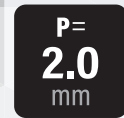


## DF51 Series

# 2mm Pitch, Positive Lock, Wire-to-Board Connector (UL, C-UL Standard Certified Product)



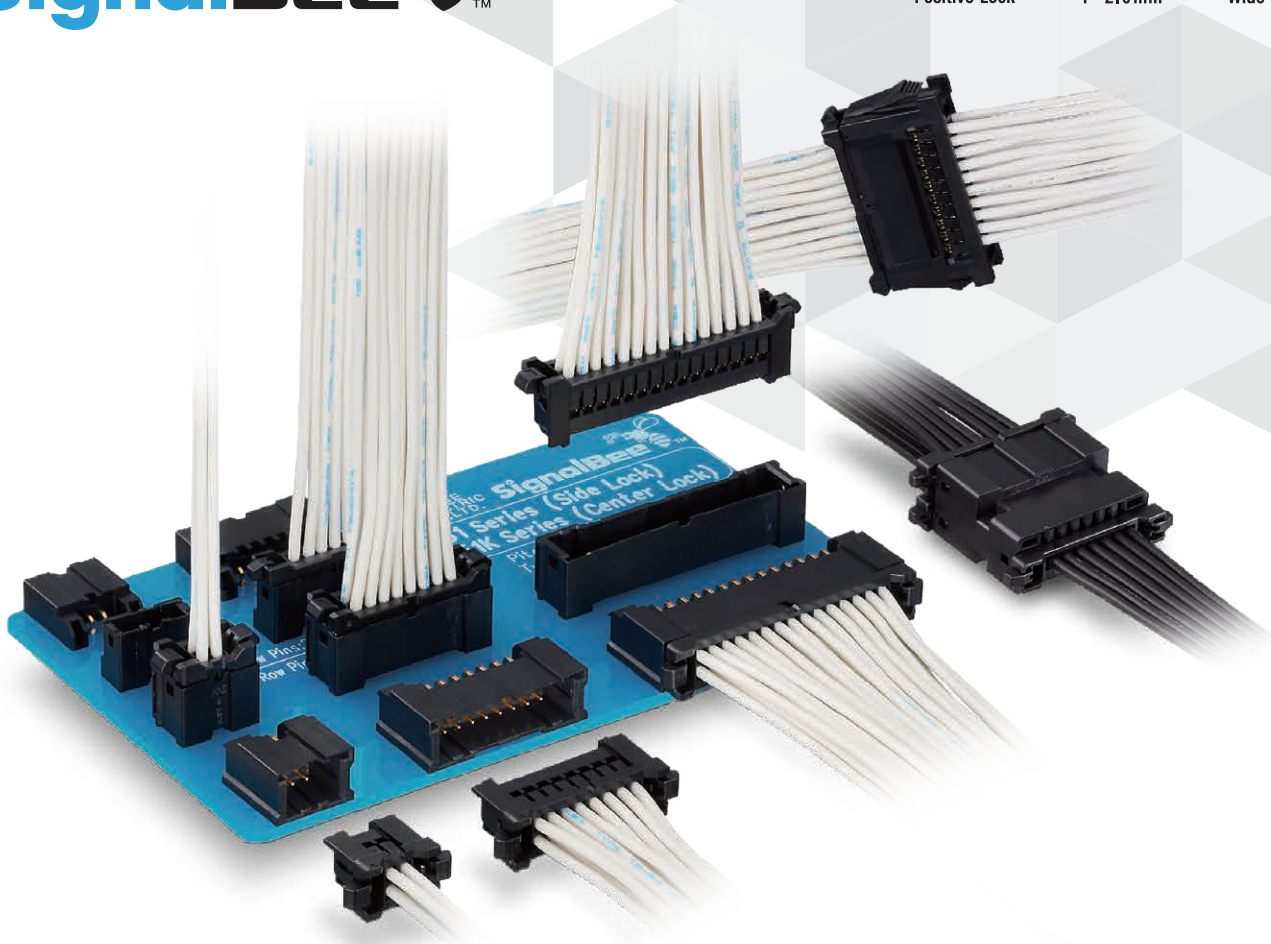
Positive-Lock



P=2.0 mm



Wide Variation



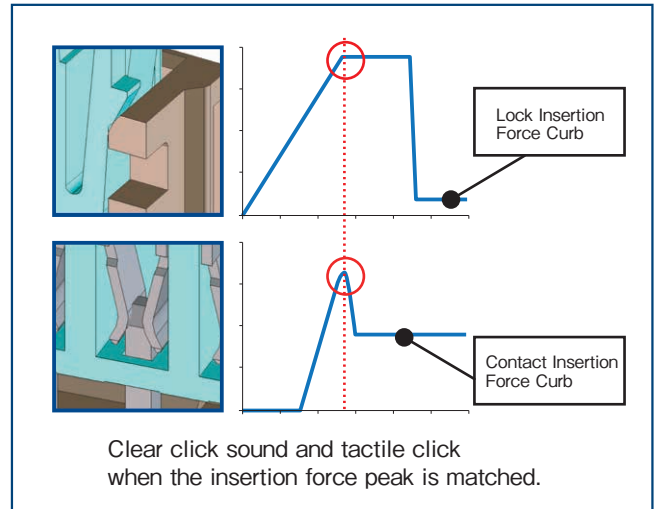
Apr. 1. 2023 Copyright 2023 HIROSE ELECTRIC CO., LTD. All Rights Reserved.



# Features

## 1. Positive lock provides clear tactile click and secures reliable connection.

The lock delivers a clear tactile click during peak insertion force, preventing incomplete mating.



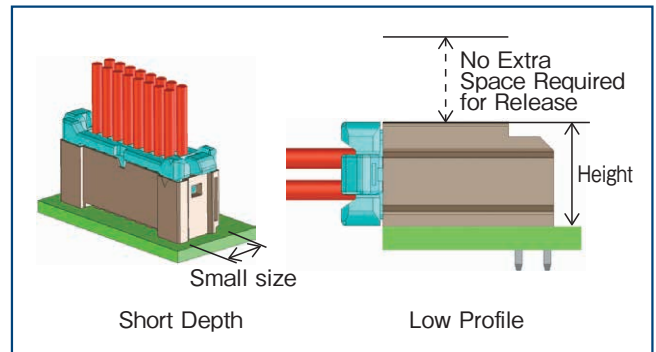
Secure Mating

## 2. Wide variation

Each of the straight/right angle/in-line configurations are available in single-row and dual-row for flexible design. Gold and Tin plating options support various application needs.

