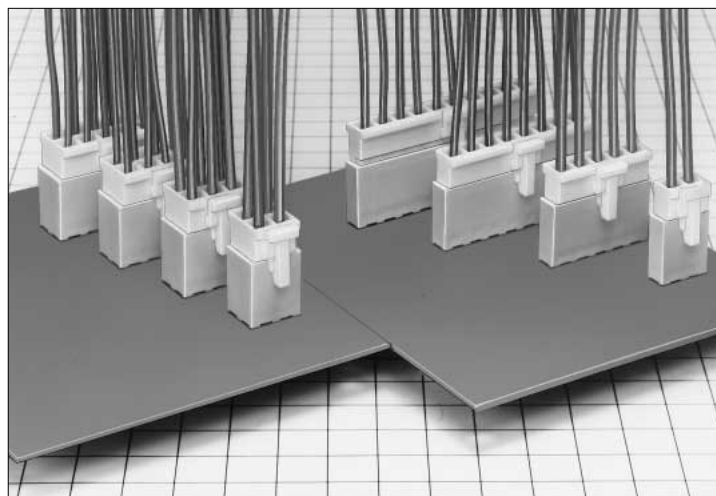


# 5mm Pitch Miniature Potting Connector for Secondary Power Supply

## 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

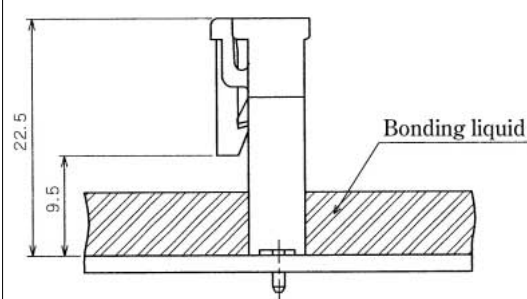


Figure 1-1

Double row type

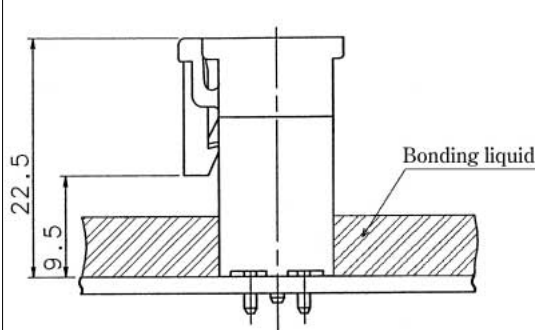


Figure 1-2

### ■Applications

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

## 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℃(Note 1) 20 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℃(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	No damage, cracks, or parts looseness.	(-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: 300°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.

## 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	_____

Note: Hirose's tin plating process takes measures against whisker.

## Ordering Information

### Connector

**DF5A - \* S - 5 C**

①                      ②   ③                      ④   ⑤

① Series Name: DF 5A	④ Contact Pitch: 5mm
② Number of contacts: Single row: 2 to 10 Double row: 4 to 10	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	

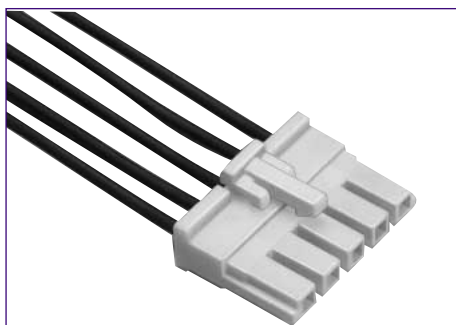
### Contact

**DF5A - 1822 SCF**

①                      ②                      ③

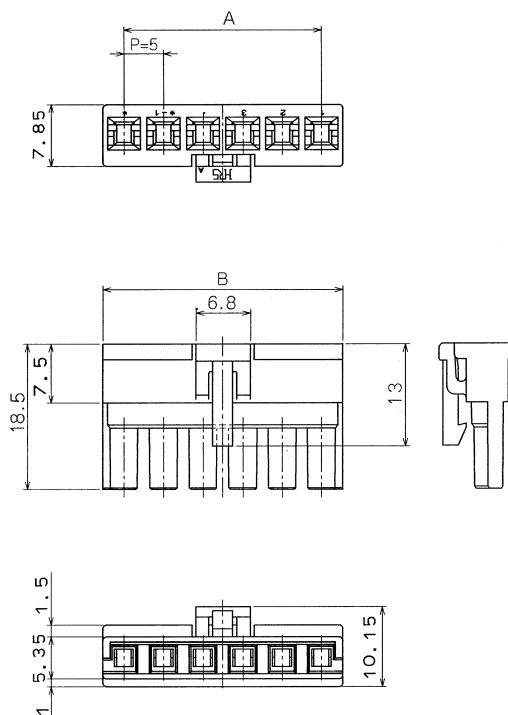
① Applicable cable type None: UL 1007 A: UL 1015	③ packaging type SCF : Socket contact, reel packaging SC : Socket contact, bag packaging
② Applicable cable size 1822: AWG#18~#22	

