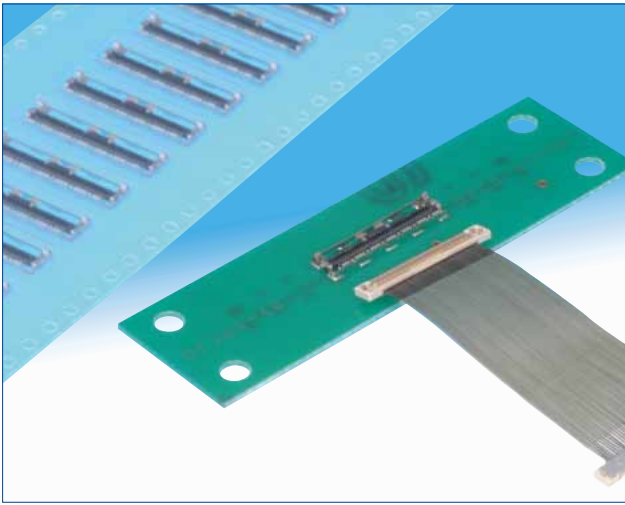
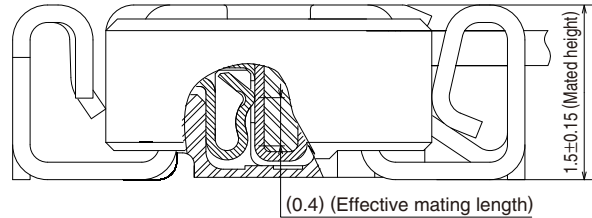


# 0.4mm Pitch, 1.5mm Mated Height, Board-to-Fine Coaxial Cable Connectors

## DF36 Series



**High contact reliability –  
Effective mating length of 0.4mm**



### ■ Features

#### 1. Small mated height and board occupied space

Small pitch (0.4mm) and mated height (1.5mm) allows use in space-restricted areas.

Standard type : mated height 1.5mm, depth 4.4mm

Saving space type: mated height 1.5mm, depth 2.8mm  
Plug : Height 1.33mm, depth 2.8mm

#### 2. Enhanced shielding and ground connections

Metal covers on the plug and receptacle connect to each other with a reliable multi-point ground contacts, assuring reliable ground connection and EMC protection.

#### 3. Reliable lock

Fully mated condition is assured with reliable locks at 4 locations, confirming it with a distinct tactile click.

#### 4. Reliable electrical and mechanical connection

Despite its small mated height, unique contact configuration assures highly reliable connection, with effective mating length of 0.4mm.

#### 5. Solder wicking prevention

Nickel barriers prevent solder wicking in the critical contact areas.

#### 6. Durable plug construction

Formed metal shells on the top and side surfaces form a strong and rigid assembly.

#### 7. RoHS, Halogen-free\*

\*As defined by IEC61249-2-21

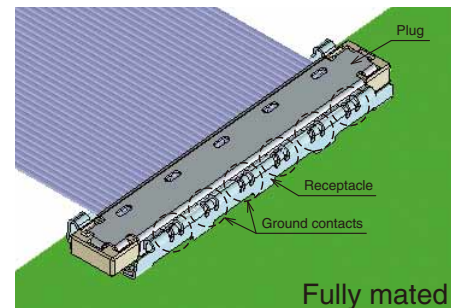
Br-900 ppm maximum, Cl-900 ppm maximum,

Cl+Br combined-1,500 ppm maximum

### ■ Receptacle for conductivity tests

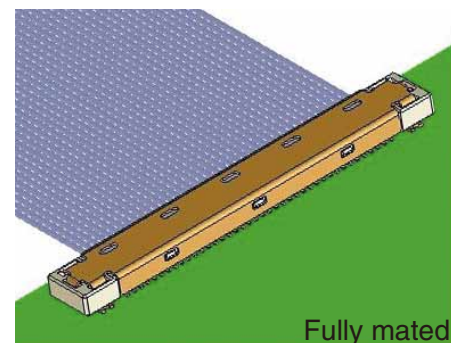
We have a line-up of connectors for inspection, usable for electrical testing of both standard type and space saving type.

#### Enhanced shielding (standard type)

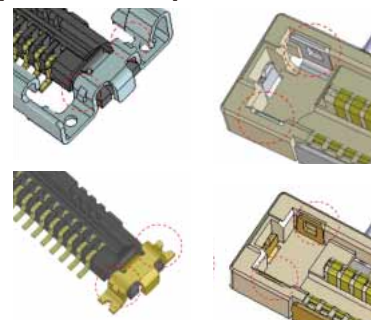


**Multi-point contacts**

#### Enhanced shielding (Space Saving type)



#### 4-point lock: 2 points at each end



**Distinct tactile click**

## Product Specifications

Ratings	Current rating	0.25A (42 AWG) 0.25A (44 AWG) (Note 3) 0.1A (46 AWG)	Operating temperature range Operating humidity range	-35 to +85°C (Note 1) 20 to 80%
	Voltage rating	30V AC	Storage temperature range Storage humidity range	-10 to +60°C (Note 2) 40 to 70% (Note 2)

Item	Specification	Conditions
1. Insulation resistance	50MΩ min	100V DC
2. Withstanding voltage	No flashover or insulation breakdown	100V AC / 1 minute
3. Contact resistance	Signal : 80mΩ max., Ground : 80mΩ max.	100mA (DC or 1,000Hz)
4. Vibration	No electrical discontinuity of 1μs or longer No damage, cracks or parts dislocation.	Frequency : 10 to 55Hz, single amplitude of 0.75 mm, 10 cycles in each of the 3 axial directions
5. Humidity	Contact resistance (Change from initial value) 50mΩ max. Insulation resistance : 25MΩ min. No damage, cracks or parts dislocation.	96 hours at 40 ±2°C, and humidity of 90 to 95%
6. Temperature cycle	Contact resistance (Change from initial value) 50mΩ max. Insulation resistance : 25MΩ min. No damage, cracks or parts dislocation.	Temperature : -55°C → 5 to 35°C → 85°C → 5 to 35°C Time : 30 min. → 2 to 3 min. → 30 min. → 2 to 3 min. 5 cycles
7. Durability	Contact resistance (Change from initial value) 50mΩ max. No damage, cracks or parts dislocation.	30 cycles
8. Resistance to soldering heat	No deformation of components affecting performance.	Reflow : At the recommended temperature profile 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 a long period prior to mounting and use.