## 3. Secure Side-locking design

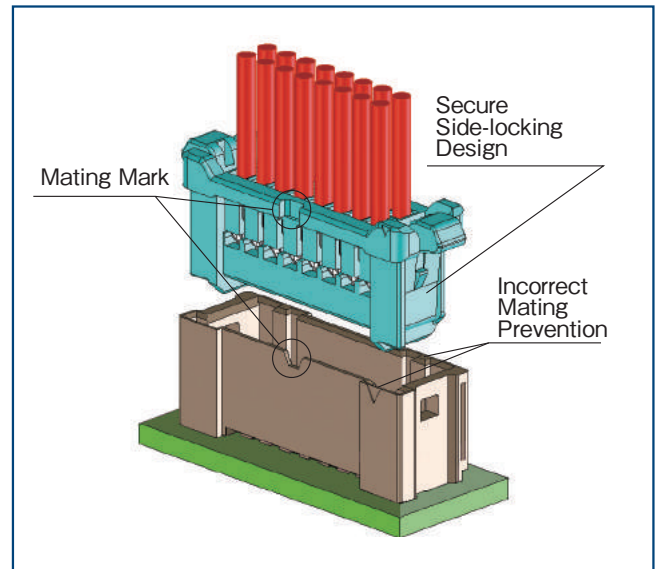
The straight type with short depth and the low profile right angle type are well suited for compact/thin equipment.



Reduces overall system size.

## 4. Prevents incorrect mating

Visual and mechanical polarized features will prevent reverse mating and incorrect mating between the different number of positions.

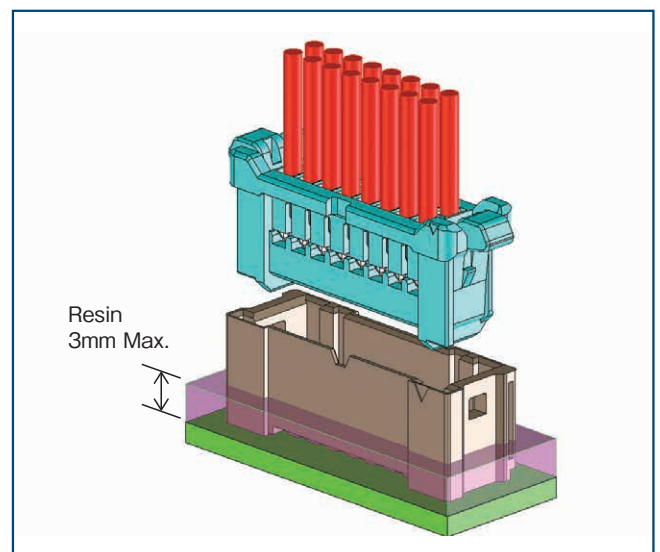


## 5. Uses the same contacts and crimping tools as DF11 Series

Wide applicable cable range: 22 to 30 AWG.

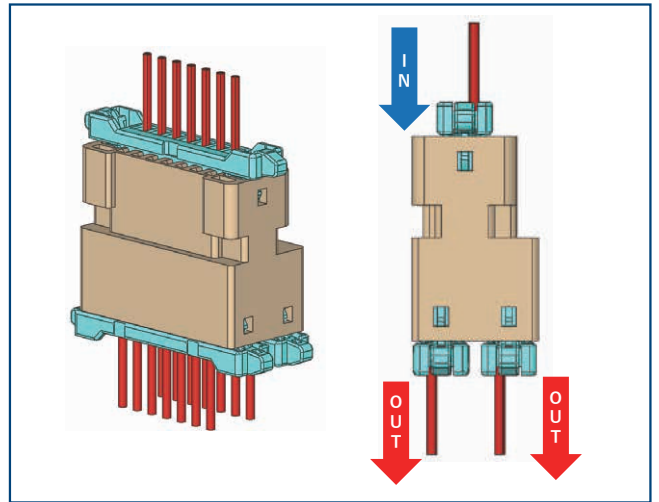
## 6. Suitable for potting

The straight header can be potted up to 3mm.



## 7. Branch Adapter

Branch types are also available.



## 8. UL, C-UL Certified

\* Only branch types are in the process of being certified.

### Applications

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

## Product Specifications

Ratings	Rated Current (Note 1)	Single-Row	Pos.	22 AWG	24 AWG	26 AWG	28 AWG	30 AWG	Operating Temperature (Note 2)	-55 to +105°C
			2	3A	2.5A	2A	1A	0.5A	Operating Humidity Range (Note 3)	20 to 80%
		3-7	2A	2A	Storage Temperature Range (Note 4)				-10 to +60°C	
		Dual-Row	4	3A	2.5A	1.5A	Storage Humidity Range (Note 4)	40 to 70%		
	6-30		2A	2A						
Rated Voltage	250V AC/DC									

UL, C-UL Safety Standard Approved Specification	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.UL, C-UL: E52653

Note 1 : The rated current depends on the wire size used.

Note 2 : Includes temperature rise due to 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. The operating temperature and humidity are applicable after assembly when the product is not energized and during transportation.

Note 5 : For a branch adapter, the current is the maximum value before branching.

Note 6 : UL and C-UL certification for branch adapters is pending.

Item	Specification	Condition
Insulation Resistance	1,000M $\Omega$ Min.	Measured at 500V DC
Withstand Voltage	No flashover or breakdown	650V AC is applied for 1 min.
Contact Resistance	30m $\Omega$ Max.	Measured at 1mA (DC or 1000Hz), 20mV Max.
Vibration Resistance	No electrical discontinuity of 1 $\mu$ s or greater	Frequency 10 to 55 Hz, half amplitude 0.75mm, 10 times in each of the 3 directions
Shock Resistance	No electrical discontinuity of 1 $\mu$ s or greater	Accelerated velocity : 490 m/s <sup>2</sup> for 11ms, half-sine wave in 3 directions, 3 times for each direction
Moisture-resistance	Contact resistance : 30m $\Omega$ Max. Insulation resistance : 500M $\Omega$ Min.	Temperature : 40 $\pm$ 2°C ; humidity: 90 to 95%, left as it is for 96 hours
Temperature cycles	Contact resistance : 30m $\Omega$ Max. Insulation resistance : 1,000M $\Omega$ Min.	-55°C :30 minutes $\rightarrow$ 105°C : 30 minutes 5 cycles
Durability	Contact resistance : 30m $\Omega$ Max.	Tin plated : 30 mating cycles, Gold plated: 50 mating cycles
Solder heat resistance	The resin parts should withstand the temperature and resist melting.	Flow : 260°C , 5 sec Hand soldering : temperature of soldering iron at 270°C for 3 seconds

## Materials / Finish

Product	Part	Material	Finish	Specification
Header	Insulator	PBT (glass-reinforced)	Black	UL94V-0
	Contact	Brass	Tin Plated or Gold Plated	-
Crimp Socket	Insulator	PBT (glass-reinforced)	Black	UL94V-0
Socket Contact	Contact	Phosphor Copper	Tin Plated or Gold Plated	-
In-line Plug	Insulator	PBT (glass-reinforced)	Black	UL94V-0
In-line Plug Contact	Contact	Phosphor Copper	Tin Plated or Gold Plated	-
Adapter	Insulator	PBT (glass-reinforced)	Black	UL94V-0
	Contact	Brass	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