## Single Row Socket



Contact Inserted

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	



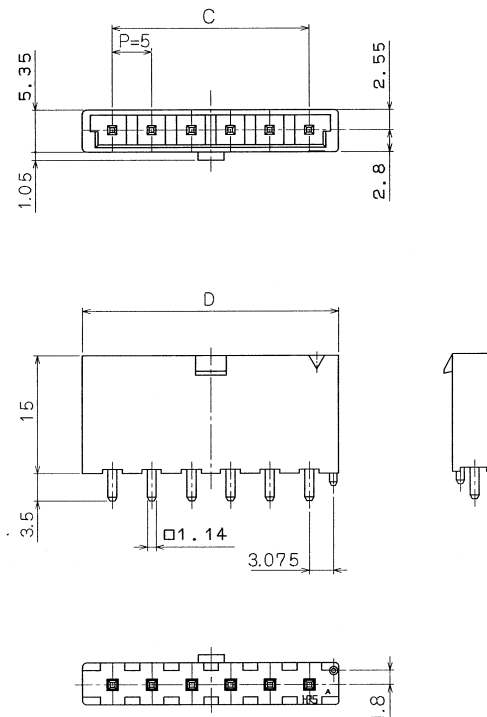
Note: A packaging quantity is delivered by the bag unit (100 pcs.).

## Single Row Pin Header



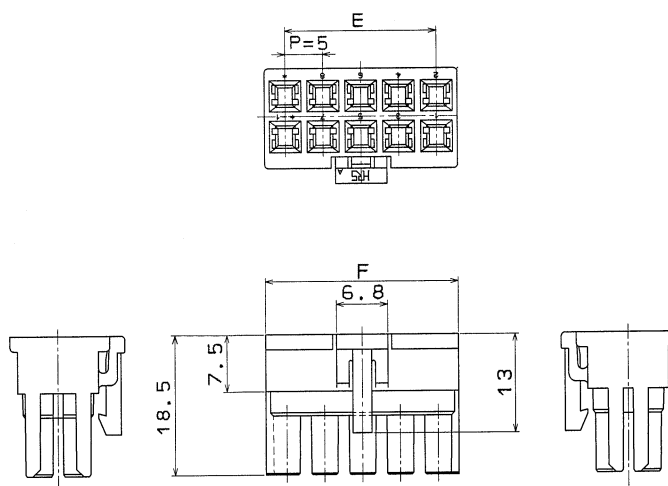
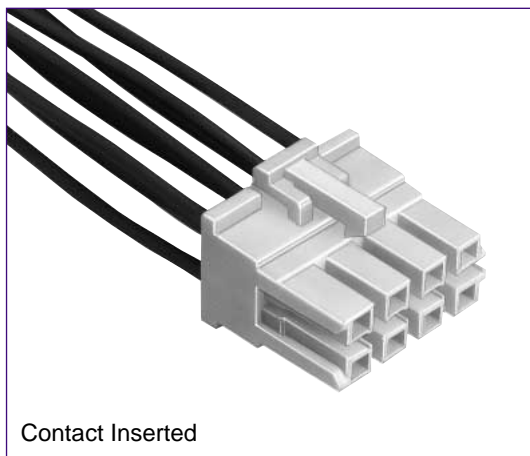
Contact Inserted

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

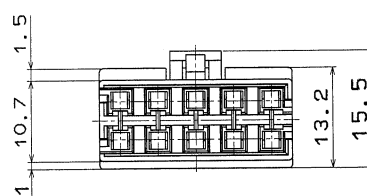


Note: A packaging quantity is delivered by the bag unit (100 pcs.).

