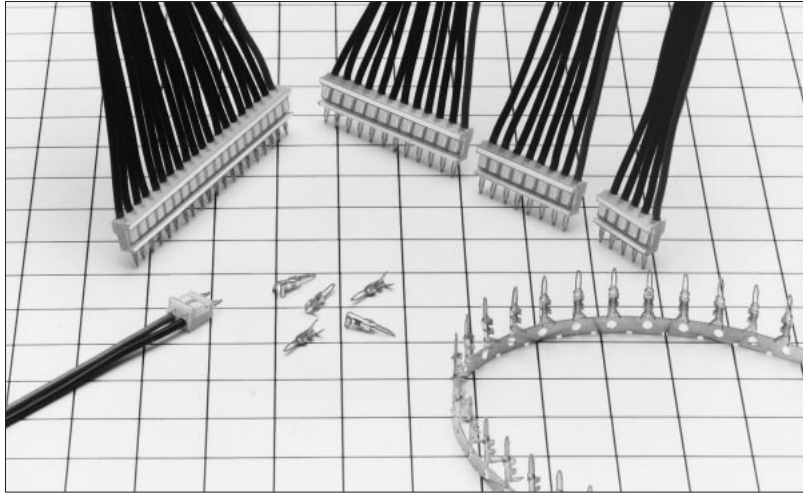


# DF2 SERIES

2.5 mm Pitch Board-in Connectors (approved by UL & CSA)



## ■ Features

### 1. Reduces the cost of the headers.

Extractable socket and board-in connector provided with the dual-sided harness eliminate one of the two headers required for a dual-sided socket harness, with the board separating function remaining unchanged.

### 2. Space-saving

Compact and space-saving design

Package height: **5.5mm**

Width: **4.0mm**

### 3. Temporary board fixing structure

Can be fixed to a board temporarily because it is lightly press-fitted to the board when inserted. See Fig. 1.

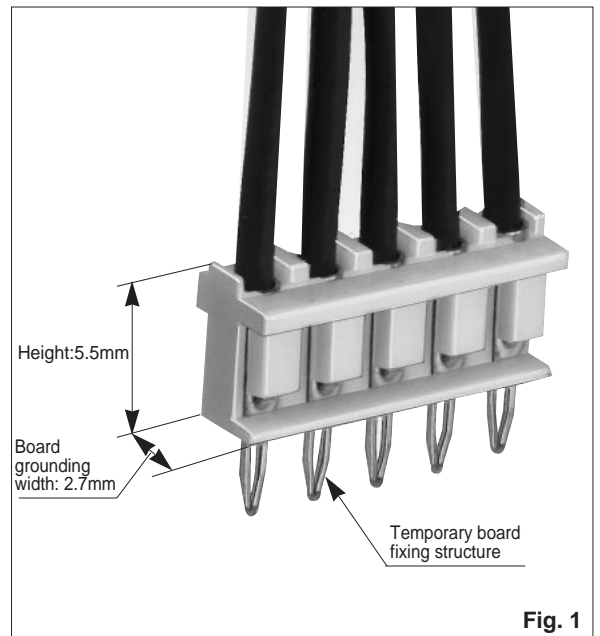


Fig. 1

## ■ Application

General OA equipment such as personal computers, fax, printer

## Product standard

|        |                           |   |                    |                  |
|--------|---------------------------|---|--------------------|------------------|
| Rating | Rated current<br>(Note 1) | Cable size<br>AWG 24:3A<br>AWG 26:2A<br>AWG 28:1A | Operating temp.    | -35~85°C(Note 2) |
|        | Rated voltage             | AC250V  | Operating humidity | 40~80%           |
|        |                           |   | Storage temp.      | -10~60°C(Note 3) |
|        |                           |   | Storage humidity   | 40~70%(Note 3)   |

Approved by UL-CSA Safety Standard

|        |                        |                            |
|--------|------------------------|----------------------------|
| Rating | Rated voltage (Note 1) | Cable size<br>AWG 24~28:1A |
|        | Rated current          | AC30V                      |