**DF51 # - # P - 2 DSA**

① ② ③ ④ ⑤ ⑥

### Crimp Contact

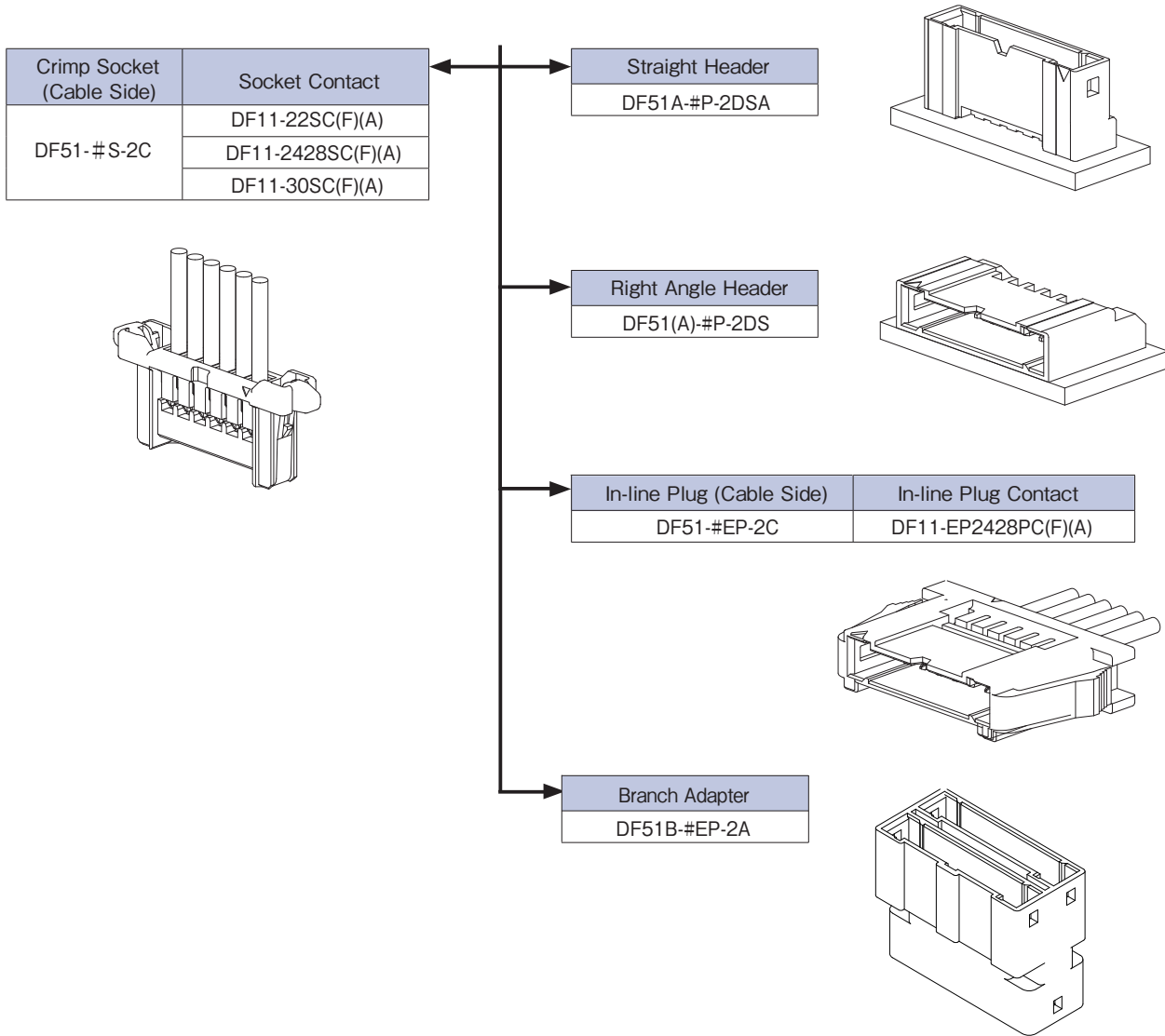
**DF11 - EP 2428 PCF A**

① ⑦ ⑧ ⑨ ⑩

① Series name	DF51	⑥ Housing Type	DSA : Straight Header DS : Right Angle Header C : Crimp Socket A : Adapter
② Form Type	Blank : Guide-boss Type A : Without Guide-boss B : Branch Type	⑦ Contact Type	EP : In-line Plug
③ Number of Positions	Single-row : 2 to 6 Dual-row : 4 to 30 Branch Adapter : 2 to 4, 6, 7	⑧ Applicable Conductor	22 : 22 AWG 2428 : 24 to 28 AWG 30 : 30 AWG
④ Connector Type	P : Single-row Pin Header S : Single-row Crimp Socket DP : Dual-row Pin Header DS : Dual-row Crimp Socket EP : Single-row In-line Plug DEP : Dual-row In-line Plug	⑨ Packaging Style	SCF : Socket Contacts/Reel SC : Socket Contacts/Bag PCF : In-line Plug Contacts/Reel PC : In-line Plug Contacts/Bag
⑤ Contact Pitch	2mm	⑩ Plating Specifications	Blank : Tin Plated A : Gold Plated

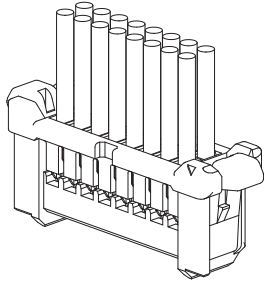
## Diagram of Connector Mating Combinations

### Single-row

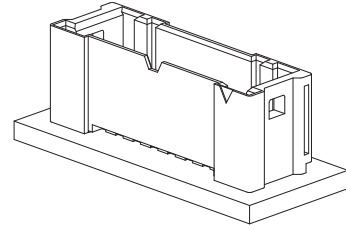


## Dual-row

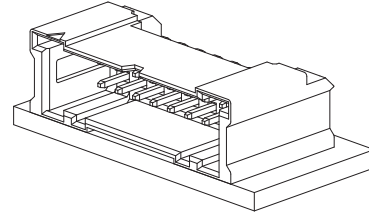
Crimp Socket (Cable Side)	Socket Contact
DF51-#DS-2C	DF11-22SC(F)(A)
	DF11-2428SC(F)(A)
	DF11-30SC(F)(A)



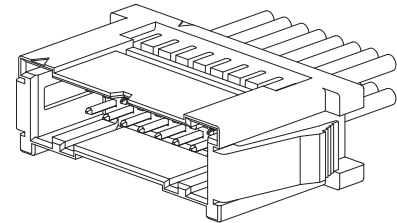
Straight Header
DF51A-#DP-2DSA



Right Angle Header
DF51(A)-#DP-2DS

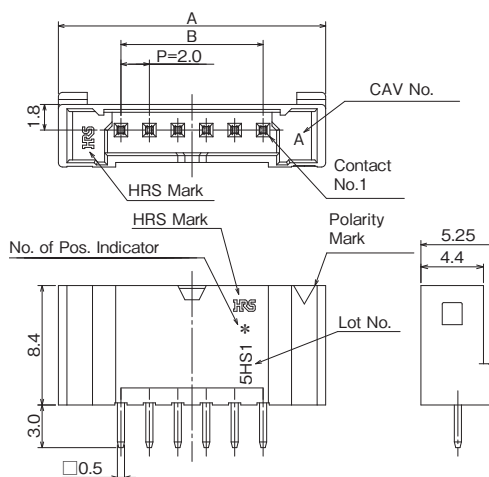


In-line Plug (Cable Side)	In-line Plug Contact
DF51-#DEP-2C	DF11-EP2428PC(F)(A)

