NEW FunctionMAX™

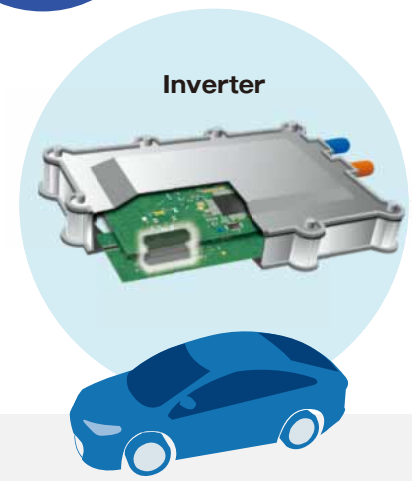
140°C Heat and Vibration Resistant Board-to-Board Floating Connector

FX26 Series



Suitable for Powertrain Applications

Floating | Vibration Absorb | 140℃ High Temp



■Features

1. Vibration Resistance

Design absorbs the amplitude of the boards that occur in the Z direction (connector mating direction) that occurs in a vibration environment.

2. Heat Resistance up to 140°C

The special contact design enables product use under high temperature environments. Additionally the two-point contact design enhances reliability.

3. Board Misalignment Absorption

- X and Y Directions : ±0.7mm Floating Range
- Z Direction : ±0.75mm Effective Mating Length

4. Contact Pitch : 1mm

5. Connection Type : Stacking
Height : 15mm/18mm/20mm/23mm/25mm

6. Pin Count Variations : 20/30/40/50/60

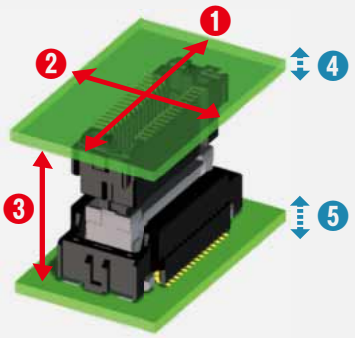
7. Rated Current : 0.5A/pin

8. Pick and Place Mounting

Dustproof and suction caps are installed on standard product. (Reel Packaging)

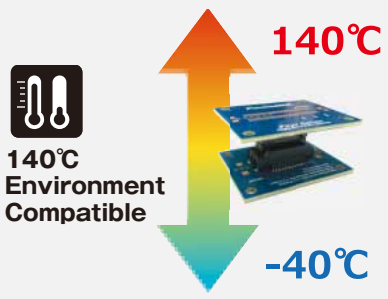
9. Excellent mating performance with large guide post

Large self-alignment range for easy mating operation.



Board Misalignment Absorption
❶ X Direction : ±0.7mm
❷ Y Direction : ±0.7mm
❸ Z Direction : ±0.75mm

Board Amplitude Absorption
❹ ❺ Vibration Absorption
⊿Z : 0.05mm



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■Product Specifications

Ratings	Rated Current : 0.5A	Operating Temperature : -40 to 140℃ (Note 1)
		Storage Temperature Range : -10 to 60℃ (Note 2)
	Rated Voltage : 125V AC/DC (Note 3)	Operating Humidity Range : 85% Max. relative humidity (No dew condensation)
		Storage Humidity Range : 60% Max. relative humidity (No dew condensation)

Items	Specifications	Conditions
1. Contact Resistance	65mΩ Max.	Measured at 100mA
2. Insulation Resistance	1000MΩ Min.	Measured at 250V DC
3. Withstanding Voltage	No flashover or breakdown.	375V AC for 1 min.
4. Mating Durability	Contact resistance : 75mΩ Max.	10 insertion / extraction cycles.
5. Vibration Resistance	No electrical discontinuity of 1μs or more.	Frequency 50 to 100 → 100 to 150 → 150 to 300Hz Acceleration 98 → 98 to 294 → 294m/s², test for 3 hours in the 3-axis direction for 1 complete cycle. (Note 4)
6. Shock Resistance	No electrical discontinuity of 1μs or more.	Acceleration of 980m/s² ; duration 6ms, sine half-wave, 3 cycles in each of the 3 axes each in both directions.
7. Moisture Resistance	Contact Resistance : 75mΩ Max. Insulation Resistance : 1000mΩ Min.	Left for 1000 hours at 60℃ and 90 to 95% RH
8. Temperature Cycles	Contact Resistance : 75mΩ Max. Insulation Resistance : 1000MΩ Min.	Temperature : -40 → 140℃ Time : 30 → 30min. for 1,000 cycles
9. Heat Resistance	Contact Resistance : 75mΩ Max.	Left at 140℃ for 1,000 hours

Note 1 : Includes the temperature rise due to current flow.
Note 2 : Storage refers to to long-term storage of the unused product before mounting on board.
Note 3 : The creepage distance is 32V AC when based on IEC 60664-1 Pollution degree 2.
Note 4 : The board amplitude of the connector mounting portion is kept below 0.05mm.

