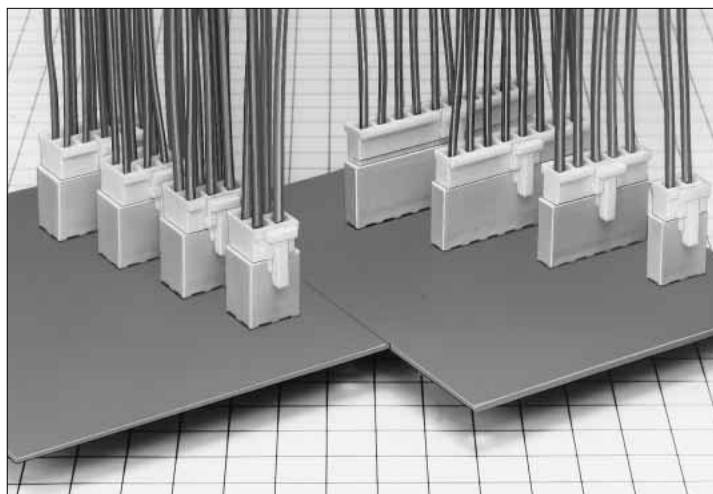


5mm Pitch Miniature Potting Connector for Secondary Power Supply

DF5 Series



■ Features

1. Potting Product

This connector is capable of potting 9mm maximum, and 22.5mm mounting height is a low profile. (Figure 1).

2. Prevent Mis-insertion

When the socket and pin header are mated, this connector is equipped with a mechanism to prevent reverse insertion or dissimilar contact insertion.

3. Means to Prevent Solder Cracks

The pin header employs glass enforced resin, and takes countermeasures to prevent solder cracks due to heat shrinkage.

4. Prevent Reverse Insertion in Printed Board

Boss is added to the pin header, and prevents reverse insertion in the printed board.

5. Full Lock Mechanism

The outer lock system employs full lock mechanism.

6. Current Capacity of 8A

Power can be supplied at 8 A maximum. Specification will change according to applicable cable, number of contacts, number of rows. For further information, refer to product specifications as listed on next page.

Single row type

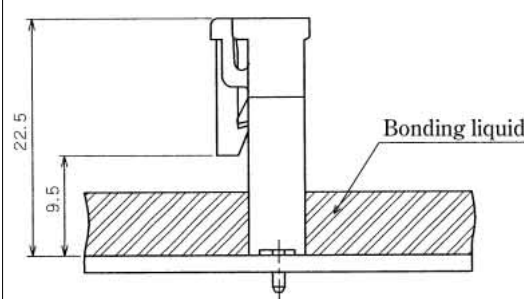


Figure 1-1

Double row type

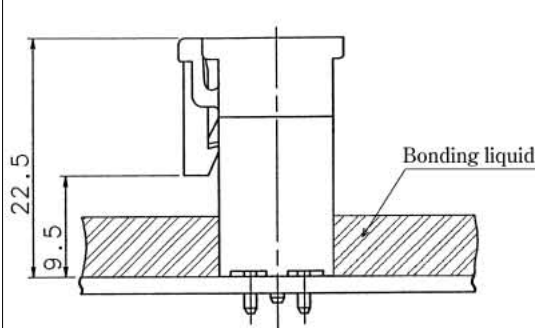


Figure 1-2

■ Applications

Business machines, industrial equipment, consumer appliances (hot water supply, washing machines, refrigerator) etc.

DF5 Series 5mm Pitch Miniature Potting Connector for Secondary Power Supply

Product Specifications

| | | | | | | | | |
|----------------|----------------|-------------|-----------------|--------|--------|---|---|-----------------------------------|
| Rating | Current rating | No. of rows | No. of contacts | AWG#18 | AWG#20 | AWG#22 | Operating Temperature Range Operating Moisture Range | -35 to +85°C(Note 1) 40 to 80% |
| | | Single row | 2 to 10 | 8A | 6A | 5A | | |
| | | Double row | 4 | 8A | 6A | 5A | | |
| | | | 6 | 8A | 6A | 5A | | |
| | | | 8 | 7A | 6A | 5A | | |
| | | | 10 | 7A | 6A | 5A | | |
| | | | 12 | 7A | 6A | 4A | | |
| | 14 | 7A | 5A | 4A | | | | |
| 16 | 7A | 5A | 4A | | | | | |
| Voltage rating | 500V AC | | | | | Storage Temperature Range Storage Humidity Range | -10 to +60°C(Note 2) 40 to 70%(Note 2) | |