The operating temperature and humidity range covers the non-conducting condition of connectors after board mounting and the temporary storage conditions of transportation, etc.

Note 3 : With only the connector portion at an elevated temperature level, the rated current value is set.

## Materials / Finish

Item	Part	Material	Finish	Remarks
Receptacle (Standard)	Insulator	LCP	Color : Black	UL94V-0
	Contacts	Phosphor bronze	Gold plating	—
	Metal cover	Phosphor bronze	Tin plating	—
Plug (Standard)	Insulator	LCP	Color : Natural (Beige), Black	UL94V-0
	Contacts	Phosphor bronze	Gold plating	—
	Metal shell	Phosphor bronze	Tin plating	—

Item	Part	Material	Finish	Remarks
Receptacle (Space-saving)	Insulator	LCP	Color: Black	UL94V-0
	Contacts	Phosphor bronze	Gold plating	—
	Metal cover	Phosphor bronze	Gold plating	—
Plug (Space-saving)	Insulator	LCP	Color : Natural (Beige), Black	UL94V-0
	Contacts	Phosphor bronze	Gold plating	—
	Metal shell	Phosphor bronze	Gold plating	—

## 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

**DF** **36** **A** **J** - **\*** **S** - **0.4** **V** (\*\*)  
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

**DF** **36** **A** **J** - **\*** **P** - **SHL**  
 ① ② ③ ④ ⑤ ⑥ ⑩

① Series name : DF	④ Insulator type J : Receptacles for conductivity tests Blank : Standard or space-saving P : Single-row plug	⑥ Connector style S : Single-row receptacle P : Single-row plug
② Series No. : 36		⑦ Contact pitch: 0.4mm
③ Connector style Receptacle/shell A : Standard Blank : Space-saving Plug Blank : Standard	⑤ Number of contacts Standard : 15 to 50 Space-saving : 15 to 25 Receptacles for conductivity tests : 15 to 50	⑧ Termination type V : Straight SMT SD : Fine coaxial cable plug
		⑨ Packaging (51) : Embossed tape packaging
		⑩ Installation item (separate) SHL : Metal cover

## Combinations

### Standard use

DF36(A)-\*S-0.4V(\*\*) + DF36(A)-\*P-ASSY  
 ( DF36-\*P-0.4SD(\*\*)  
 DF36(A)-\*P-SHL )

Note: The product specification of the above combination is shown on page 2.

### Receptacle test

DF36(A)-\*S-0.4V(\*\*) + DF36(A)J-\*P-ASSY ·· Note  
 ( DF36-\*P-0.4SD(\*\*)  
 DF36(A)J-\*P-SHL )

Note: This harness item is only usable for the receptacle test.

For the product specification of the above combination, please contact our sales department.

### Plug test

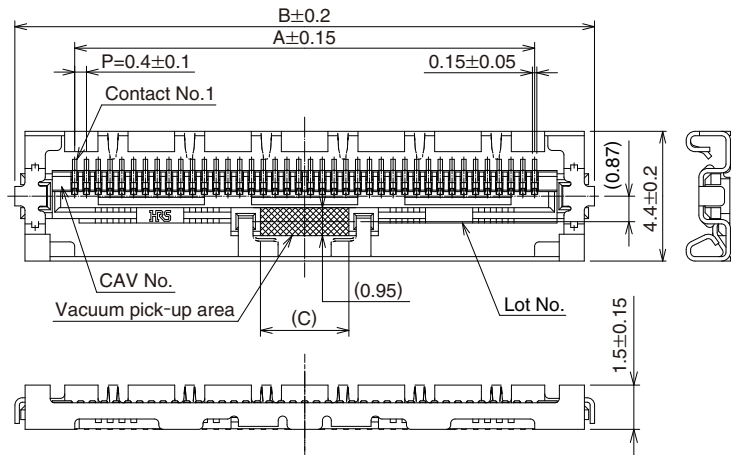
DF36(A)J-\*S-0.4V(\*\*) ·· Note + DF36(A)-\*P-ASSY  
 ( DF36-\*P-0.4SD(\*\*)  
 DF36(A)-\*P-SHL )

Note : This harness item is only usable for the plug test.

For the product specification of the above combination, please contact our sales department.

※ : ASSY means a harness item.

## ■Receptacles - Standard, with metal cover



All dimensions : mm

Part No.	HRS No.	No. of Contacts	A	B	C
DF36A-15S-0.4V(**)	662-4509-5-*	15	5.6	9.66	2.6
DF36A-25S-0.4V(**)	662-4011-4-*	25	9.6	13.66	2.6
DF36A-30S-0.4V(**)	662-4017-0-*	30	11.6	15.66	3.0
DF36A-40S-0.4V(**)	662-4003-6-*	40	15.6	19.66	3.0
DF36A-45S-0.4V(**)	662-4008-0-*	45	17.6	21.66	3.0
DF36A-50S-0.4V(**)	662-4043-0-*	50	19.6	23.66	3.0

[Specifications number] - \* \*, (\*\*)  
(51) : Embossed tape packaging  
(4,000 pcs/reel)

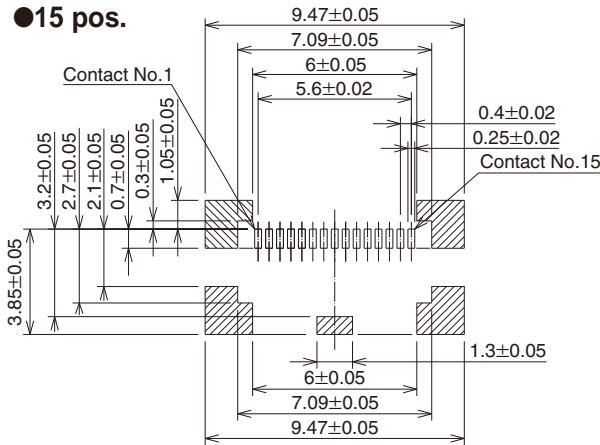
Note 1 : Tape and reel packaging (4,000 pcs/reel).

