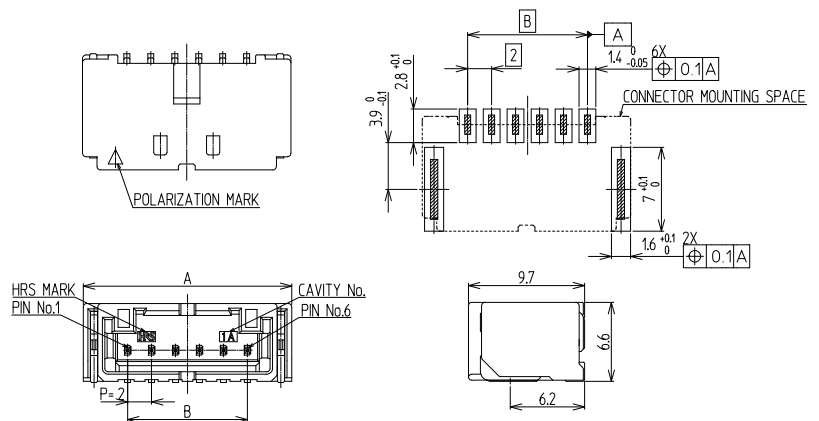
| Part No.         | HRS No.               | No. of Pos. | A    | B    | Purchase Unit   |
|------------------|-----------------------|-------------|------|------|-----------------|
| DF51K-2P-2V(8##) | CL0480-0949-0-##      | 2           | 9.4  | 2.0  | 350pcs per reel |
| DF51K-3P-2V(8##) | Under Planning (Note) | 3           | 11.4 | 4.0  | -               |
| DF51K-4P-2V(8##) | CL0480-1027-0-##      | 4           | 13.4 | 6.0  | 350pcs per reel |
| DF51K-5P-2V(8##) | Under Planning (Note) | 5           | 15.4 | 8.0  | -               |
| DF51K-6P-2V(8##) | CL0480-0950-0-##      | 6           | 17.4 | 10.0 | 350pcs per reel |

Note : Products without HRS No. are currently being planned for development. Please contact a Hirose representative regarding questions on pin count variation development.

### Right Angle



#### Recommended PCB Layout (t=1.6mm)



[Specification number] - ##, (8##)  
00 : Tin plated  
05 : Gold plated

Unit : mm

| Part No.         | HRS No.               | No. of Pos. | A    | B    | Purchase Unit   |
|------------------|-----------------------|-------------|------|------|-----------------|
| DF51K-2P-2H(8##) | CL0480-0944-0-##      | 2           | 9.4  | 2.0  | 530pcs per reel |
| DF51K-3P-2H(8##) | Under Planning (Note) | 3           | 11.4 | 4.0  | -               |
| DF51K-4P-2H(8##) | CL0480-1024-0-##      | 4           | 13.4 | 6.0  | 530pcs per reel |
| DF51K-5P-2H(8##) | Under Planning (Note) | 5           | 15.4 | 8.0  | -               |
| DF51K-6P-2H(8##) | CL0480-0945-0-##      | 6           | 17.4 | 10.0 | 530pcs per reel |

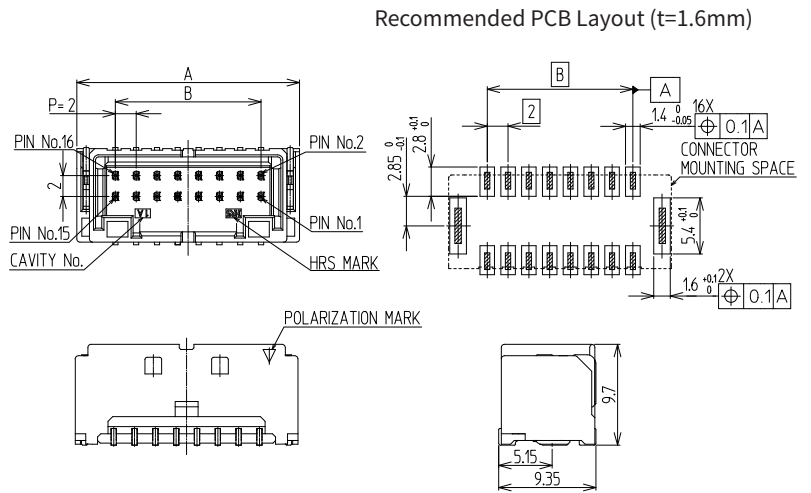
Note : Products without HRS No. are currently being planned for development. Please contact a Hirose representative regarding questions on pin count variation development.