■Materials / Finish

Part	Materials	Color / Finish	Standard
Insulator	Polyamide Resin	Black	UL94V-0
Contact	Copper Alloy	Contact Portion : Gold Plating Mounting Portion : Gold Plating	—
Solder Tab	Phosphor Bronze	Pure Tin Plated	—

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■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.

●Straight Header

FX26 - 30 P - 1 SV
❶ ❷ ❸ ❹ ❺

●Straight Receptacle

FX26 - 30 S - 1 SV 20
❶ ❷ ❸ ❹ ❺ ❻

❶Series		: FX26
❷No. of Pos.		
❸Connector Type	P	: Header
	S	: Receptacle
❹Contact Pitch		: 1mm
❺Product Type	SV	: Straight Type
❻Product Height		: Mated height [mm] =Numerical value on the header side + Numerical value on the receptacle side

■Connection Variations Overview

[mm]

Receptacle / Header	FX26-**S-1SV15	FX26-**S-1SV18	FX26-**S-1SV20
FX26-**P-1SV	15	18	20
(Note 3) FX26-**P-1SV5		23	25

Note 1 : ** correspond to pin counts.
Note 2 : Please contact a Hirose representative for release status.
Note 3 : This type (height 23, 25mm) is a custom product. Please contact a Hirose representative for more information.

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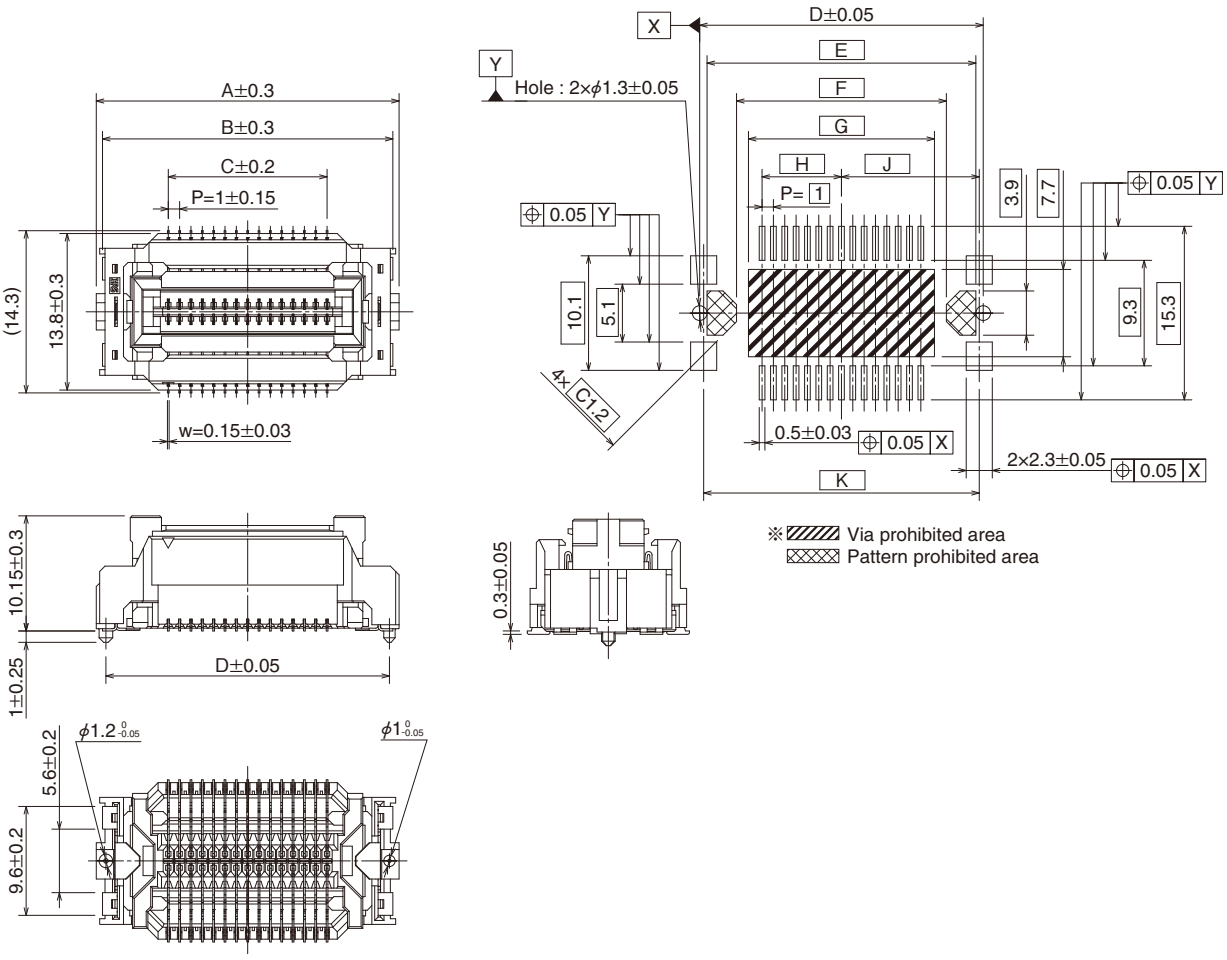
■Part Dimensions