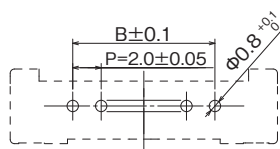




## Single-row Straight Header



Recommended PCB Layout (t=1.6mm)



Unit : mm

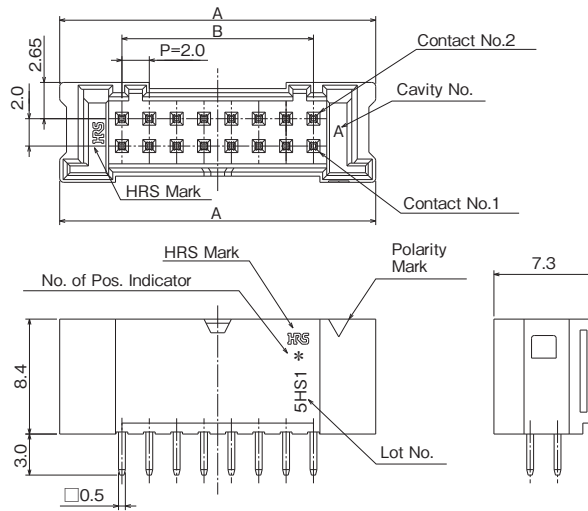
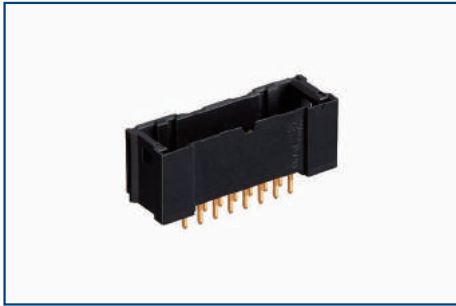
Part No.	HRS No.	No. of Pos.	A	B	Purchase Unit
DF51A-2P-2DSA(##)	CL0543-5105-0-##	2	10.8	2.0	100pcs per bag
DF51A-3P-2DSA(##)	CL0543-5106-0-##	3	12.8	4.0	
DF51A-4P-2DSA(##)	CL0543-5107-0-##	4	14.8	6.0	
DF51A-5P-2DSA(##)	CL0543-5108-0-##	5	16.8	8.0	
DF51A-6P-2DSA(##)	CL0543-5109-0-##	6	18.8	10.0	

[Specification number] - ##、(##)

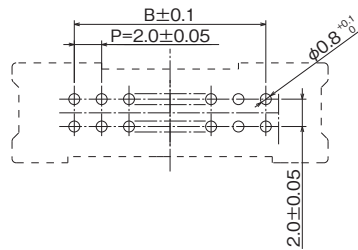
Blank : Tin plated

(01) : Gold plated

## Dual-row Straight Header



Recommended PCB Layout (t=1.6mm)

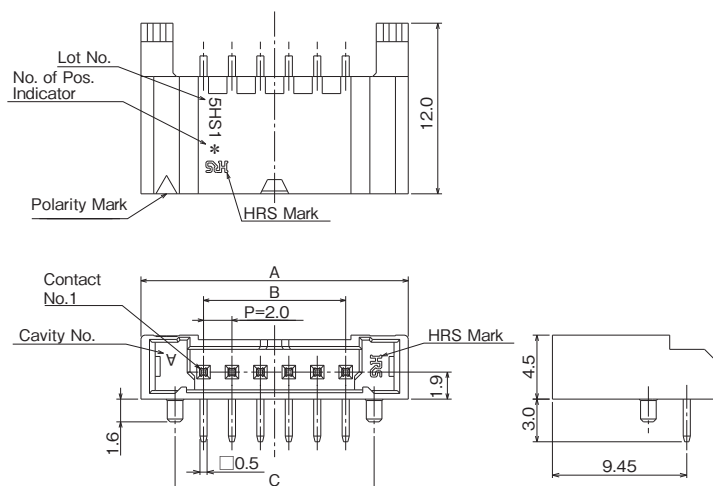


Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	Purchase Unit
DF51A-4DP-2DSA(##)	CL0543-5015-0-##	4	11.1	2.0	100pcs per bag
DF51A-6DP-2DSA(##)	CL0543-5044-0-##	6	13.1	4.0	
DF51A-8DP-2DSA(##)	CL0543-5045-0-##	8	15.1	6.0	
DF51A-10DP-2DSA(##)	CL0543-5046-0-##	10	17.1	8.0	
DF51A-12DP-2DSA(##)	CL0543-5047-0-##	12	19.1	10.0	
DF51A-14DP-2DSA(##)	CL0543-5048-0-##	14	21.1	12.0	
DF51A-16DP-2DSA(##)	CL0543-5049-0-##	16	23.1	14.0	
DF51A-18DP-2DSA(##)	CL0543-5050-0-##	18	25.1	16.0	
DF51A-20DP-2DSA(##)	CL0543-5051-0-##	20	27.1	18.0	
DF51A-22DP-2DSA(##)	CL0543-5052-0-##	22	29.1	20.0	
DF51A-24DP-2DSA(##)	CL0543-5053-0-##	24	31.1	22.0	
DF51A-26DP-2DSA(##)	CL0543-5054-0-##	26	33.1	24.0	
DF51A-28DP-2DSA(##)	CL0543-5055-0-##	28	35.1	26.0	
DF51A-30DP-2DSA(##)	CL0543-5056-0-##	30	37.1	28.0	

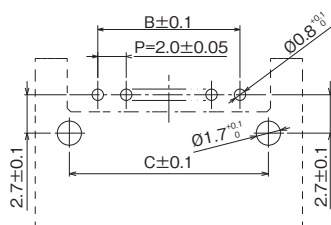
[Specification number] - ##, (##)  
 Blank : Tin plated  
 (01) : Gold plated

## Single-row Right Angle Header



Above drawing is guide-boss type.

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

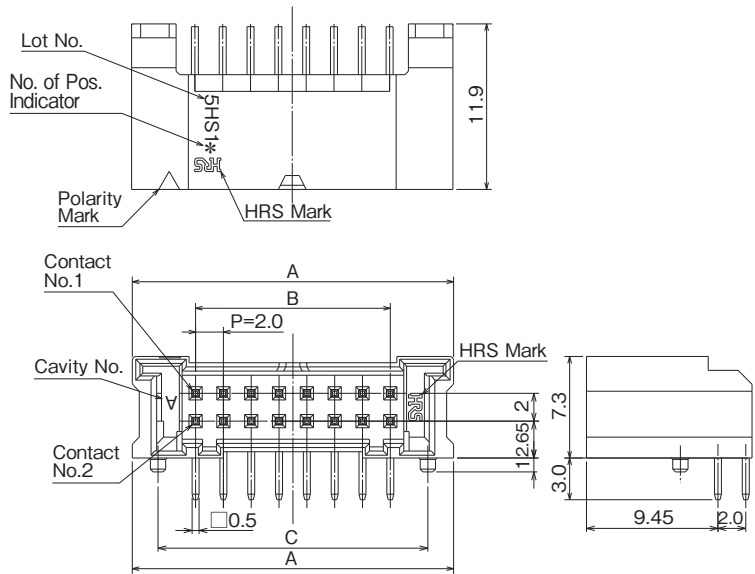


Unit : mm

Part No.	HRS No.	Guide-boss	No. of Pos.	A	B	C	Purchase Unit
DF51-2P-2DS(##)	CL0543-5110-0-##	With boss	2	10.8	2.0	6.0	243pcs per tray
DF51-3P-2DS(##)	CL0543-5111-0-##	With boss	3	12.8	4.0	8.0	207pcs per tray
DF51A-4P-2DS(##)	CL0543-5117-0-##	Without boss	4	14.8	6.0	-	171pcs per tray
DF51A-5P-2DS(##)	CL0543-5118-0-##	Without boss	5	16.8	8.0	-	153pcs per tray
DF51A-6P-2DS(##)	CL0543-5119-0-##	Without boss	6	18.8	10.0	-	135pcs per tray