| Item | Specification | Condition |
|--|---|--|
| 1. Insulation Resistance | 1000M ohms min. | 500V DC |
| 2. Withstanding voltage | No flashover or insulation breakdown. | 1500V AC/1 minute |
| 3. Contact Resistance | 30m ohms max. | 100mA |
| 4. Single Insertion/ Extraction Force | 0.3N (30gt) min., 4.5N (450gt) max. | Measured with 1.14±0.002mm steel pin |
| 5. Vibration | No electrical discontinuity of 10μs or more | Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions. |
| 6. Humidity (Steady state) | Contact resistance: 30m ohms max., Insulation resistance: 500M ohms min. | 96 hours at temperature of 40°C and humidity of 90% to 95% |
| 7. Temperature Cycle | Contact resistance: 30m ohms max., Insulation resistance: 1000M ohms min. | (-55°C: 30 minutes→15 to 35°C: 10 minutes→85°C: 30 minutes→5 to 35°C: 10 minutes) 5 cycles |
| 8. Durability (Mating/un-mating) | Contact resistance: 30m ohms max. | 30 cycles |
| 9. Resistance to Soldering heat | No deformation of components affecting performance. | Flow: 260°C for 10 seconds |
| | | Manual soldering: 350°C for 3 seconds |

Note 1: Includes temperature rise caused by current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

Note 3: Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

Material

| Product | Part | Material | Finish | Remarks |
|-----------------------------|-----------|-----------------|------------|---------|
| Crimping Socket | Insulator | Polyamide | White | UL94V-0 |
| Crimping Contact for Socket | Contact | Phosphor bronze | Tin plated | — |
| Pin header | Insulator | Polyamide | Beige | UL94V-0 |
| | Contact | Brass | Tin plated | — |

Ordering Information

●Connector

DF5A - * S - 5 C

① ② ③ ④ ⑤

| | |
|--|---|
| ① Series Name: DF5A | ④ Contact Pitch: 5mm |
| ② Number of contacts: Single row: 2 to 10 Double row: 4 to 16 | ⑤ Contact type C : Crimping Socket DSA: Straight pin header |
| ③ Connector type S : Single row socket DS : Double row socket P : Single row header DP : Double row header | |

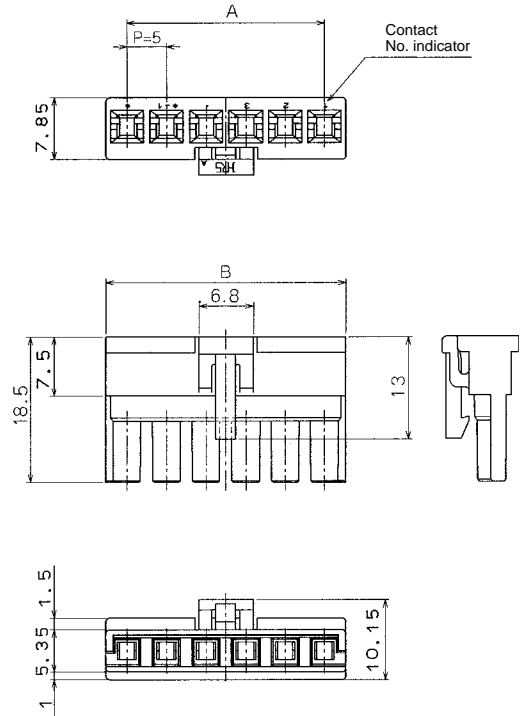
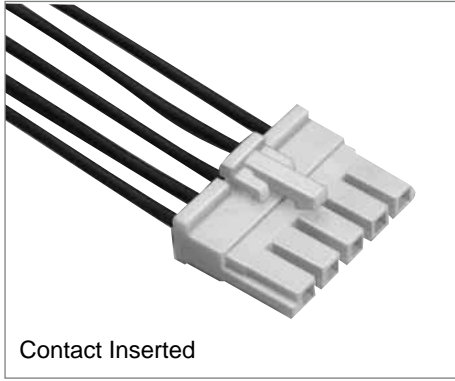
●Contact

DF5A - 1822 SCF

① ② ③

| | |
|--|--|
| ① Applicable cable type None: UL 1007 equivalent (jacket diameter 1.5 to 2.2mm) A: UL 1015 equivalent (jacket diameter 2.2 to 2.9mm) | ③ packaging type SCF : Socket contact, reel packaging SC : Socket contact, bag packaging |
| ② Applicable cable size 1822: AWG#18~#22 | |