●Straight Header

［FX26-∗∗P-1SV］



Recommended Land Pattern Diagram



Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	D	E	F	G	H	J	K	Packaging Quantity
FX26-20P-1SV	576-1002-0 00	20	21.7	20.6	9	20	18.7	13.5	11.4	4.5	9.65	19.3	250 pcs per reel
FX26-30P-1SV	576-1003-0 00	30	26.7	25.6	14	25	23.7	18.5	16.4	7	12.15	24.3	
FX26-40P-1SV	576-1004-0 00	40	31.7	30.6	19	30	28.7	23.5	21.4	9.5	14.65	29.3	
FX26-50P-1SV	576-1005-0 00	50	36.7	35.6	24	35	33.7	28.5	26.4	12	17.15	34.3	
FX26-60P-1SV	576-1006-0 00	60	41.7	40.6	29	40	38.7	33.5	31.4	14.5	19.65	39.3	

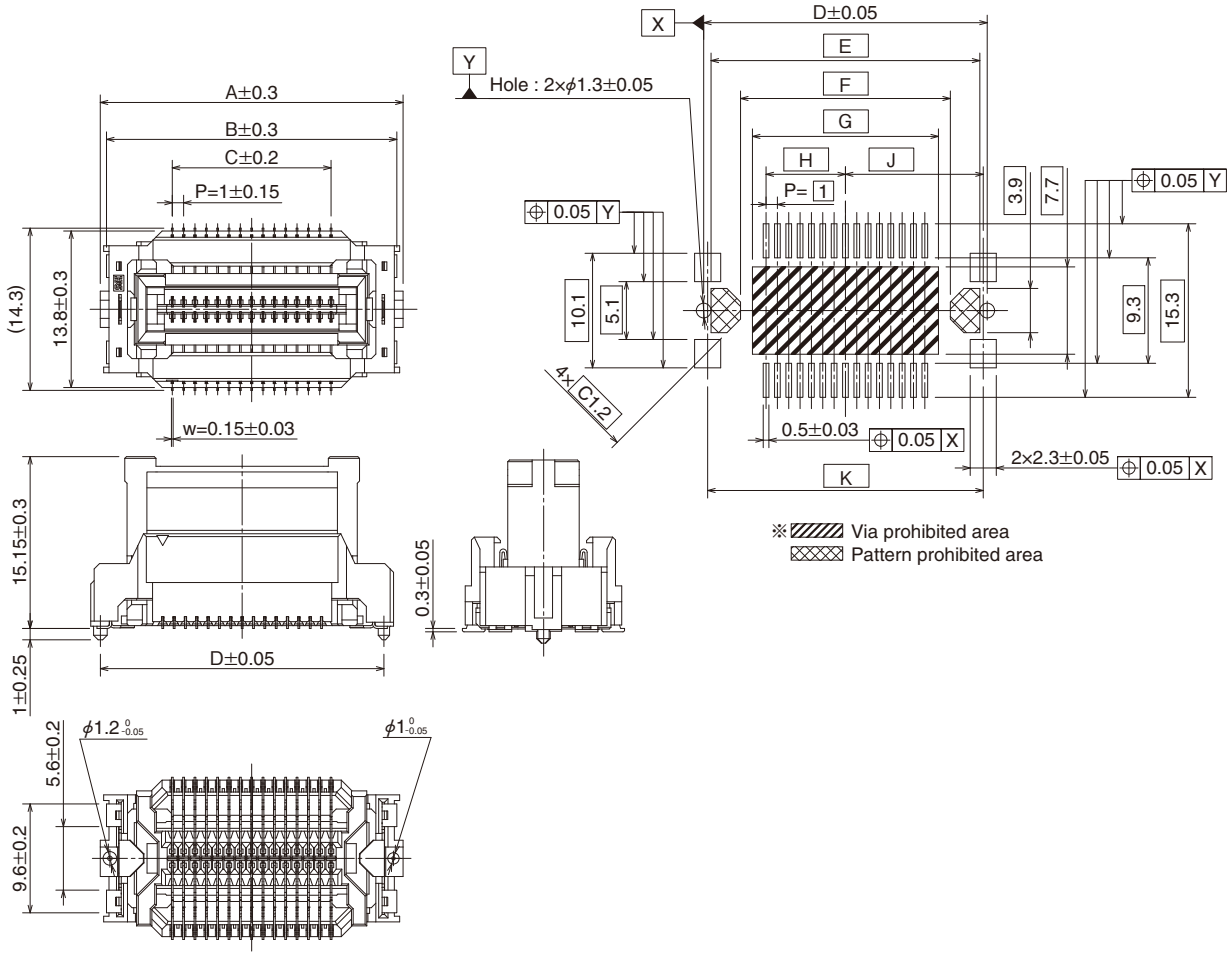
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■Part Dimensions

[FX26-∗∗P-1SV5]



Recommended Land Pattern Diagram



Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	D	E	F	G	H	J	K	Packaging Quantity
FX26-20P-1SV5	Upon Request (Note 1)	20	21.7	20.6	9	20	18.7	13.5	11.4	4.5	9.65	19.3	200 pcs per reel
FX26-30P-1SV5	Upon Request (Note 1)	30	26.7	25.6	14	25	23.7	18.5	16.4	7	12.15	24.3	
FX26-40P-1SV5	Upon Request (Note 1)	40	31.7	30.6	19	30	28.7	23.5	21.4	9.5	14.65	29.3	
FX26-50P-1SV5	Upon Request (Note 1)	50	36.7	35.6	24	35	33.7	28.5	26.4	12	17.15	34.3	
FX26-60P-1SV5	576-1506-0 00	60	41.7	40.6	29	40	38.7	33.5	31.4	14.5	19.65	39.3	

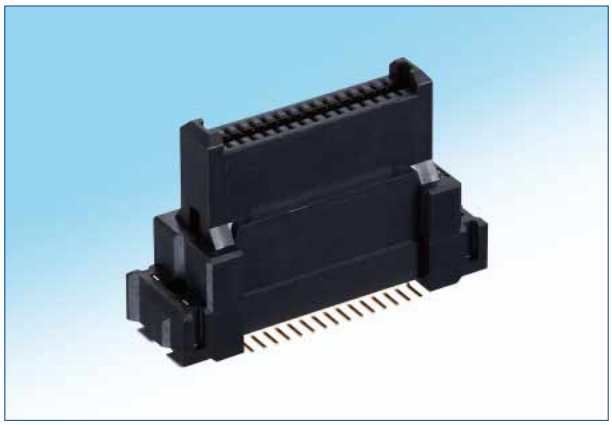
Note 1 : Pin counts with the HRS No. left blank can be developed upon request.
For details contact a Hirose sales representative.