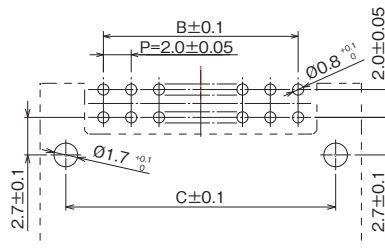
[Specification number] - ##, (##)  
 (20) : Tin plated, tray packaging  
 (50) : Gold plated, tray packaging

## Dual-row Right Angle Header



Above drawing is guide-boss type.

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

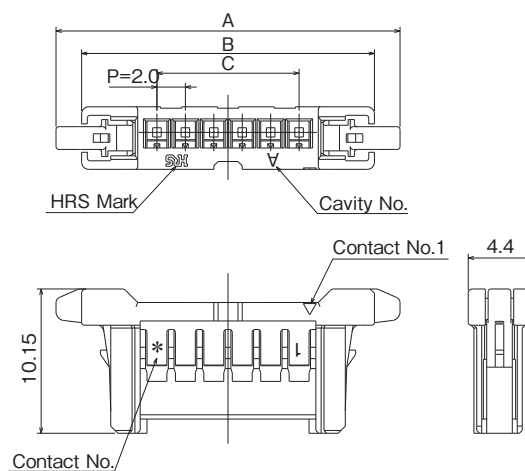


Unit : mm

Part No.	HRS No.	Guide-boss	No. of Pos.	A	B	C	Purchase Unit
DF51-4DP-2DS(##)	CL0543-5016-7-##	With boss	4	11.1	2.0	7.4	234pcs per tray
DF51-6DP-2DS(##)	CL0543-5017-0-##	With boss	6	13.1	4.0	9.4	198pcs per tray
DF51A-8DP-2DS(##)	CL0543-5059-0-##	Without boss	8	15.1	6.0	-	171pcs per tray
DF51A-10DP-2DS(##)	CL0543-5060-0-##	Without boss	10	17.1	8.0	-	153pcs per tray
DF51A-12DP-2DS(##)	CL0543-5061-0-##	Without boss	12	19.1	10.0	-	135pcs per tray
DF51A-14DP-2DS(##)	CL0543-5062-0-##	Without boss	14	21.1	12.0	-	126pcs per tray
DF51A-16DP-2DS(##)	CL0543-5063-0-##	Without boss	16	23.1	14.0	-	108pcs per tray
DF51A-18DP-2DS(##)	CL0543-5064-0-##	Without boss	18	25.1	16.0	-	99pcs per tray
DF51A-20DP-2DS(##)	CL0543-5065-0-##	Without boss	20	27.1	18.0	-	90pcs per tray
DF51A-22DP-2DS(##)	CL0543-5066-0-##	Without boss	22	29.1	20.0	-	90pcs per tray
DF51A-24DP-2DS(##)	CL0543-5067-0-##	Without boss	24	31.1	22.0	-	81pcs per tray
DF51A-26DP-2DS(##)	CL0543-5068-0-##	Without boss	26	33.1	24.0	-	72pcs per tray
DF51A-28DP-2DS(##)	CL0543-5069-0-##	Without boss	28	35.1	26.0	-	72pcs per tray
DF51A-30DP-2DS(##)	CL0543-5070-0-##	Without boss	30	37.1	28.0	-	72pcs per tray

[Specification number] - ##, (##)  
 (20) : Tin plated, tray packaging  
 (50) : Gold plated, tray packaging

## Single-row Crimp Socket

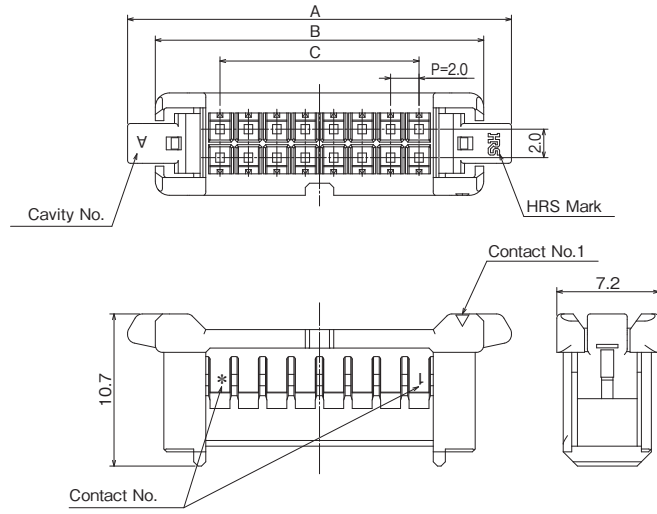


Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	Purchase Unit
DF51-2S-2C	CL0543-5120-0-00	2	16.2	12.6	2.0	100pcs per bag
DF51-3S-2C	CL0543-5121-0-00	3	18.2	14.6	4.0	
DF51-4S-2C	CL0543-5122-0-00	4	20.2	16.6	6.0	
DF51-5S-2C	CL0543-5123-0-00	5	22.2	18.6	8.0	
DF51-6S-2C	CL0543-5124-0-00	6	24.2	20.6	10.0	
DF51-7S-2C	CL0543-5131-0-00	7	26.2	22.6	12.0	

Note : The 7 pos. mating partner is only a branch adapter.