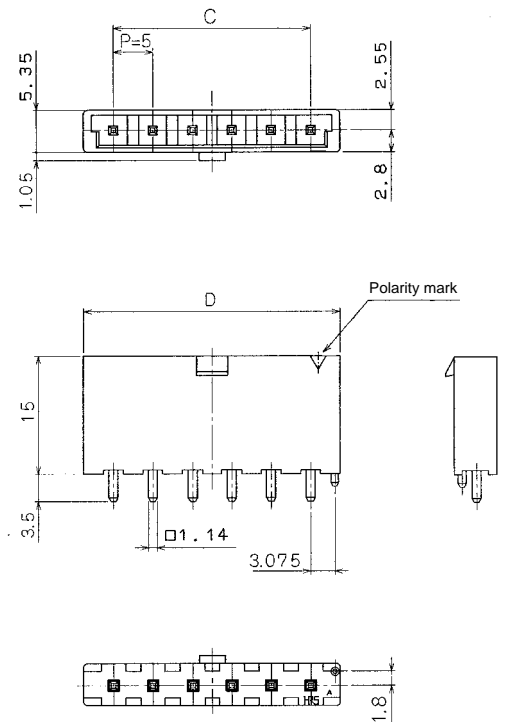
Single Row Socket



| Product No | CL No. | Number of Contacts | A | B | RoHS |
|-------------|------------|--------------------|------|------|------|
| DF5A- 2S-5C | 676-0007-8 | 2 | 5.0 | 10.5 | YES |
| DF5A- 3S-5C | 676-0008-0 | 3 | 10.0 | 15.5 | |
| DF5A- 4S-5C | 676-0009-3 | 4 | 15.0 | 20.5 | |
| DF5A- 5S-5C | 676-0010-2 | 5 | 20.0 | 25.5 | |
| DF5A- 6S-5C | 676-0011-5 | 6 | 25.0 | 30.5 | |
| DF5A- 7S-5C | 676-0012-8 | 7 | 30.0 | 35.5 | |
| DF5A- 8S-5C | 676-0013-0 | 8 | 35.0 | 40.5 | |
| DF5A- 9S-5C | 676-0014-3 | 9 | 40.0 | 45.5 | |
| DF5A-10S-5C | 676-0015-6 | 10 | 45.0 | 50.5 | |

Note: A packaging quantity is delivered by the bag unit (100 pcs.).

Single Row Pin Header

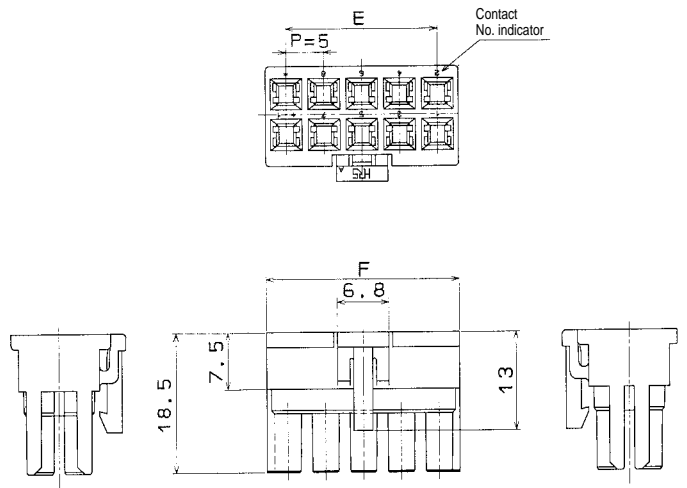
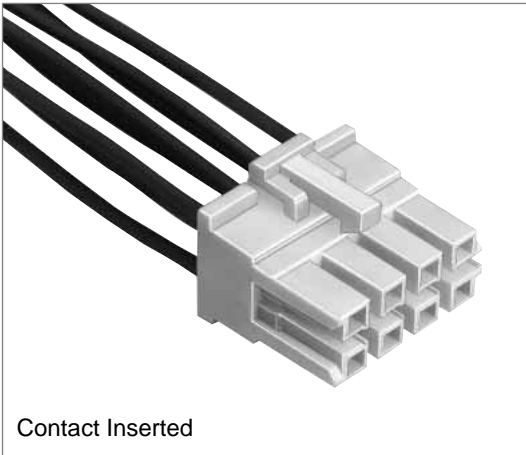


| Part Number | CL No. | Number of Contacts | C | D | RoHS |
|-------------------|---------------|--------------------|------|------|------|
| DF5A- 2P-5DSA(05) | 676-0016-9-05 | 2 | 5.0 | 12.5 | YES |
| DF5A- 3P-5DSA(05) | 676-0017-1-05 | 3 | 10.0 | 17.5 | |
| DF5A- 4P-5DSA(05) | 676-0018-4-05 | 4 | 15.0 | 22.5 | |
| DF5A- 5P-5DSA(05) | 676-0019-7-05 | 5 | 20.0 | 27.5 | |
| DF5A- 6P-5DSA(05) | 676-0020-6-05 | 6 | 25.0 | 32.5 | |
| DF5A- 7P-5DSA(05) | 676-0021-9-05 | 7 | 30.0 | 37.5 | |
| DF5A- 8P-5DSA(05) | 676-0022-1-05 | 8 | 35.0 | 42.5 | |
| DF5A- 9P-5DSA(05) | 676-0023-4-05 | 9 | 40.0 | 47.5 | |
| DF5A-10P-5DSA(05) | 676-0024-7-05 | 10 | 45.0 | 52.5 | |