Order by number of reels.

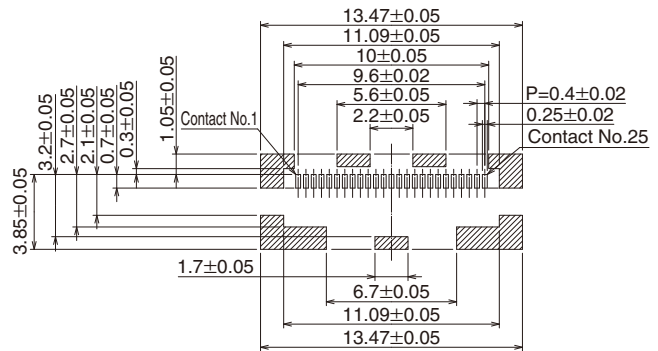
Note 2 : The 15 pos. does not have a lot stamp.

## ◆Recommended PCB mounting pattern

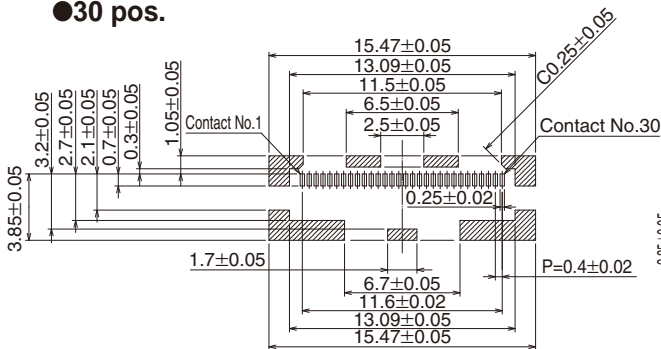
●15 pos.



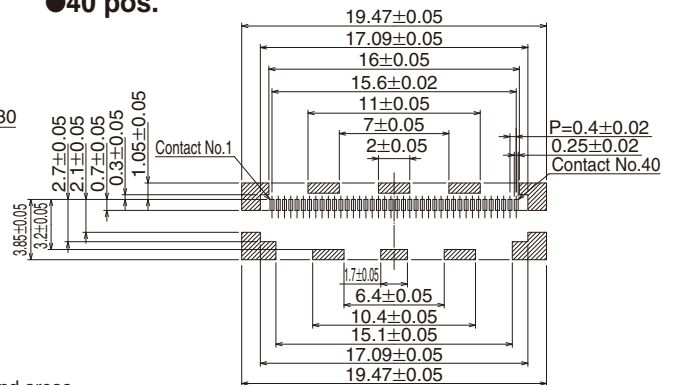
●25 pos.



●30 pos.



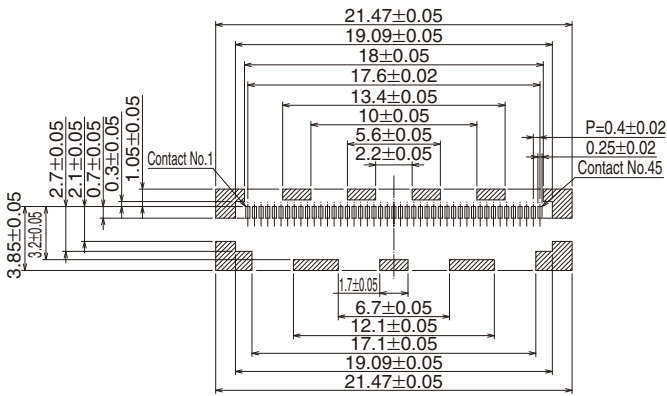
●40 pos.



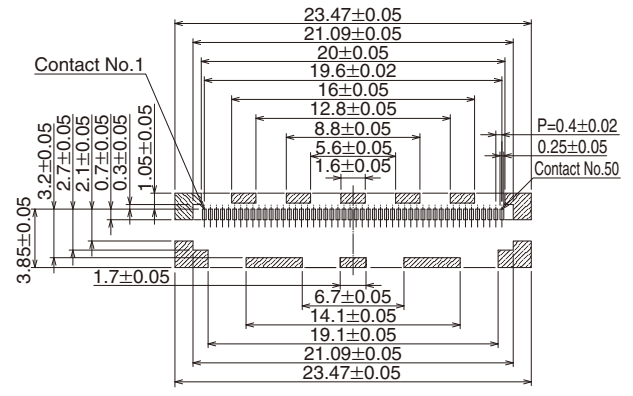
Ground areas

### ◆ Recommended PCB mounting patterns

●45 pos.

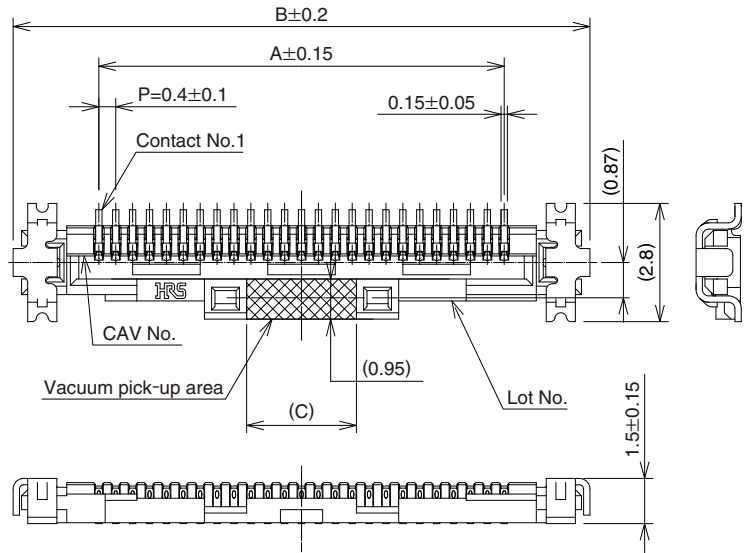
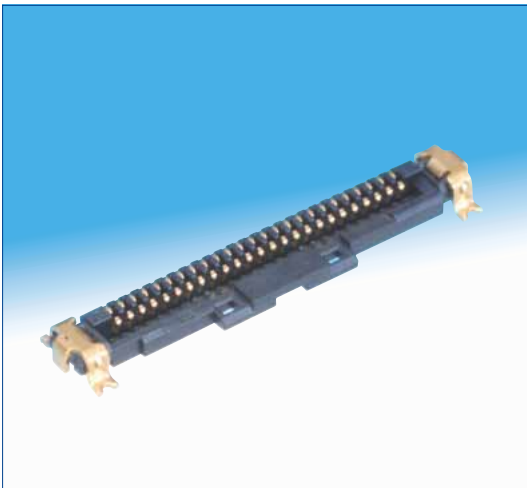


●50 pos.