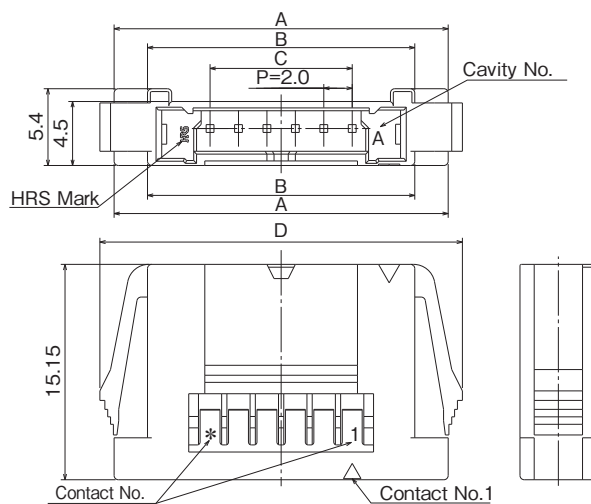
## Dual-row Crimp Socket



Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	Purchase Unit
DF51-4DS-2C	CL0543-5030-8-00	4	15.0	11.1	2.0	100pcs per bag
DF51-6DS-2C	CL0543-5031-0-00	6	17.0	13.1	4.0	
DF51-8DS-2C	CL0543-5032-3-00	8	19.0	15.1	6.0	
DF51-10DS-2C	CL0543-5033-6-00	10	21.0	17.1	8.0	
DF51-12DS-2C	CL0543-5034-9-00	12	23.0	19.1	10.0	
DF51-14DS-2C	CL0543-5035-1-00	14	25.0	21.1	12.0	
DF51-16DS-2C	CL0543-5036-4-00	16	27.0	23.1	14.0	
DF51-18DS-2C	CL0543-5037-7-00	18	29.0	25.1	16.0	
DF51-20DS-2C	CL0543-5038-0-00	20	31.0	27.1	18.0	
DF51-22DS-2C	CL0543-5039-2-00	22	33.0	29.1	20.0	
DF51-24DS-2C	CL0543-5040-1-00	24	35.0	31.1	22.0	
DF51-26DS-2C	CL0543-5041-4-00	26	37.0	33.1	24.0	
DF51-28DS-2C	CL0543-5042-7-00	28	39.0	35.1	26.0	
DF51-30DS-2C	CL0543-5043-0-00	30	41.0	37.1	28.0	

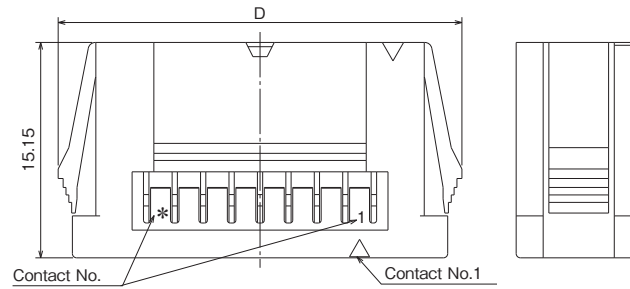
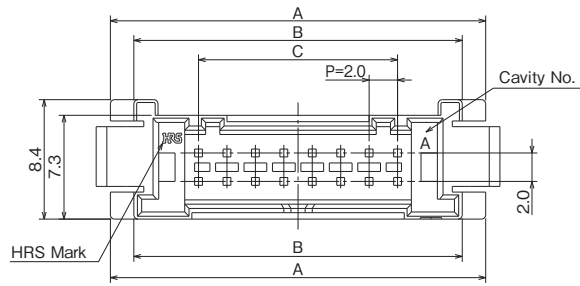
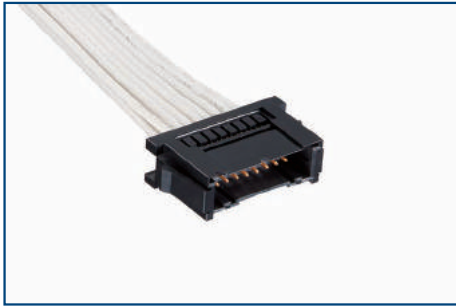
## Single-Row In-line Plug



Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	D	Purchase Unit
DF51-2EP-2C	CL0543-5125-0-00	2	15.5	10.8	2.0	17.5	100pcs per bag
DF51-3EP-2C	CL0543-5126-0-00	3	17.5	12.8	4.0	19.5	
DF51-4EP-2C	CL0543-5127-0-00	4	19.5	14.8	6.0	21.5	
DF51-5EP-2C	CL0543-5128-0-00	5	21.5	16.8	8.0	23.5	
DF51-6EP-2C	CL0543-5129-0-00	6	23.5	18.8	10.0	25.5	

## Dual-row In-line Plug



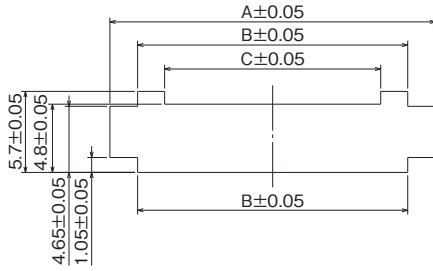
Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	D	Purchase Unit
DF51-4DEP-2C	CL0543-5071-0-00	4	14.4	11.1	2.0	16.4	100pcs per bag
DF51-6DEP-2C	CL0543-5072-0-00	6	16.4	13.1	4.0	18.4	
DF51-8DEP-2C	CL0543-5073-0-00	8	18.4	15.1	6.0	20.4	
DF51-10DEP-2C	CL0543-5074-0-00	10	20.4	17.1	8.0	22.4	
DF51-12DEP-2C	CL0543-5075-0-00	12	22.4	19.1	10.0	24.4	
DF51-14DEP-2C	CL0543-5076-0-00	14	24.4	21.1	12.0	26.4	
DF51-16DEP-2C	CL0543-5077-0-00	16	26.4	23.1	14.0	28.4	
DF51-18DEP-2C	CL0543-5078-0-00	18	28.4	25.1	16.0	30.4	
DF51-20DEP-2C	CL0543-5079-0-00	20	30.4	27.1	18.0	32.4	
DF51-22DEP-2C	CL0543-5080-0-00	22	32.4	29.1	20.0	34.4	
DF51-24DEP-2C	CL0543-5081-0-00	24	34.4	31.1	22.0	36.4	
DF51-26DEP-2C	CL0543-5082-0-00	26	36.4	33.1	24.0	38.4	
DF51-28DEP-2C	CL0543-5083-0-00	28	38.4	35.1	26.0	40.4	
DF51-30DEP-2C	CL0543-5084-0-00	30	40.4	37.1	28.0	42.4	



## In-line Plug Panel Cutouts

### ● Single-row



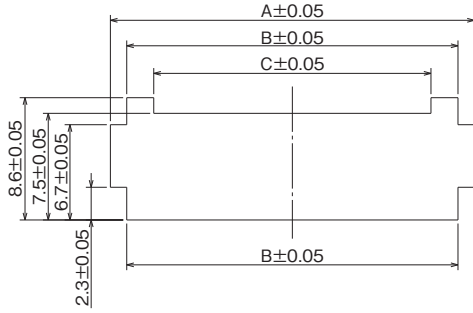
Unit : mm

Part No.	HRS No.	No. of Pos.	A				B	C
			Panel Board Thickness (Note 1)					
			0.5 to 0.8	0.9 to 1.3	1.4 to 1.8	1.9 to 2.3		
DF51-2EP-2C	CL0543-5125-0-00	2	14.9	15.2	15.6	16.0	11.0	7.2
DF51-3EP-2C	CL0543-5126-0-00	3	16.9	17.2	17.6	18.0	13.0	9.2
DF51-4EP-2C	CL0543-5127-0-00	4	18.9	19.2	19.6	20.0	15.0	11.2
DF51-5EP-2C	CL0543-5128-0-00	5	20.9	21.2	21.6	22.0	17.0	13.2
DF51-6EP-2C	CL0543-5129-0-00	6	22.9	23.2	23.6	24.0	19.0	15.2

Note 1 : The A dimension of the mounting hole varies based on panel board thickness.