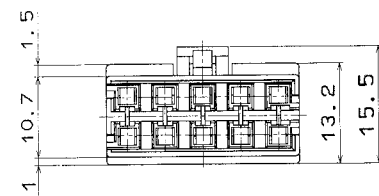
Note: A packaging quantity is delivered by the bag unit (100 pcs.).

DF5 Series 5mm Pitch Miniature Potting Connector for Secondary Power Supply

Double Row Socket

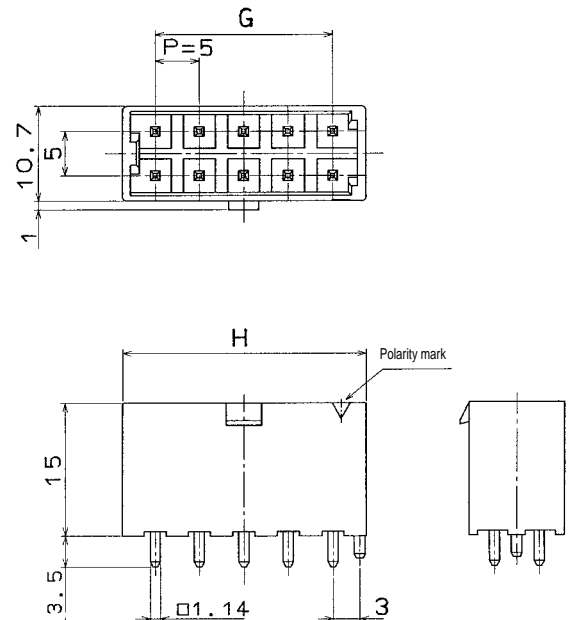


| Part Number | CL No. | Number of Contacts | E | F | RoHS |
|--------------|------------|--------------------|------|------|------|
| DF5A- 4DS-5C | 676-0025-0 | 4 | 5.0 | 10.5 | YES |
| DF5A- 6DS-5C | 676-0026-2 | 6 | 10.0 | 15.5 | |
| DF5A- 8DS-5C | 676-0027-5 | 8 | 15.0 | 20.5 | |
| DF5A-10DS-5C | 676-0028-8 | 10 | 20.0 | 25.5 | |
| DF5A-12DS-5C | 676-0036-6 | 12 | 25.0 | 30.5 | |
| DF5A-14DS-5C | 676-0037-9 | 14 | 30.0 | 35.5 | |
| DF5A-16DS-5C | 676-0038-1 | 16 | 35.0 | 40.5 | |

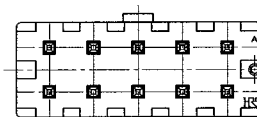


Note: A packaging quantity is delivered by the bag unit (100 pcs.).

Double Row Pin Header

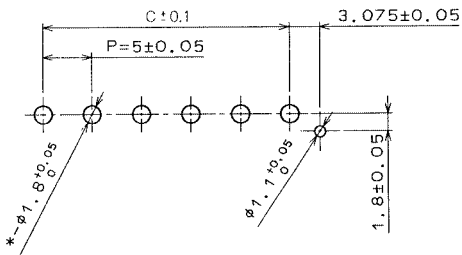


| Part Number | CL No. | Number of Contacts | G | H | RoHS |
|--------------------|---------------|--------------------|------|------|------|
| DF5A- 4DP-5DSA(05) | 676-0029-0-05 | 4 | 5.0 | 12.5 | YES |
| DF5A- 6DP-5DSA(05) | 676-0030-0-05 | 6 | 10.0 | 17.5 | |
| DF5A- 8DP-5DSA(05) | 676-0031-2-05 | 8 | 15.0 | 22.5 | |
| DF5A-10DP-5DSA(05) | 676-0032-5-05 | 10 | 20.0 | 27.5 | |
| DF5A-12DP-5DSA(05) | 676-0033-8-05 | 12 | 25.0 | 32.5 | |
| DF5A-14DP-5DSA(05) | 676-0034-0-05 | 14 | 30.0 | 37.5 | |
| DF5A-16DP-5DSA(05) | 676-0035-3-05 | 16 | 35.0 | 42.5 | |

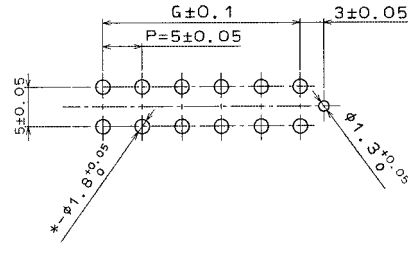


Note: A packaging quantity is delivered by the bag unit (100 pcs.).