▨ Ground areas

### ■ Receptacles - Space-saving



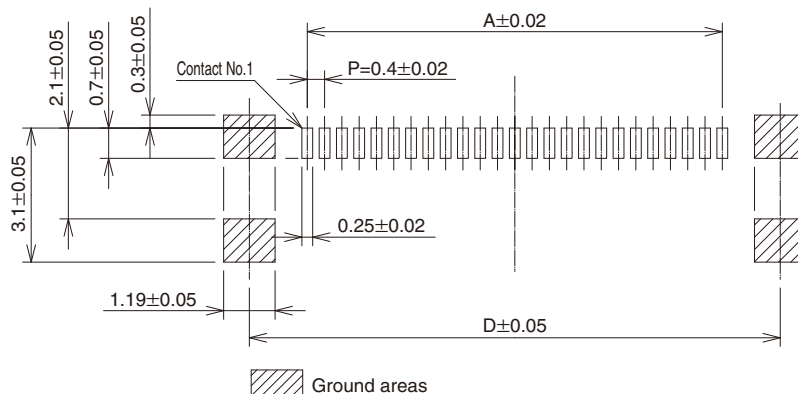
All dimensions : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D
DF36-15S-0.4V(**)	662-4031-1-**	15	5.6	9.66	2.6	8.28
DF36-20S-0.4V(**)	662-4039-3-**	20	7.6	11.66	2.6	10.28
DF36-25S-0.4V(**)	662-4005-1-**	25	9.6	13.66	2.6	12.28

[Specifications number] - \*\* , (\*\*)  
(51) : Embossed tape packaging  
(5,000 pcs/reel)

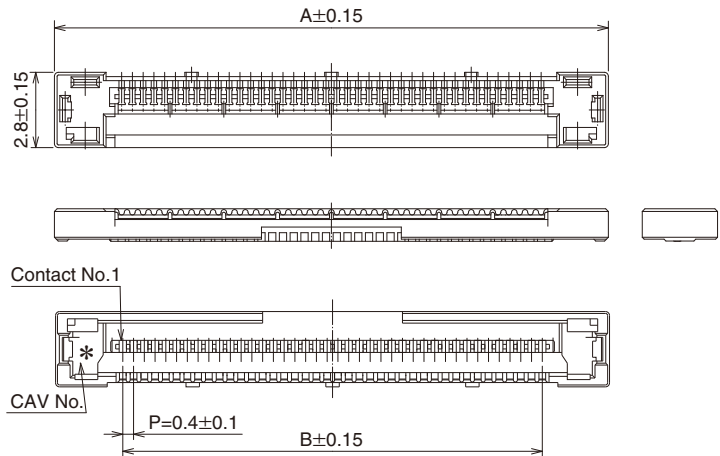
Note 1 : Tape and reel packaging (5,000 pcs/reel).  
Order by number of reels.

### ◆ Recommended PCB mounting pattern



## Plug

● Separate metal cover required



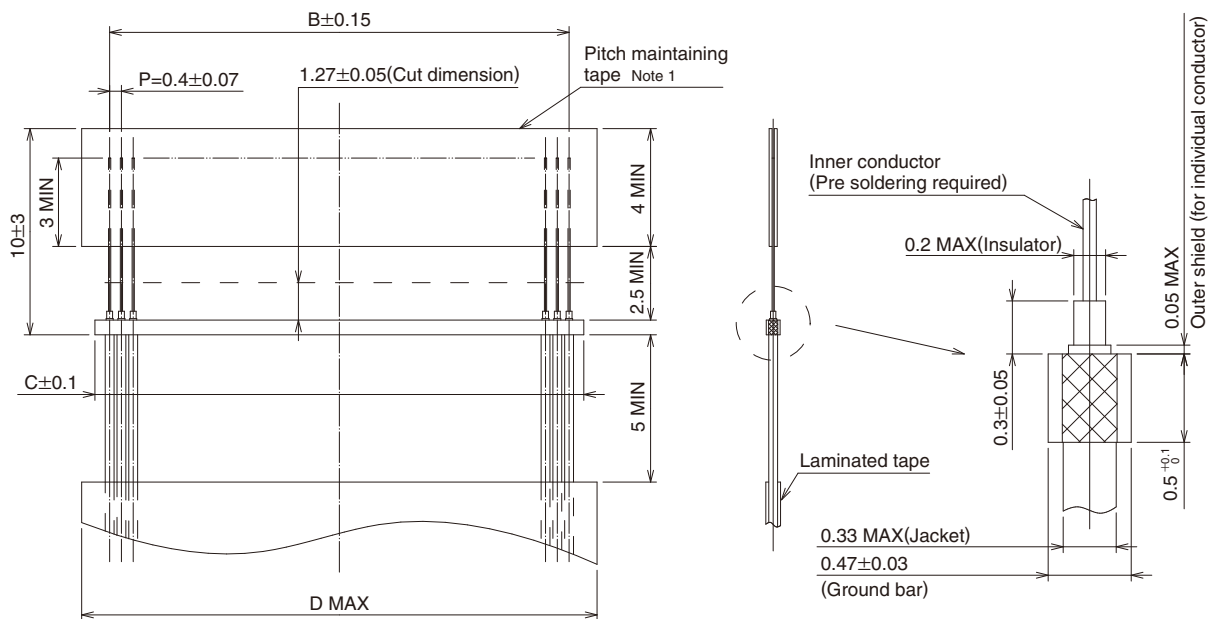
All dimensions : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D	Packing
DF36C-15P-0.4SD(**)	662-4035-2 **	15	11.4	5.6	6.6	7.5	5,000 pcs./reel
DF36-20P-0.4SD(**)	662-4040-2 **	20	12.6	7.6	8.6	9.5	5,000 pcs./reel
DF36-25P-0.4SD(**)	662-4006-4 **	25	14.6	9.6	10.6	11.5	5,000 pcs./reel
DF36-30P-0.4SD(**)	662-4018-3 **	30	16.6	11.6	12.6	13.5	5,000 pcs./reel
DF36-40P-0.4SD(**)	662-4002-3 **	40	20.6	15.6	16.6	17.5	5,000 pcs./reel
DF36-45P-0.4SD(**)	662-4009-2 **	45	22.6	17.6	18.6	19.5	5,000 pcs./reel
DF36-50P-0.4SD(**)	662-4044-3 **	50	24.6	19.6	20.6	21.5	5,000 pcs./reel