Note 2 : Do not use a rounded surface at the panel tab portion.

●Dual-row

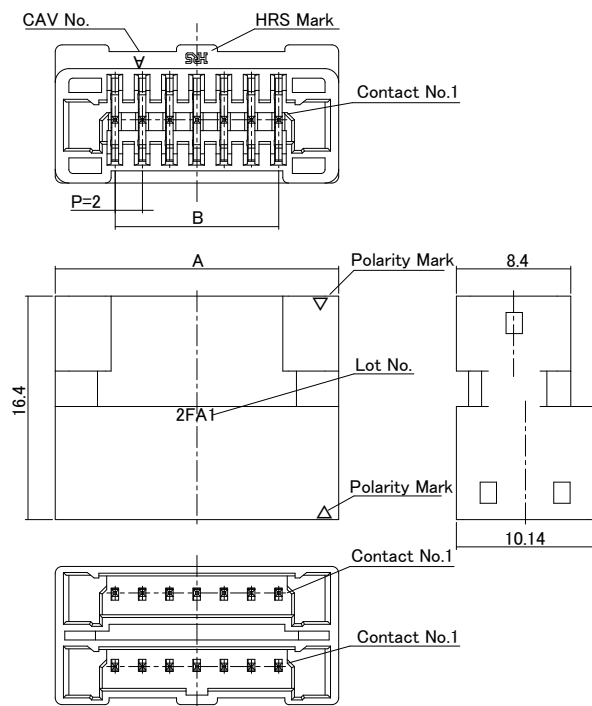


Unit : mm

Part No.	HRS No.	No. of Pos.	A				B	C
			Panel Board Thickness (Note 1)					
			0.5 to 0.8	0.9 to 1.3	1.4 to 1.8	1.9 to 2.3		
DF51-4DEP-2C	CL0543-5071-0-00	4	13.6	14.1	14.5	14.9	11.3	7.5
DF51-6DEP-2C	CL0543-5072-0-00	6	15.6	16.1	16.5	16.9	13.3	9.5
DF51-8DEP-2C	CL0543-5073-0-00	8	17.6	18.1	18.5	18.9	15.3	11.5
DF51-10DEP-2C	CL0543-5074-0-00	10	19.6	20.1	20.5	20.9	17.3	13.5
DF51-12DEP-2C	CL0543-5075-0-00	12	21.6	22.1	22.5	22.9	19.3	15.5
DF51-14DEP-2C	CL0543-5076-0-00	14	23.6	24.1	24.5	24.9	21.3	17.5
DF51-16DEP-2C	CL0543-5077-0-00	16	25.6	26.1	26.5	26.9	23.3	19.5
DF51-18DEP-2C	CL0543-5078-0-00	18	27.6	28.1	28.5	28.9	25.3	21.5
DF51-20DEP-2C	CL0543-5079-0-00	20	29.6	30.1	30.5	30.9	27.3	23.5
DF51-22DEP-2C	CL0543-5080-0-00	22	31.6	32.1	32.5	32.9	29.3	25.5
DF51-24DEP-2C	CL0543-5081-0-00	24	33.6	34.1	34.5	34.9	31.3	27.5
DF51-26DEP-2C	CL0543-5082-0-00	26	35.6	36.1	36.5	36.9	33.3	29.5
DF51-28DEP-2C	CL0543-5083-0-00	28	37.6	38.1	38.5	38.9	35.3	31.5
DF51-30DEP-2C	CL0543-5084-0-00	30	39.6	40.1	40.5	40.9	37.3	33.5

Note 1 : The A dimension of the mounting hole varies based on panel board thickness.  
 Note 2 : Do not use a rounded surface at the panel tab portion.

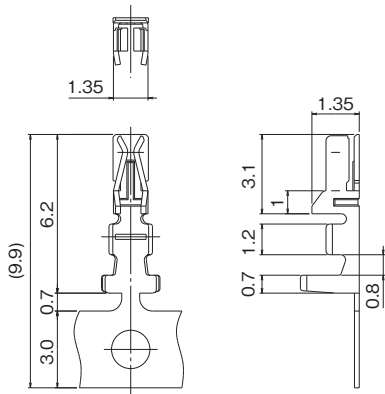
## Branch Adapter



Part No.	HRS No.	No. of Pos.	A	B	Purchase Unit
DF51B-2EP-2A	Under Planning (Note)	2	10.8	2.0	100pcs per bag
DF51B-3EP-2A	Under Planning (Note)	3	12.8	4.0	
DF51B-4EP-2A	Under Planning (Note)	4	14.8	6.0	
DF51B-6EP-2A	Under Planning (Note)	6	18.8	10.0	
DF51B-7EP-2A	CL0543-5132-0-00	7	20.8	12.0	

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

## Socket Contact



Part No.	HRS No.	Category	Purchase Unit	Finish
DF11-22SCF	CL0543-0601-0-00	Reel Contact	10,000pcs per reel	Tin Plated
DF11-22SC	CL0543-0602-2-00	Loose Contact	100pcs per bag	
DF11-2428SCF	CL0543-0500-2-00	Reel Contact	10,000pcs per reel	
DF11-2428SC	CL0543-0501-5-00	Loose Contact	100pcs per bag	
DF11A-2428SCF	CL0543-0634-9-00	Reel Contact	10,000pcs per reel	
DF11A-2428SC	CL0543-0635-1-00	Loose Contact	100pcs per bag	
DF11-30SCF	CL0543-0605-0-00	Reel Contact	10,000pcs per reel	
DF11-30SC	CL0543-0606-3-00	Loose Contact	100pcs per bag	
DF11-22SCFA(04)	CL0543-0603-5-04	Reel Contact	10,000pcs per reel	Gold Plated
DF11-22SCA	CL0543-0604-8-00	Loose Contact	100pcs per bag	
DF11-2428SCFA(04)	CL0543-0550-0-04	Reel Contact	10,000pcs per reel	
DF11-2428SCA	CL0543-0551-3-00	Loose Contact	100pcs per bag	
DF11-30SCFA(04)	CL0543-0607-6-04	Reel Contact	10,000pcs per reel	
DF11-30SCA	CL0543-0608-9-00	Loose Contact	100pcs per bag	

Note : DF11A-2428SCF/SC is the tin plated low insertion/extraction force type.