## Double-row SMT Header

### Straight



[Specification number] - ##, (8##)  
 00 : Tin plated  
 05 : Gold plated



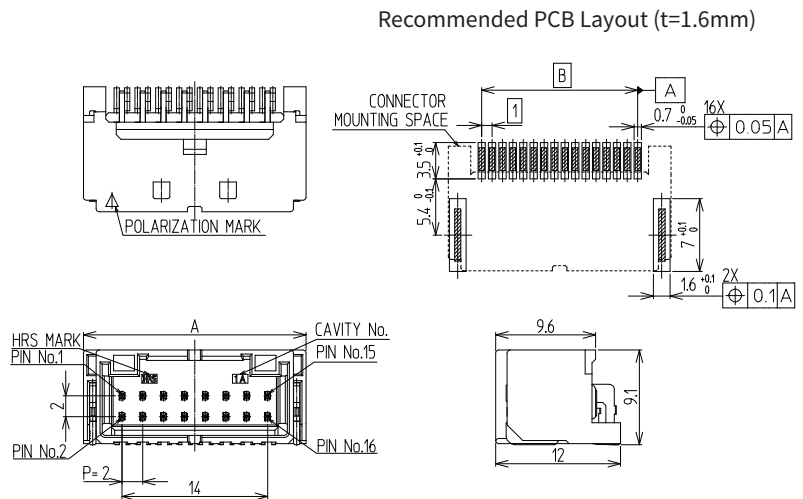
Unit : mm

| Part No.           | HRS No.          | No. of Pos. | A    | B    | Purchase Unit   |
|--------------------|------------------|-------------|------|------|-----------------|
| DF51K-4DP-2V(8##)  | CL0480-0951-0-## | 4           | 9.4  | 2.0  | 350pcs per reel |
| DF51K-16DP-2V(8##) | CL0480-0952-0-## | 16          | 21.4 | 14.0 |                 |
| DF51K-30DP-2V(8##) | CL0480-0953-0-## | 30          | 35.4 | 28.0 |                 |

### Right Angle



[Specification number] - ##, (8##)  
 00 : Tin plated  
 05 : Gold plated



Unit : mm

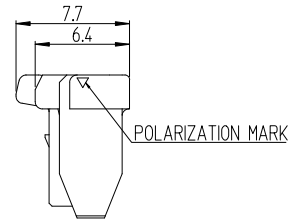
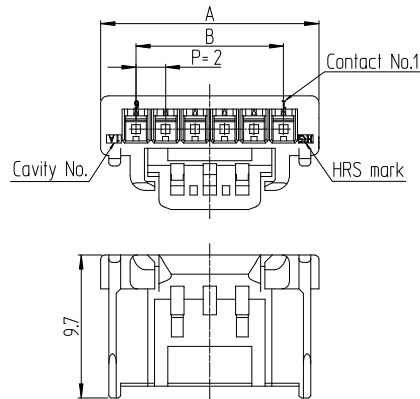
| Part No.           | HRS No.          | No. of Pos. | A    | B    | Purchase Unit   |
|--------------------|------------------|-------------|------|------|-----------------|
| DF51K-4DP-2H(8##)  | CL0480-0946-0-## | 4           | 9.4  | 2.0  | 300pcs per reel |
| DF51K-16DP-2H(8##) | CL0480-0947-0-## | 16          | 21.4 | 14.0 |                 |
| DF51K-30DP-2H(8##) | CL0480-0948-0-## | 30          | 35.4 | 28.0 |                 |

## Crimp Socket

### Single-row



Shown with crimp contact inserted.



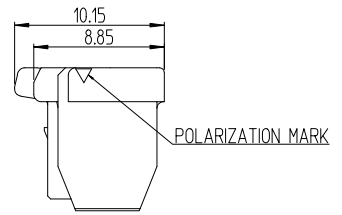
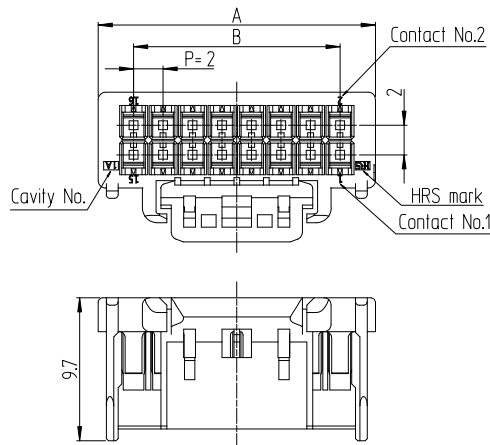
Unit : mm