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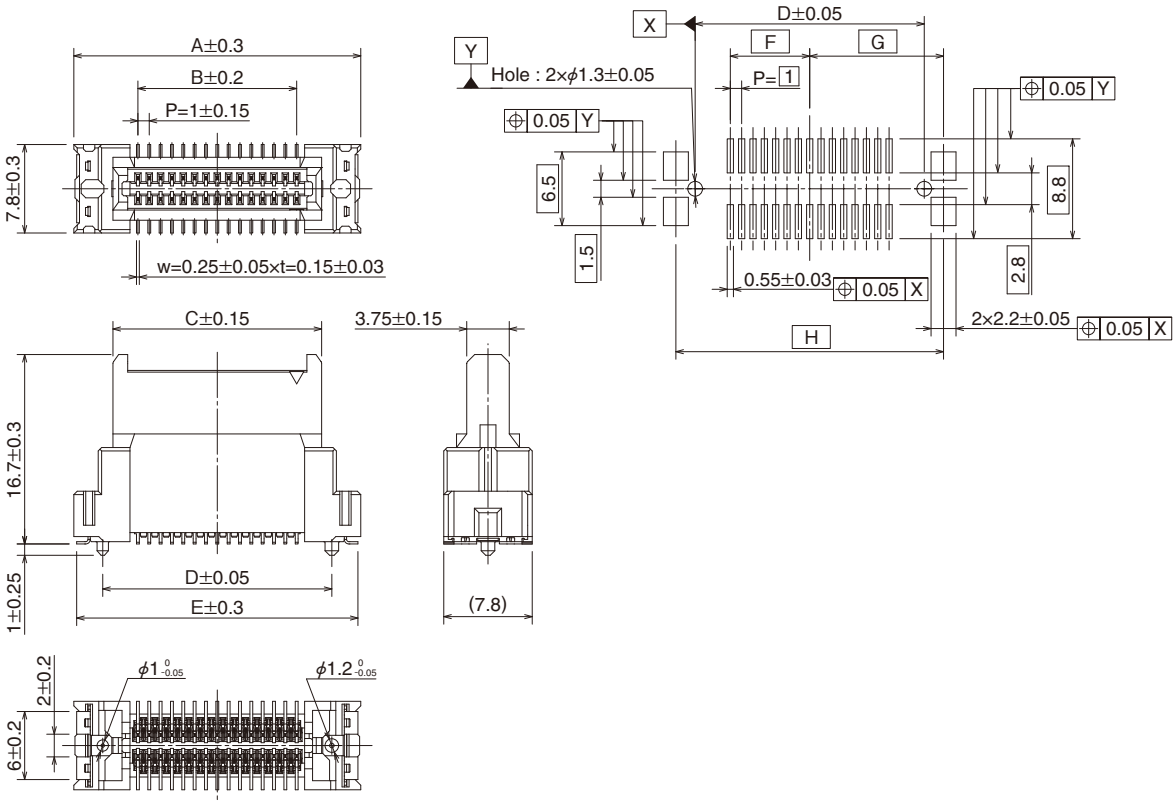
■Part Dimensions

●Straight Receptacle

[FX26-∗∗S-1SV20]



Recommended Land Pattern Diagram



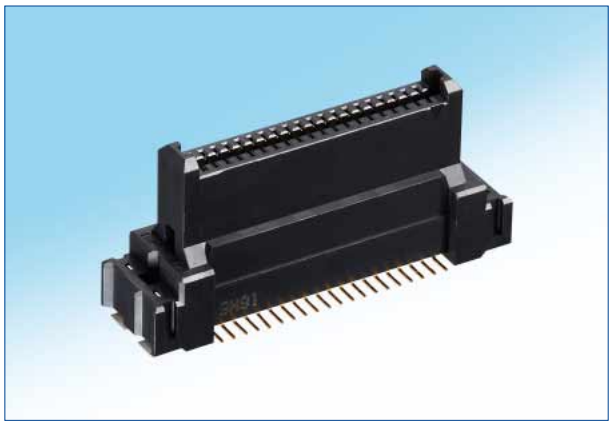
Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	D	E	F	G	H	Packaging Quantity
FX26-20S-1SV20	576-1302-0 00	20	20.3	9	13.4	15.2	19.8	4.5	9.3	18.6	200 pcs per reel
FX26-30S-1SV20	576-1303-0 00	30	25.3	14	18.4	20.2	24.8	7	11.8	23.6	
FX26-40S-1SV20	576-1304-0 00	40	30.3	19	23.4	25.2	29.8	9.5	14.3	28.6	
FX26-50S-1SV20	576-1305-0 00	50	35.3	24	28.4	30.2	34.8	12	16.8	33.6	
FX26-60S-1SV20	576-1306-0 00	60	40.3	29	33.4	35.2	39.8	14.5	19.3	38.6	