## Double Row Socket

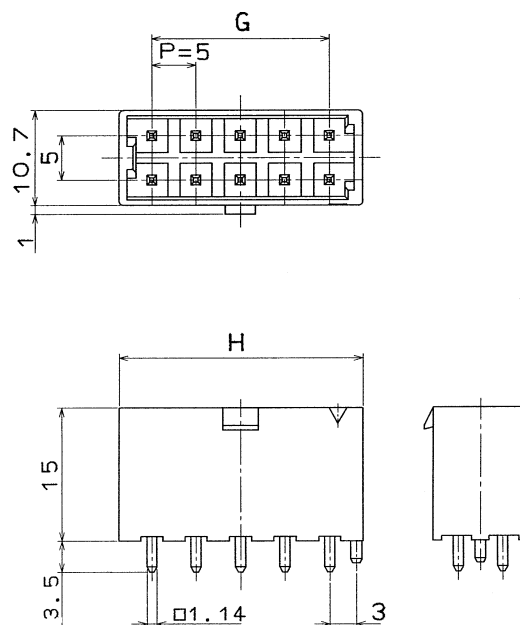


Part Number	CL No.	Number of Contacts	E	F	RoHS
DF5A- 4DS-5C	676-0025-0	4	5.0	10.5	YES
DF5A- 6DS-5C	676-0026-2	6	10.0	15.5	
DF5A- 8DS-5C	676-0027-5	8	15.0	20.5	
DF5A-10DS-5C	676-0028-8	10	20.0	25.5	
DF5A-12DS-5C	676-0036-6	12	25.0	30.5	
DF5A-14DS-5C	676-0037-9	14	30.0	35.5	
DF5A-16DS-5C	676-0038-1	16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

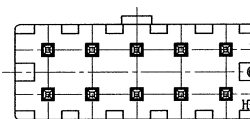


Note: A packaging quantity is delivered by the bag unit (100 pcs.).

## Double Row Pin Header

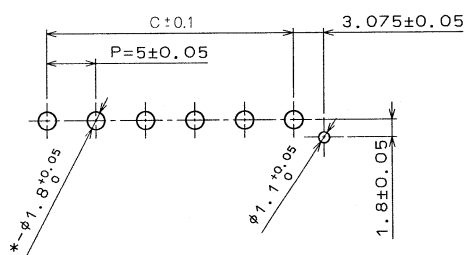


Part Number	CL No.	Number of Contacts	G	H	RoHS
DF5A- 4DP-5DSA	676-0029-0	4	5.0	12.5	YES
DF5A- 6DP-5DSA	676-0030-0	6	10.0	17.5	
DF5A- 8DP-5DSA	676-0031-2	8	15.0	22.5	
DF5A-10DP-5DSA	676-0032-5	10	20.0	27.5	
DF5A-12DP-5DSA	676-0033-8	12	25.0	32.5	
DF5A-14DP-5DSA	676-0034-0	14	30.0	37.5	
DF5A-16DP-5DSA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

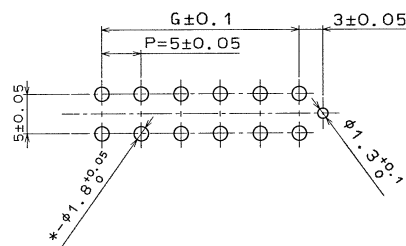


Note: A packaging quantity is delivered by the bag unit (100 pcs.).

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



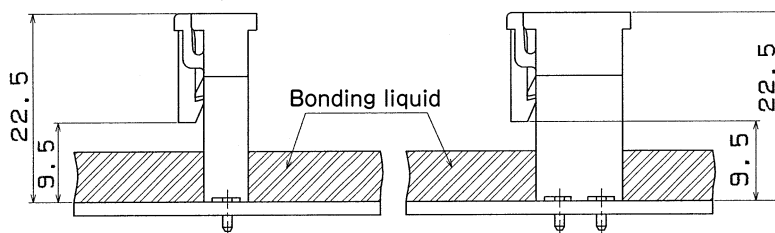
DF5A-\*P-5DSA



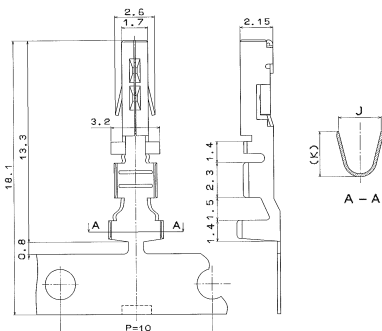
DF5A-\*DP-5DSA

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(51)	676-0001-1-51	1007	1.5 to 2.2	AWG#18	43 cores/0.16mm	Reel	5,000	2.8	3	YES
DF5-1822SC(51)	676-0002-4-51			AWG#20	21 cores/0.18mm	Bag	100			
DF5A-1822SCF(51)	676-0003-7-51	1015	2.2 to 3.2	AWG#22	17 cores/0.16mm	Reel	5,000	3.8	4	
DF5A-1822SC(51)	676-0004-0-51					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.

## ◆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(51)
		AP105-DF5A-1822S	901-4546-6	DF5A-1822SCF(51)
Manual	Manual crimping tool	DF5-1822/CR-HT	550-0264-0	DF5-1822SC(51)
		DF5A-1822/CR-HT	550-0265-2	DF5A-1822SC(51)
—	Extraction tool	RP13-PC-TP	150-0021-5	DF5/DF5A-1822SCF(51)

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

## ◆Precautions

1. Recommended soldering condition	Flow: 250℃ for 5 seconds Manual soldering: 290℃ 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"