| Part No.         | HRS No.          | No. of Pos. | A    | B    | Purchase Unit  |
|------------------|------------------|-------------|------|------|----------------|
| DF51K-2S-2C(800) | CL0480-0561-0-00 | 2           | 6.8  | 2.0  | 100pcs per bag |
| DF51K-3S-2C(800) | CL0480-0562-0-00 | 3           | 8.8  | 4.0  |                |
| DF51K-4S-2C(800) | CL0480-0563-0-00 | 4           | 10.8 | 6.0  |                |
| DF51K-5S-2C(800) | CL0480-0564-0-00 | 5           | 12.8 | 8.0  |                |
| DF51K-6S-2C(800) | CL0480-0565-0-00 | 6           | 14.8 | 10.0 |                |

### Double-row



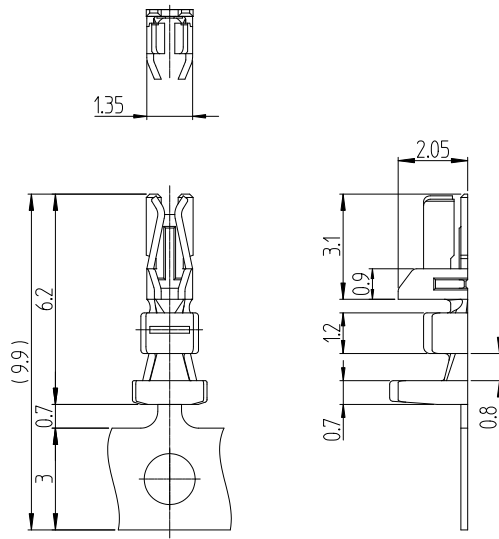
Shown with crimp contact inserted.



Unit : mm

| Part No.           | HRS No.          | No. of Pos. | A    | B    | Purchase Unit  |
|--------------------|------------------|-------------|------|------|----------------|
| DF51K-4DS-2C(800)  | CL0480-0567-0-00 | 4           | 6.8  | 2.0  | 100pcs per bag |
| DF51K-6DS-2C(800)  | CL0480-0568-0-00 | 6           | 8.8  | 4.0  |                |
| DF51K-8DS-2C(800)  | CL0480-0569-0-00 | 8           | 10.8 | 6.0  |                |
| DF51K-10DS-2C(800) | CL0480-0570-0-00 | 10          | 12.8 | 8.0  |                |
| DF51K-12DS-2C(800) | CL0480-0571-0-00 | 12          | 14.8 | 10.0 |                |
| DF51K-14DS-2C(800) | CL0480-0572-0-00 | 14          | 16.8 | 12.0 |                |
| DF51K-16DS-2C(800) | CL0480-0573-0-00 | 16          | 18.8 | 14.0 |                |
| DF51K-18DS-2C(800) | CL0480-0574-0-00 | 18          | 20.8 | 16.0 |                |
| DF51K-20DS-2C(800) | CL0480-0575-0-00 | 20          | 22.8 | 18.0 |                |
| DF51K-22DS-2C(800) | CL0480-0576-0-00 | 22          | 24.8 | 20.0 |                |
| DF51K-24DS-2C(800) | CL0480-0577-0-00 | 24          | 26.8 | 22.0 |                |
| DF51K-26DS-2C(800) | CL0480-0578-0-00 | 26          | 28.8 | 24.0 |                |
| DF51K-28DS-2C(800) | CL0480-0579-0-00 | 28          | 30.8 | 26.0 |                |
| DF51K-30DS-2C(800) | CL0480-0580-0-00 | 30          | 32.8 | 28.0 |                |

## Socket Contact



Unit : mm

| Part No.            | HRS No.          | Finish      | Purchase Unit      |
|---------------------|------------------|-------------|--------------------|
| DF51K-22SCF(800)    | CL0480-0581-0-00 | Tin plated  | 10,000pcs per reel |
| DF51K-22SC(800)     | CL0480-0582-0-00 |             | 100pcs per bag     |
| DF51K-2428SCF(800)  | CL0480-0583-0-00 |             | 10,000pcs per reel |
| DF51K-2428SC(800)   | CL0480-0584-0-00 |             | 100pcs per bag     |
| DF51K-30SCF(800)    | CL0480-0585-0-00 |             | 10,000pcs per reel |
| DF51K-30SC(800)     | CL0480-0586-0-00 |             | 100pcs per bag     |
| DF51K-22SCFA(800)   | CL0480-0612-0-00 | Gold plated | 10,000pcs per reel |
| DF51K-22SCA(800)    | CL0480-0613-0-00 |             | 100pcs per bag     |
| DF51K-2428SCFA(800) | CL0480-0614-0-00 |             | 10,000pcs per reel |
| DF51K-2428SCA(800)  | CL0480-0615-0-00 |             | 100pcs per bag     |
| DF51K-30SCFA(800)   | CL0480-0616-0-00 |             | 10,000pcs per reel |
| DF51K-30SCA(800)    | CL0480-0617-0-00 |             | 100pcs per bag     |