Note 1 : Tape and reel packaging(5,000 pcs/reel) order by number of reels.

Note 2 : The metal cover is required for fine coaxial cable termination.

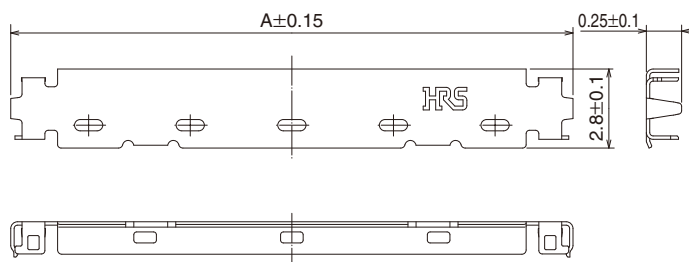
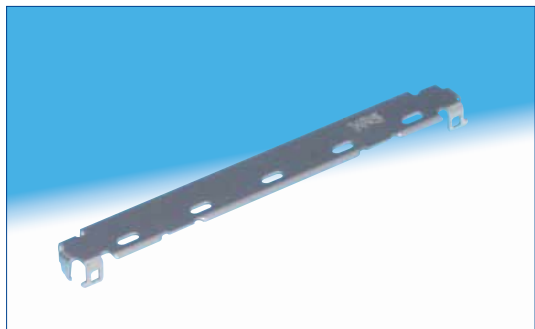
## Recommended Fine Coaxial Cable Preparation



Note 1 : The pitch maintaining tape can be left in place during the termination process. Use high quality tape.

Note 2 : Contact Hirose for Termination Procedures.

## ■Metal cover - Required for assembly and termination of the Plug



### [ Standard ]

All dimensions : mm

Part No.	HRS No.	Plating	No. of Contacts	A
DF36A-15P-SHL	662-4511-7	Tin	15	9.92
DF36A-25P-SHL	662-4007-7		25	13.92
DF36A-30P-SHL	662-4019-6		30	15.92
DF36A-40P-SHL	662-4013-0		40	19.92
DF36A-45P-SHL	662-4010-1		45	21.92
DF36A-50P-SHL	662-4045-6		50	23.92

Note 1 : Reel packaging (10,000 pcs/reel).  
Order by number of reels.

### [ Space-saving ]

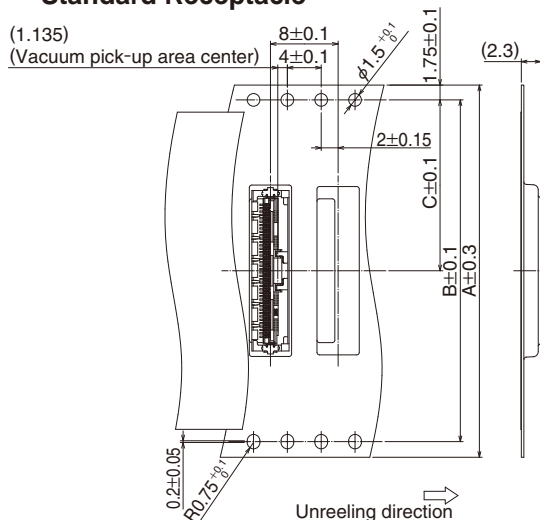
All dimensions : mm

Part No.	HRS No.	Plating	No. of Contacts	A
DF36-15P-SHL	662-4026-1	Gold	15	9.92
DF36-20P-SHL	662-4041-5		20	11.92
DF36-25P-SHL	662-4012-7		25	13.92

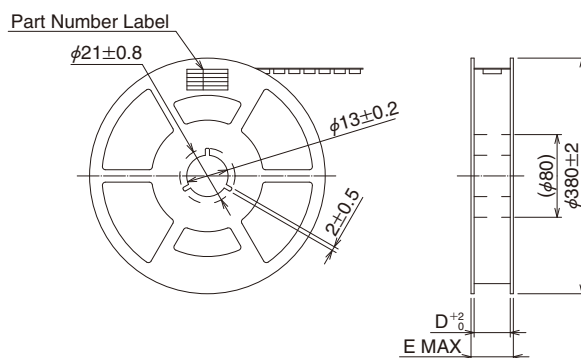
Note 1 : Reel packaging (10,000 pcs/reel).  
Order by number of reels.

## ◆Packaging Specification

### ●Embossed Carrier Tape Dimensions – Standard Receptacle



### ●Reel Dimensions



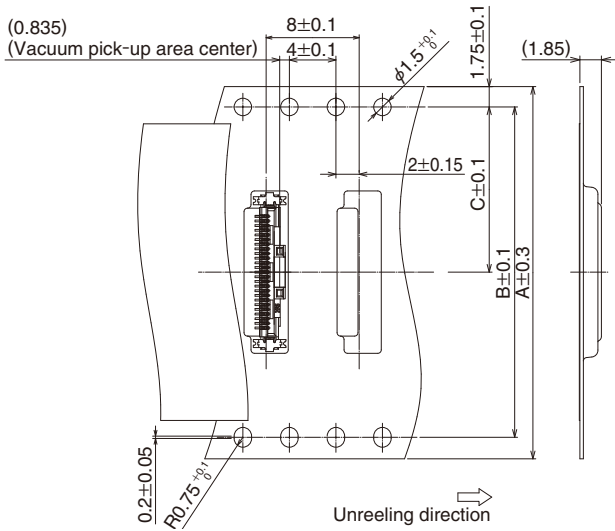
All dimensions : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D	E
DF36A-15S-0.4V(**)	662-4509-5 **	15	32	28.4	14.2	32.4	38.4
DF36A-25S-0.4V(**)	662-4011-4 **	25	32	28.4	14.2	32.4	38.4
DF36A-30S-0.4V(**)	662-4017-0 **	30	32	28.4	14.2	32.4	38.4
DF36A-40S-0.4V(**)	662-4003-6 **	40	44	40.4	20.2	44.4	50.4
DF36A-45S-0.4V(**)	662-4008-0 **	45	44	40.4	20.2	44.4	50.4
DF36A-50S-0.4V(**)	662-4043-0 **	50	44	40.4	20.2	44.4	50.4