■ UL & CSA Safety Standards File  
 UL : E52653  
 CSA : R95109

| Item                      | Standard  | Conditions   |
|---------------------------|---|--|
| 1. Insulation resistance  | 1000 MΩ or more   | Measured at 500 VDC  |
| 2. Withstand voltage      | No flashover or dielectric breakdown allowed                              | AC650V 1 minute  |
| 3. Contact resistance     | 30 mΩ or less   | Measured at 100 mA   |
| 4. Vibration resistance   | No damaged or loose parts are allowed                                     | Frequency: 10 - 55 Hz, single-side amplitude: 0.75 mm, 3 directions for 2 hours                  |
| 5. Moisture resistance    | Contact resistance: 30 mΩ or less, insulation resistance: 1000 MΩ or more | Temperature: 40±2°C, humidity: 90 - 95%, allow 96 hours before measurement                       |
| 6. Temperature cycle      | Contact resistance: 30 mΩ or less, insulation resistance: 1000 MΩ or more | (-55°C for 30 min. → 5 - 35°C for 10 min. → 85°C for 30 min. → 5 - 35°C for 10 min.)<br>5 cycles |
| 7. Solder heat resistance | No melting of resin affecting the connector performance allowed           | Flow: 250°C for 10 seconds   Manual soldering: solder temperature: 300°C for 3 seconds           |

Note 1: The rated current varies depending on the size of wires connected to the connector.

Note 2: Includes temperature rise when power is on.

Note 3: "Storage" refers to a long period of storage without use of the product before being mounted on a board.

The operating temperature and humidity ranges apply to when the product (power off) is mounted on a board.

Note 4: The above standards are typical for the DF2 series. The formal standards are stated in the delivery specifications.

## Material

| Product                 | Part       | Material        | Processing      | UL Rating |
|-------------------------|------------|-----------------|-----------------|-----------|
| Crimp plug              | Insulation | Polyamide resin | White (natural) | UL94V-0   |
| Crimp terminal for plug | Terminal   | Phosphor bronze | Tin-plated      |           |

Note : Our tin plating is protected from whiskers.

## Structure of the product number

The product specifications can be determined from the product number.

When ordering, select products using the product numbers listed in this catalog 125 page.

### ● Crimp plug

DF2 - \*P - 2.5C  
 ① ② ③④ ⑤ ⑥

|                                |                       |
|--------------------------------|-----------------------|
| ① Series Name:DF               | ⑤ Contact pitch:2.5mm |
| ② Series No. :2                | ⑥ Connection form     |
| ③ No. of contacts:2~16, 18, 20 | C:Crimp case          |
| ④ Type of connector<br>P:Plug  |                       |

### ● Terminal

DF2 - 2428PCF  
 ① ②

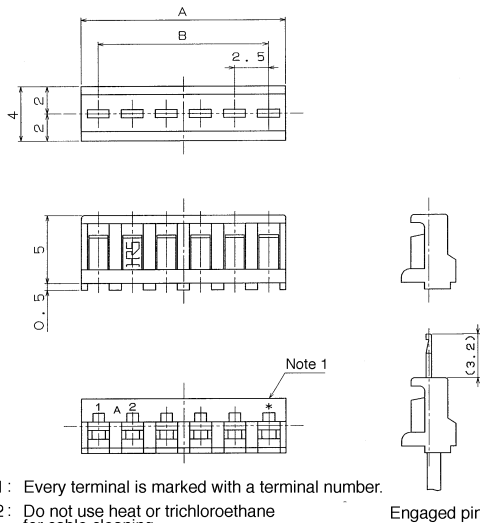
|   |   |
|---|---|
| ① Applicable wire size<br>2428:AWG24~28 | ② Connection form/Type of termination<br>PCF :Plug contact, reel<br>PC :Plug contact, loose piece |
|---|---|

**Crimp plug**



Photo shows engaged pins.

- Board through hole dia. :  $\varnothing 0.8 \pm 0.1$



Note 1: Every terminal is marked with a terminal number.  
 Note 2: Do not use heat or trichloroethane for cable cleaning.

[Specification No.]: -\*\*, (\*\*)

Blank : 100 pcs. per pack  
 (40) : 500 pcs. packaging  
 (41) : 1000 pcs. packaging