◆PCB mounting pattern (Board thickness = 1.6±0.1)



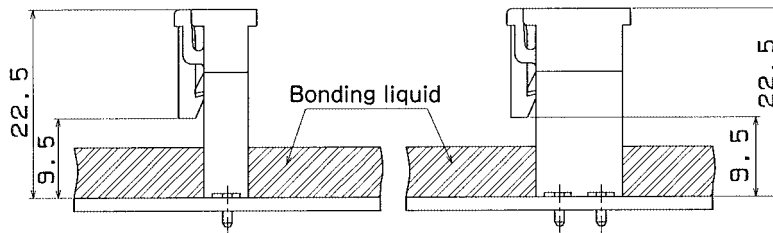
DF5A-*P-5DSA (05)



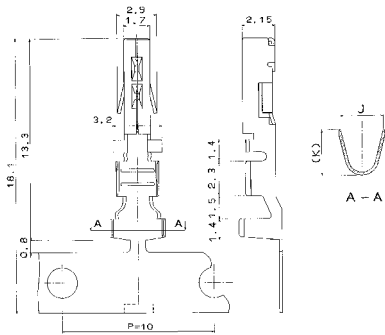
DF5A-*DP-5DSA (05)

Note 1. For C and G sizes, please refer to pages where individual product patterns are shown.

◆Application Pattern



■Socket Crimping Contact



| Part Number | HRS. No. | Applicable Cable | | | | Packaging Type | Quantity | J | K | RoHS |
|--------------|------------|------------------|-------------|----------|----------------------|----------------|----------|-----|---|------|
| | | UL style | Jacket dia. | AWG size | Contact construction | | | | | |
| DF5-1822SCF | 676-0001-1 | 1007 | 1.5 to 2.2 | AWG#18 | 43 cores/0.16mm | Reel | 5,000 | 2.8 | 3 | YES |
| DF5-1822SC | 676-0002-4 | | | AWG#20 | 21 cores/0.18mm | Bag | 100 | | | |
| DF5A-1822SCF | 676-0003-7 | 1015 | 2.2 to 3.2 | AWG#22 | 17 cores/0.16mm | Reel | 5,000 | 3.8 | 4 | |
| DF5A-1822SC | 676-0004-0 | | | | | Bag | 100 | | | |

Note 1. The applicable cable conductor is a tin plated and annealed copper wire.

Note 2. If other cables are used instead of the applicable cable, contact the HRS Sales Department.

Strip length: 3 to 4mm

◆Applicable Crimping Tools

| Type | Item | Part Number | CL No. | Applicable Contact |
|----------------|----------------------|------------------|------------|--------------------|
| Auto- matic | Press unit | CM-105 | 901-0005-4 | — |
| | Applicator | AP105-DF5-1822S | 901-4542-5 | DF5-1822SCF |
| | | AP105-DF5A-1822S | 901-4546-6 | DF5A-1822SCF |
| Manual | Manual crimping tool | DF5-1822/CR-HT | 550-0264-0 | DF5-1822SC |
| | | DF5A-1822/CR-HT | 550-0265-2 | DF5A-1822SC |
| — | Extraction tool | RP13-PC-TP | 150-0021-5 | DF5/DF5A-1822SCF |

Note: If any trouble has been caused due to other tools, which are not designated by Hirose, Hirose won't guarantee any product.

DF5 Series 5mm Pitch Miniature Potting Connector for Secondary Power Supply

◆Precautions

| | |
|------------------------------------|---|
| 1. Recommended soldering condition | Flow: 260°C for 10 seconds Manual soldering: 350°C for 3 seconds |
| 2. Cleaning condition | Refer to the "Nylon Connector Use Hand book" |
| 3. Connecting condition | Refer to the "Nylon Connector Use Hand book" |
| 4. Cautions | ■The color phase of this product may be slightly differ from that of the formed product according to the manufacturing lot, and consequent storage condition, however, the difference affects no performance. |
| 5. Precautions | Refer to the "Nylon Connector Use Hand book" |