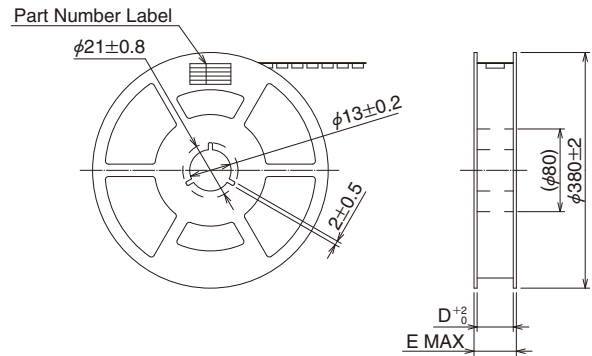
Note 1 : Tape and reel packaging (4,000 pcs/reel).

## ◆Packaging Specification

### ●Embossed Carrier Tape Dimensions – Space saving Receptacle



### ●Reel Dimensions



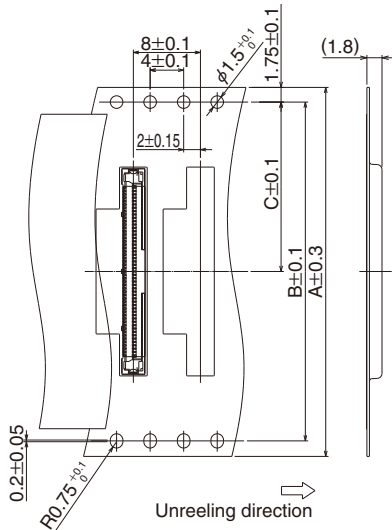
All dimensions : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D	E
DF36-15S-0.4V(**)	662-4031-1 **	15	32	28.4	14.2	32.4	38.4
DF36-20S-0.4V(**)	662-4039-3 **	20	32	28.4	14.2	32.4	38.4
DF36-25S-0.4V(**)	662-4005-1 **	25	32	28.4	14.2	32.4	38.4

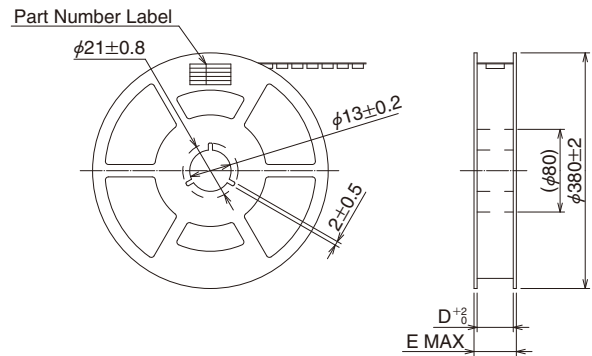
Note 1 : Tape and reel packaging (5,000 pcs/reel).

## ◆Packaging Specification

### ●Plug



### ●Reel Dimensions



All dimensions : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D	E
DF36C-15P-0.4SD(**)	662-4035-2 **	15	32	28.4	14.2	32.4	32.4
DF36-20P-0.4SD(**)	662-4040-2 **	20	32	28.4	14.2	32.4	32.4
DF36-25P-0.4SD(**)	662-4006-4 **	25	32	28.4	14.2	32.4	32.4
DF36-30P-0.4SD(**)	662-4018-3 **	30	32	28.4	14.2	32.4	32.4
DF36-40P-0.4SD(**)	662-4002-3 **	40	44	40.4	20.2	44.4	44.4
DF36-45P-0.4SD(**)	662-4009-2 **	45	44	40.4	20.2	44.4	44.4
DF36-50P-0.4SD(**)	662-4044-3 **	50	44	40.4	20.2	44.4	44.4

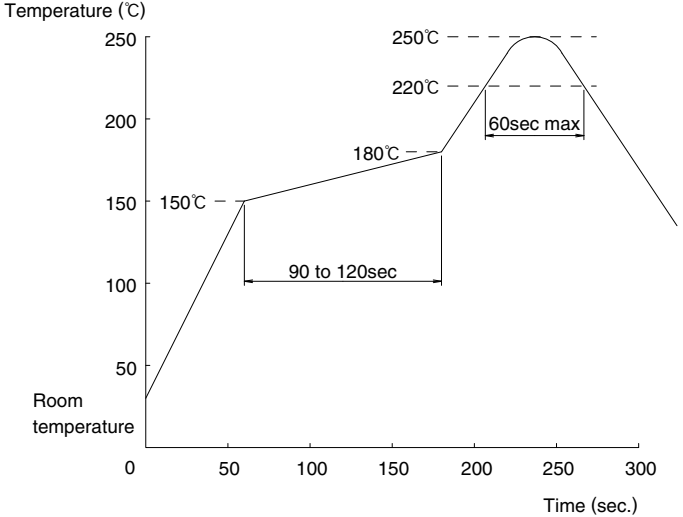
Note 1 : Tape and reel packaging (5,000 pcs/reel).



## ◆ Extraction tool

For details about the extraction tool, please contact your Hirose sales representative.