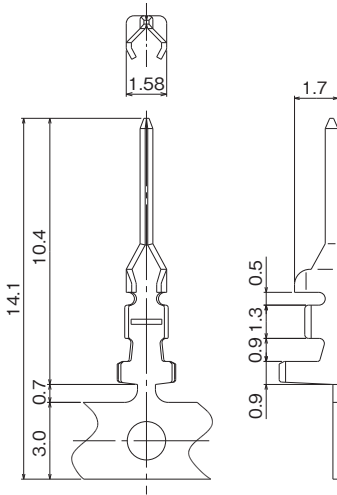
### ◆Applicable Wire (Tinned, Annealed Copper Wire)

- Recommended Wire  
UL1061, UL1007 (Note 2)
- Strip Length  
1.7 to 2.3mm

Wire Size (Stranded Wire Conductor)	Jacket Diameter
22 AWG (17/0.16)	φ 1.2-1.45mm
24 AWG (11/0.16)	φ 0.9-1.45mm
26 AWG (7/0.16)	
28 AWG (7/0.127)	
30 AWG (7/0.1)	φ 0.75-1.2mm

Note 1 : Contact your Hirose representative when using a cable other than those specified.  
 Note 2 : DF11-22SCF/SC/SCFA/SCA is for UL1061.

## In-line Plug Contact



Part No.	HRS No.	Category	Purchase Unit	Finish
DF11-EP2428PCF	CL0543-0615-4-00	Reel Contact	10,000pcs per reel	Tin Plated
DF11-EP2428PC	CL0543-0616-7-00	Loose Contact	100pcs per bag	
DF11-EP2428PCFA	CL0543-0617-0-00	Reel Contact	10,000pcs per reel	Gold Plated
DF11-EP2428PCA	CL0543-0618-2-00	Loose Contact	100pcs per bag	

### ◆Applicable Wire (Tinned, Annealed Copper Wire)

- Recommended Wire  
UL1061, UL1007
- Strip Length  
1.9 to 2.3mm

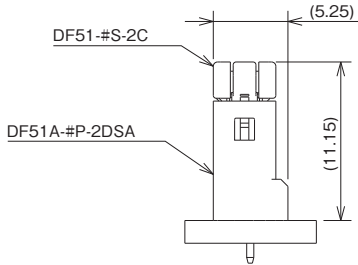
Wire Size (Stranded Wire Conductor)	Jacket Diameter
24 AWG (11/0.16)	φ 0.9-1.45mm
26 AWG (7/0.16)	
28 AWG (7/0.127)	

Note : Contact your Hirose representative when using a cable other than those specified.

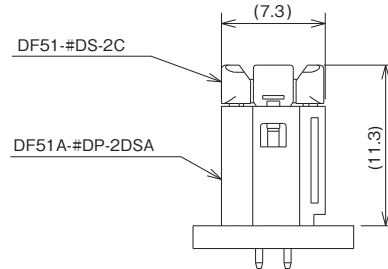
## Mated Dimensions

### ● Wire-to-Board Connection (Straight Header)

#### 【Single-row】

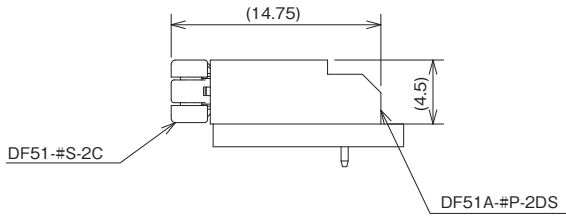


#### 【Dual-row】

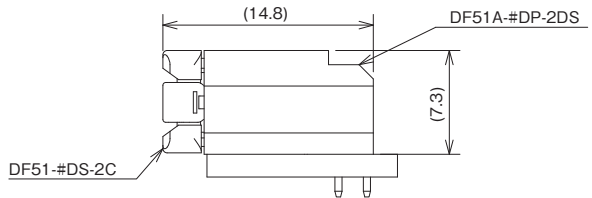


### ● Wire-to-Board Connection (Right Angle Header)

#### 【Single-row】

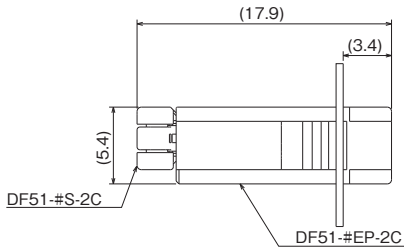


#### 【Dual-row】

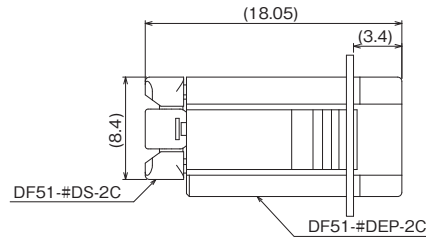


### ● Wire-to-Wire Connection

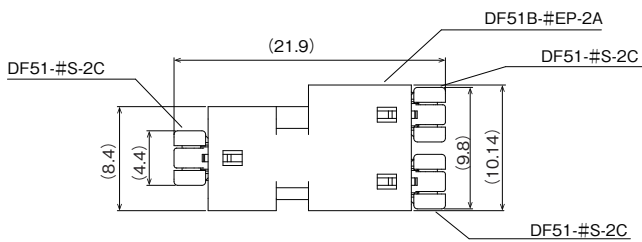
#### 【Single-row】



#### 【Dual-row】



#### 【Adapter】



## Applicable Crimping Tool

Type	Part No.	HRS No.	Wire Type	Applicable Contacts
Applicator	AP105-DF11-22S	CL0901-4529-7-00	UL1061 (Note 3, 5)	DF11-22SCF/SCFA(04)
	AP105-DF11-2428S	CL0901-4511-1-00	UL1007 (Note 3) UL1061 (Note 3)	DF11-2428SCF/SCFA(04) DF11A-2428SCF
	AP105-DF11-30S	CL0901-4532-1-00	UL1007 (Note 3) UL1061 (Note 3)	DF11-30SCF/SCFA(04)
	AP105-DF11-EP2428P	CL0901-4528-4-00	UL1007 (Note 3) UL1061 (Note 3)	DF11-EP2428PCF/PCFA
Press Unit	CM-105C	CL0901-0001-0-00	-	-
Hand Tool	HT801/DF11-22S(A)	CL0550-0407-5-00	UL1061 (Note 4, 5)	DF11-22SC/SCA
	HT801/DF11-2428S(A)	CL0550-0403-4-00	UL1007 (Note 4) UL1061 (Note 4)	DF11-2428SC/SCA DF11A-2428SC
	HT801/DF11-30S(A)	CL0550-0408-8-00	UL1007 (Note 4) UL1061 (Note 4)	DF11-30SC/SCA
	HT801/DF11-EP2428P(A)	CL0550-0409-0-00	UL1007 (Note 4) UL1061 (Note 4)	DF11-EP2428PC/PCA
Contact Extraction Tool	DF-C-PO(B)	CL0550-0179-2-00	-	DF11-####SCF DF11-EP####PCF

Note 1 : Please conduct crimping based on 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 : Applicator dies can be switched to crimp other wire sizes and types. The additional dies are sold separately.

Note 4 : Hand tool dies cannot be switched.

Note 5 : The compatible wire is limited to UL1061, 22 AWG

## Precautions for Use

- The connector could be damaged if it is 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 the "DF51 Series Mating/Unmating Operation Instruction Manual" (ETAD-H0847-00) for handling precautions during mating.
- When inserting a crimped contact into a socket, please refrain from inserting at a diagonal as doing so may affect performance reliability.  
Refer to the "DF51 Series Cable Assembly Procedure" (ETAD-H0923-00) for precautions during cable assembly.

## Operating Environment

Please contact us 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.