Unit : mm

| HRS No.      | Product No.       | No. of contacts | A    | B    | HRS No.      | Product No.       | No. of contacts | A    | B    |
|--------------|-------------------|-----------------|------|------|--------------|-------------------|-----------------|------|------|
| 542-0001-6-* | DF2- 2P-2.5C (**) | 2               | 5.0  | 2.5  | 542-0010-7-* | DF2-11P-2.5C (**) | 11              | 27.5 | 25.0 |
| 542-0002-9-* | DF2- 3P-2.5C (**) | 3               | 7.5  | 5.0  | 542-0011-0-* | DF2-12P-2.5C (**) | 12              | 30.0 | 27.5 |
| 542-0003-1-* | DF2- 4P-2.5C (**) | 4               | 10.0 | 7.5  | 542-0012-2-* | DF2-13P-2.5C (**) | 13              | 32.5 | 30.0 |
| 542-0004-4-* | DF2- 5P-2.5C (**) | 5               | 12.5 | 10.0 | 542-0013-5-* | DF2-14P-2.5C (**) | 14              | 35.0 | 32.5 |
| 542-0005-7-* | DF2- 6P-2.5C (**) | 6               | 15.0 | 12.5 | 542-0014-8-* | DF2-15P-2.5C (**) | 15              | 37.5 | 35.0 |
| 542-0006-0-* | DF2- 7P-2.5C (**) | 7               | 17.5 | 15.0 | 542-0015-0-* | DF2-16P-2.5C (**) | 16              | 40.0 | 37.5 |
| 542-0007-2-* | DF2- 8P-2.5C (**) | 8               | 20.0 | 17.5 | 542-0017-6-* | DF2-18P-2.5C (**) | 18              | 45.0 | 42.5 |
| 542-0008-5-* | DF2- 9P-2.5C (**) | 9               | 22.5 | 20.5 | 542-0019-1-* | DF2-20P-2.5C (**) | 20              | 50.0 | 47.5 |
| 542-0009-8-* | DF2-10P-2.5C (**) | 10              | 25.0 | 22.5 |              |                   |                 |      |      |

Note 1: Minimum order quantity of the models without a number specified is one pack containing 100 sockets.

Note 2: Models available in (40): 500 pieces per package and (41): 1000 pieces per pack should be ordered in quantity of sockets. Order in multiples of order units, e.g., 500, 1000, 1500,-- ..

**Crimp terminal**

| HRS No.    | Product No. | Type                 | Quantity              | Processing |
|------------|-------------|----------------------|-----------------------|------------|
| 542-0020-0 | DF2-2428PCF | Reel terminal        | 10,000 units per reel | Tip-plated |
| 542-0021-3 | DF2-2428PC  | Loose piece terminal | 100 pcs. per pack     | Tip-plated |

● Applicable wire (Tin-plated annealed copper wire)

| Conductor size (core construction) | Coating diameter                                |
|------------------------------------|---|
| AWG 24(11 cores/0.16mm)            | $\varnothing 0.9 \sim \varnothing 1.5\text{mm}$ |
| AWG 26(7 cores/0.16mm)             |   |
| AWG 28(7 cores/0.127mm)            |   |

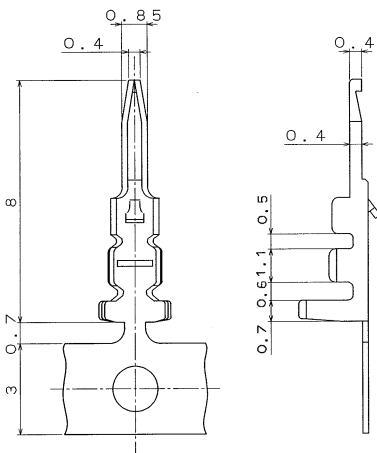
Note: Contact our sales department for unspecified wires.

- Recommended wire: UL1061, UL1007
- Strip length: 1.6~2.1mm

❖ Applicable crimping tool

| Type                 | HRS No.    | Product No.     | Applicable contact |
|----------------------|------------|-----------------|--------------------|
| Applicator           | 901-4506-1 | AP105-DF2-2428P | DF2-2428PCF        |
| Press body           | 901-0005-4 | CM-105          | _____              |
| Manual crimping tool | 550-0172-3 | DF2-TA2428HC    | DF2-2428PC         |
| Extraction tool      | 550-0170-8 | DF-C-PO(A)      | DF2-2428PCF        |

Note: We will not honor the warranty if a problem is caused by using a tool not approved by Hirose.



## ❖ Notes on use

|                                     |  |
|-------------------------------------|--|
| 1. Recommended soldering conditions | <ul style="list-style-type: none"> <li>■ Flow conditions for automatic soldering device: Solder temperature: <math>250\pm 5^{\circ}\text{C}</math>, soldering time: Within 3 seconds</li> <li>■ Manual soldering conditions: Solder temperature: <math>290 \pm 10^{\circ}\text{C}</math>, soldering time: Within 3 seconds</li> <li>■ If a load is applied to the cables while the connectors and cables are hot after soldering, the coating clamps tend to be loosened. Wait until the connectors cool off to room temperature after soldering.</li> </ul> |
| 2. Cleaning conditions              | <p>See "GUIDE TO HIROSE NYLON CONNECTORS."</p> <p>Do not use a solvent such as trichloroethane that damages the cable coating.</p> <p>Also, do not use heated solvent for cleaning.</p>  |
| 3. Connecting conditions            | See "GUIDE TO HIROSE NYLON CONNECTORS."  |