## ◆ Usage Recommendations

<p>1.Recommended temperature profile</p>	 <p>Solder composition : Paste, 96.5%Sn/3.0%Ag/0.5%Cu</p> <p>Note 1 : Up to 2 cycles of Reflow soldering are possible under the same conditions, provided that there is a return to normal temperature between the first and second cycle.</p> <p>Note 2 : The temperature profile indicates the board surface temperature at the point of contacts with the connector terminals.</p>
<p>2.Recommended manual soldering</p>	<p>Manual soldering : 350°C for 3 seconds Do NOT use flux compound when manual soldering.</p>
<p>3.Recommended screen thickness and open area ratio (Pattern area ratio)</p>	<p>Standard Thickness : 0.1mm Open area ratios : Lead terminal : 90% Ground terminal : 100%</p> <p>Space-saving Thickness : 0.1mm Open area ratios : Lead terminal : 90% Ground terminal : 90%</p>
<p>4.Board warpage</p>	<p>Maximum of 0.02mm at the connector center, with both ends of the connector as reference points.</p>
<p>5.Cleaning conditions</p>	<p>IPA (Isopropyl Alcohol) cleaning is permitted. (Cleaning is not recommended as it may change the feel of the mating and un-mating of the connector. Please contact your Hirose sales representative for information if you plan to use any other cleaning agents.)</p>

## ◆ Precautions

### Precautions

#### ■ Mating / un-mating

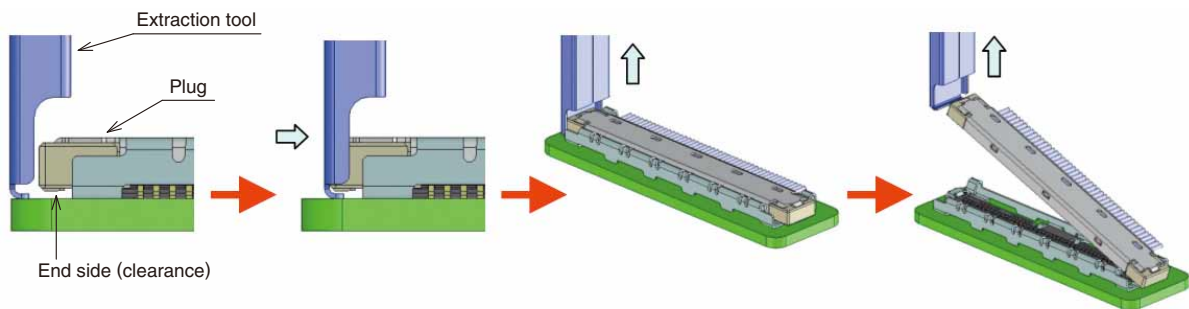
##### [ Standard ]

Mate the plug with the receptacle by pressing straight against the entire plug surface. Do NOT mate the plug while holding by the terminated cable.

Use a dedicated extraction tool to un-mate the plug.

Insert the tool under either end of the plug (clearance) and pull straight up as illustrated below.

Please refrain from removing by holding the electrical cable, otherwise this may result in cable disconnection, connector breakage and so on.



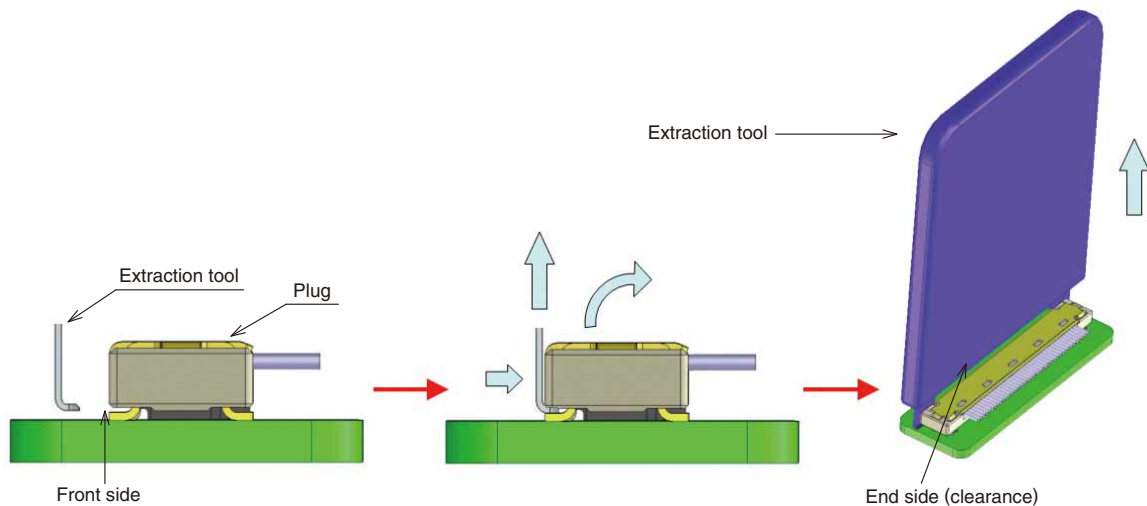
##### [ Space-saving ]

Mate the plug with the receptacle by pressing straight against the entire plug surface, the same as the standard. Use a dedicated extraction tool to un-mate the plug.

Insert the tool under the plug at the front side (clearance) and pull straight up, as illustrated below.

Do NOT mate / un-mate the connectors when receptacle is not mounted on the board.

Please refrain from removing by holding the electrical cable, otherwise this may result in cable disconnection, connector breakage and so on.



- Do not mate / un-mate the connectors when receptacle is not mounted on the board.
- In the manual soldering process, don't carry out the flux coating which will cause a flux blister on the connector.
- Different production lots may exhibit different shades of the insulator materials. No affect on form, fit or function of the connectors.
- Excessive scoop insertion or extraction may result in damage.

**MEMO :**

A series of horizontal dashed lines for writing a memo.