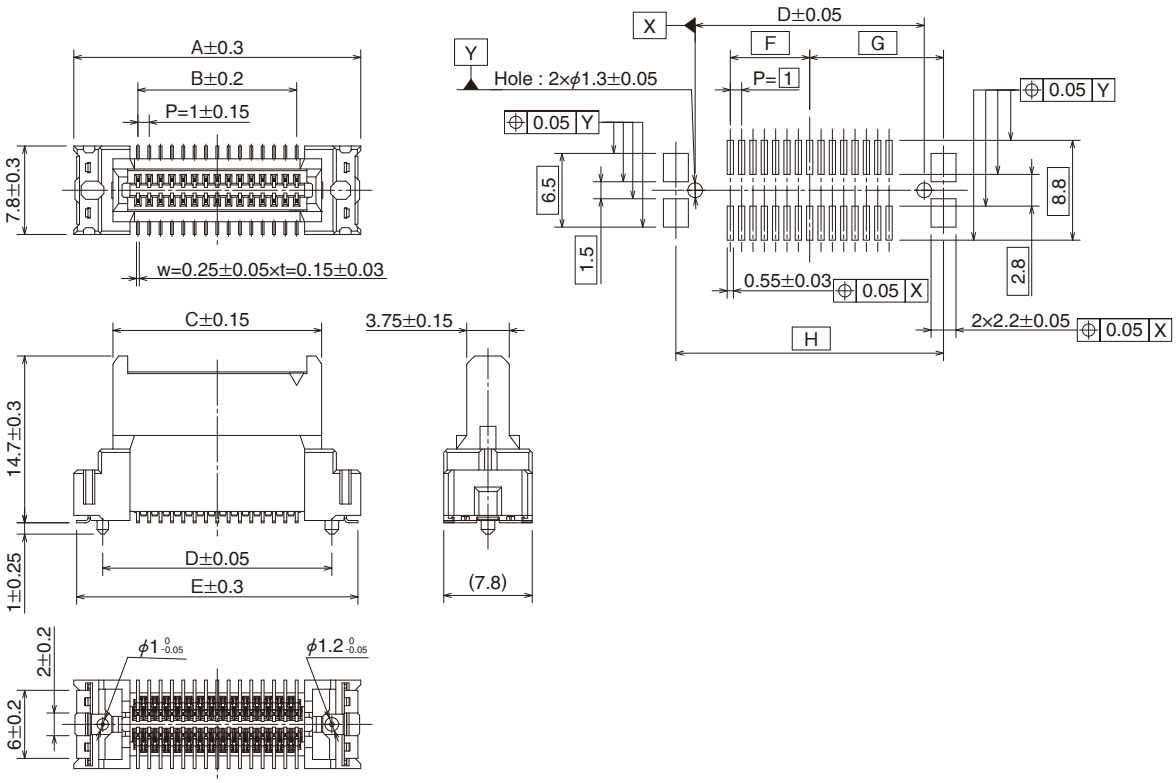
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■Part Dimensions

［FX26-∗∗S-1SV18］



Recommended Land Pattern Diagram



Unit : mm

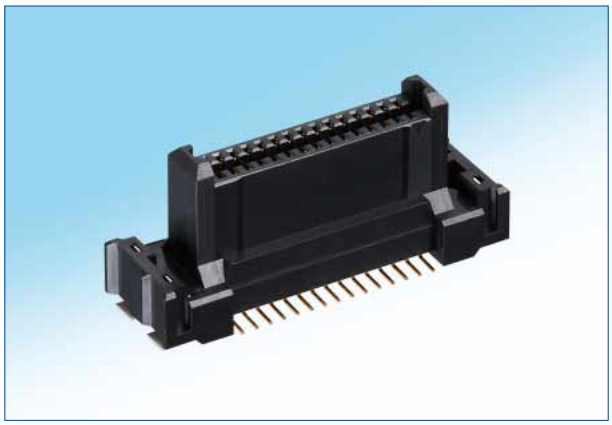
Part No.	HRS No.	No. of Pos.	A	B	C	D	E	F	G	H	Packaging Quantity
FX26-20S-1SV18	Under Development (Note 1)	20	20.3	9	13.4	15.2	19.8	4.5	9.3	18.6	200 pcs per reel
FX26-30S-1SV18	Under Development (Note 1)	30	25.3	14	18.4	20.2	24.8	7	11.8	23.6	
FX26-40S-1SV18	576-1404-0 00	40	30.3	19	23.4	25.2	29.8	9.5	14.3	28.6	
FX26-50S-1SV18	576-1405-0 00	50	35.3	24	28.4	30.2	34.8	12	16.8	33.6	
FX26-60S-1SV18	Under Development (Note 1)	60	40.3	29	33.4	35.2	39.8	14.5	19.3	38.6	