### Applicable Wire (Tin Plated Annealed Copper Wire)

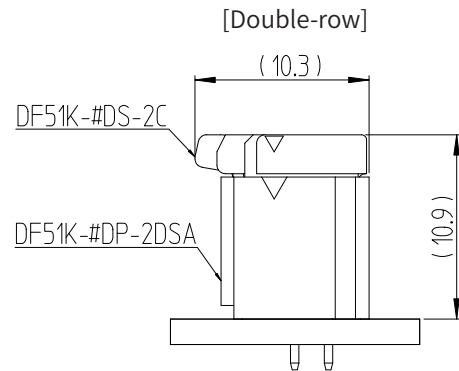
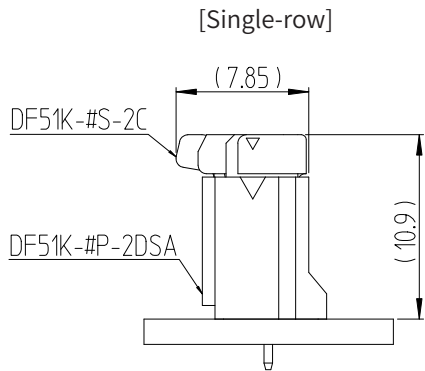
| UL   | Wire Size (Stranded Wire Structure) | Jacket Diameter |
|------|-------------------------------------|-----------------|
| 1061 | 22 AWG (17 pieces / 0.16mm)         | Ø1.2 to Ø1.45mm |
| 1007 | 24 AWG (11 pieces / 0.16mm)         | Ø0.9 to Ø1.45mm |
|      | 26 AWG (7 pieces / 0.16mm)          |                 |
|      | 28 AWG (7 pieces / 0.127mm)         |                 |
| 1061 | 30 AWG (7 pieces / 0.1mm)           | Ø0.8mm          |

Note 1 : Applicable Tool : Applicator

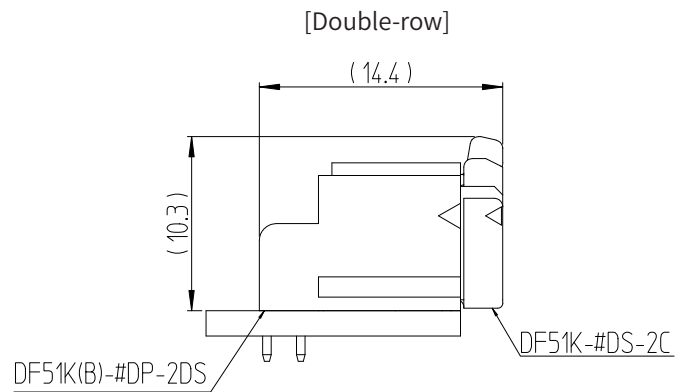
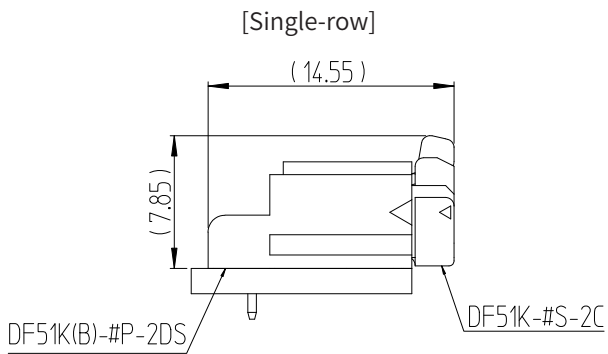
Note 2 : Contact your Hirose representative when considering usage of non-applicable wires.