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. HEADQUARTERS CHICAGO OFFICE**  
2300 Warrenville Road, Suite 150,  
Downers Grove, IL 60515  
Phone : +1-630-282-6700  
<http://www.hirose.com/us/>

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. BOSTON OFFICE**  
300 Brickstone Square Suite 201,  
Andover, MA 01810  
Phone : +1-978-662-5255

**GERMANY:**

**HIROSE ELECTRIC EUROPE B.V. NUREMBERG OFFICE**  
Neumeyerstrasse 22-26, 90411 Nurnberg  
Phone : +49-911 32 68 89 63  
Fax : +49-911 32 68 89 69  
<http://www.hirose.com/eu/>

**UNITED KINGDOM:**

**HIROSE ELECTRIC EUROPE BV (UK BRANCH)**  
4 Newton Court, Kelvin Drive, Knowlhill,  
Milton Keynes, MK5 8NH  
Phone : +44-1908 202050  
Fax : +44-1908 202058  
<http://www.hirose.com/eu/>

**CHINA:**

**HIROSE ELECTRIC TECHNOLOGIES (SHENZHEN) CO., LTD.**  
Room 09-13, 19/F, Office Tower Shun Hing Square, Di Wang Commercial Centre,  
5002 Shen Nan Dong Road, Shenzhen City, Guangdong Province, 518008  
Phone : +86-755-8207-0851  
Fax : +86-755-8207-0873  
<http://www.hirose.com/cn/>

**KOREA:**

**HIROSE KOREA CO.,LTD.**  
143, Gongdan 1-daero, Siheung-si,  
Gyeonggi-do, 15084, Korea  
Phone : +82-31-496-7000  
Fax : +82-31-496-7100  
<http://www.hirose.co.kr/>

**INDIA:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD. BANGALORE LIAISON OFFICE**  
Unit No-403, 4th Floor, No-84, Barton Centre, Mahatma  
Gandhi (MG) Road, Bangalore 560 001, Karnataka, India  
Phone : +91-80-4120 1907  
Fax : +91-80-4120 9908  
<http://www.hirose.com/sg/>

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. SAN JOSE OFFICE**  
2841 Junction Ave, Suite 200  
San Jose, CA. 95134  
Phone : +1-408-253-9640  
Fax : +1-408-253-9641  
<http://www.hirose.com/us/>

**THE NETHERLANDS:**

**HIROSE ELECTRIC EUROPE B.V.**  
Hogehillweg #8 1101 CC Amsterdam Z-0  
Phone : +31-20-6557460  
Fax : +31-20-6557469  
<http://www.hirose.com/eu/>

**GERMANY:**

**HIROSE ELECTRIC EUROPE B.V. HANOVER OFFICE**  
Bayernstr. 3, Haus C 30855 Langenhagen, Germany  
Phone : +49-511 97 82 61 30  
Fax : +49-511 97 82 61 35  
<http://www.hirose.com/eu/>

**CHINA:**

**HIROSE ELECTRIC (SHANGHAI) CO., LTD.**  
18, Enterprise Center Tower 2, 209# Gong He  
Road, Jing'an District, Shanghai, CHINA 200070  
Phone : +86-21-6391-3355  
Fax : +86-21-6391-3335  
<http://www.hirose.com/cn/>

**HONG KONG:**

**HIROSE ELECTRIC HONGKONG TRADING CO., LTD.**  
Room 1001, West Wing, Tsim Sha Tsui Centre, 66  
Mody Road, Tsim Sha Tsui East, Kowloon, Hong Kong  
Phone : +852-2803-5338  
Fax : +852-2591-6560  
<http://www.hirose.com/hk/>

**SINGAPORE:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD.**  
03, Anson Road, #20-01, Springleaf Tower,  
Singapore 079909  
Phone : +65-6324-6113  
Fax : +65-6324-6123  
<http://www.hirose.com/sg/>

**MALAYSIA:**

**PENANG REPRESENTATIVE OFFICE**  
73-3-1, Ideal@The One, Jalan Mahsuri, Bayan  
Lepas Penang, 11950, Malaysia  
Phone : +604-648-5536  
<http://www.hirose.com/sg/>

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. DETROIT OFFICE (AUTOMOTIVE)**  
17197 N. Laurel Park Drive, Suite 253,  
Livonia, MI 48152  
Phone : +1-734-542-9963  
Fax : +1-734-542-9964  
<http://www.hirose.com/us/>

**GERMANY:**

**HIROSE ELECTRIC EUROPE B.V. GERMAN BRANCH**  
Schoenbergstr. 20, 73760 ostfildern  
Phone : +49-711-456002-1  
Fax : +49-711-456002-299  
<http://www.hirose.com/eu/>

**FRANCE:**

**HIROSE ELECTRIC EUROPE B.V. PARIS OFFICE**  
Regus La Garenne Colombes, Place de La Belgique,  
71 Boulevard National La Garenne Colombes, 92250, France  
Phone : +33 (0) 1 7082 3170  
Fax : +33 (1) 7082 3101  
<http://www.hirose.com/eu/>

**CHINA:**

**HIROSE ELECTRIC (SHANGHAI) CO.,LTD. BEIJING BRANCH**  
A1001, Ocean International Center, Building 56# East 4th  
Ring Middle Road, ChaoYang District, Beijing, 100025  
Phone : +86-10-5165-9332  
Fax : +86-10-5908-1381  
<http://www.hirose.com/cn/>

**TAIWAN:**

**HIROSE ELECTRIC TAIWAN CO., LTD.**  
103 8F, No.87, Zhengzhou Rd., Taipei  
Phone : +886-2-2555-7377  
Fax : +886-2-2555-7350  
<http://www.hirose.com/tw/>

**INDIA:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD. DELHI LIAISON OFFICE**  
Office NO.552, Regus-Green Boulevard, Level5, Tower C,  
Sec62, Plot B-9A, Block B, Noida, 201301, Uttar Pradesh, India  
Phone : +91-12-660-8018  
Fax : +91-120-4804949  
<http://www.hirose.com/sg/>

**THAILAND:**

**BANGKOK OFFICE (REPRESENTATIVE OFFICE)**  
Unit 4703, 47th FL., 1 Empire Tower, South Sathorn  
Road, Yannawa, Sathorn, Bangkok 10120 Thailand  
Phone : +66-2-686-1255  
Fax : +66-2-686-3433  
<http://www.hirose.com/sg/>

**HIROSE ELECTRIC CO.,LTD.**

2-6-3, Nakagawa Chuoh, Tsuzuki-Ku, Yokohama-Shi 224-8540, JAPAN  
TEL: +81-45-620-3526 Fax: +81-45-591-3726  
<http://www.hirose.com>  
<http://www.hirose-connectors.com>