## Mated Dimensions

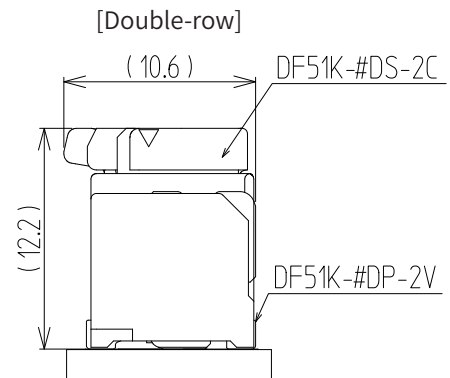
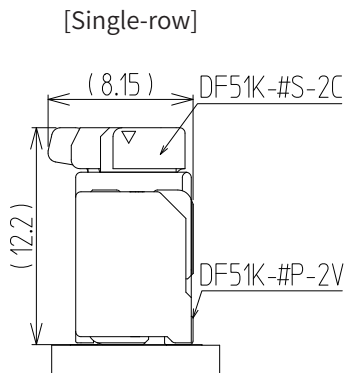
### Wire-to-Board Connection Using the Straight THT Header



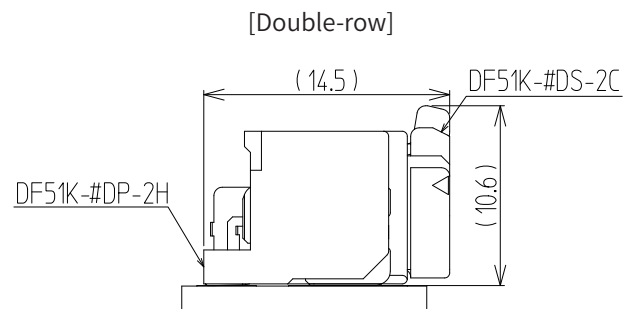
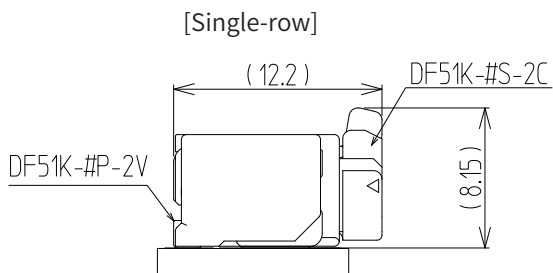
### Wire-to-Board Connection Using the Right Angle THT Header



### Wire-to-Board Connection Using the Straight SMT Header



### Wire-to-Board Connection Using the Right Angle SMT Header



## Applicable Crimping Tools

| Type                    | Part No.            | HRS No.          | Applicable Contacts                                        |
|-------------------------|---------------------|------------------|------------------------------------------------------------|
| Applicator              | AP105-DF11-22S      | CL0901-4529-7-00 | DF51K-22SCF/SCFA                                           |
|                         | AP105-DF11-2428S    | CL0901-4511-1-00 | DF51K-2428SCF/SCFA                                         |
|                         | AP105-DF11-30S      | CL0901-4532-1-00 | DF51K-30SCF/SCFA                                           |
| Automatic Crimp Press   | CM-105C             | CL0901-0001-0-00 | -                                                          |
| Hand Tool               | HT801/DF11-22S(A)   | CL0550-0407-5-00 | DF51K-22SC/SCA                                             |
|                         | HT801/DF11-2428S(A) | CL0550-0403-4-00 | DF51K-2428SC/SCA                                           |
|                         | HT801/DF11-30S(A)   | CL0550-0408-8-00 | DF51K-30SC/SCA                                             |
| Contact Extraction Tool | DF-C-PO(B)          | CL0550-0179-2-00 | DF51K-22SC(F)(A)<br>DF51K-2428SC(F)(A)<br>DF51K-30SC(F)(A) |

Note 1 : Please conduct crimping work according to the "Crimp Quality Standard" and "Crimp Condition Table".

Note 2 : Any problems that occur from using tools other than those specified by Hirose are not covered by warranty.

Note 3 : Please contact Hirose for information about hand tooling.

## Precautions for use

- The connector could be damaged if pulled out forcibly. When it is hard to pull out, push it in slightly first and then depress the lock and un-mate.  
Please refer to "DF51K mating and unmating Procedure Document (DOC180208-010)" for points in handling regarding mating operations.
- When mating a crimped contact into a socket, please refrain from inserting it diagonally in order to maintain performance reliability. Please refer to the "Harness procedure manual (DOC180330-002)" for points in harness operations.

## Operating Environment

Please contact a Hirose representative if you are designing this connector into environmental conditions where high and low temperatures are repeated.

## While taking into consideration

Specifications mentioned in this catalog are reference values.

When considering to order or use this product, please review the Drawing and Product Specifications sheets.

Use an appropriate cable when using the connector in combination with cables.

If considering usage of a non-specified cable, please contact your sales representative.

If assembly process is done by jigs & tools which are not identified by Hirose, the warranty of the product may be affected.

If considering usage for below mentioned applications, please contact your sales representative.

In cases where the application will demand a high level of reliability, such as automotive, medical instruments, public infrastructure, aerospace/ defense etc. Hirose must review before assurance of reliability can be given.