Note 1 : Pin counts with the HRS No. left blank are currently under development.
For details contact a Hirose sales representative.

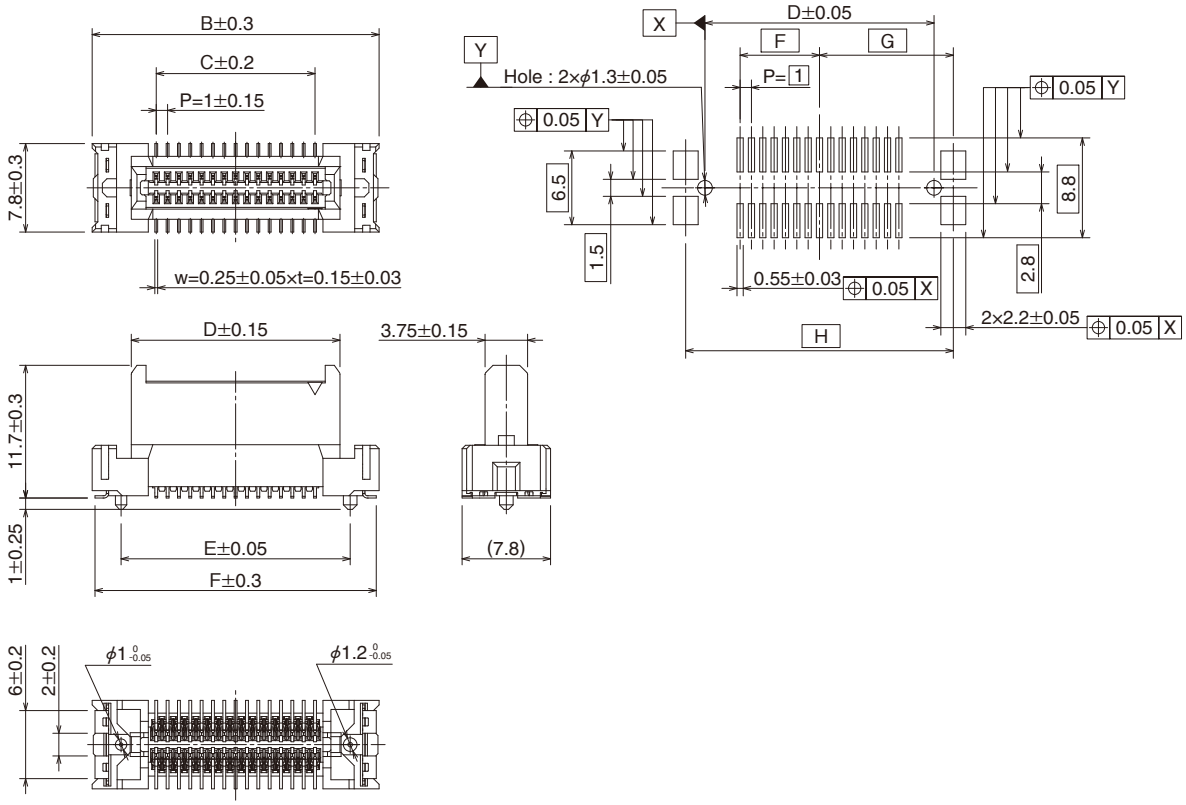
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■Part Dimensions

[FX26-∗∗S-1SV15]



Recommended Land Pattern Diagram



Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	D	E	F	G	H	Packaging Quantity
FX26-20S-1SV15	Under Development (Note 1)	20	20.3	9	13.4	15.2	19.8	4.5	9.3	18.6	250 pcs per reel
FX26-30S-1SV15	576-1203-0 00	30	25.3	14	18.4	20.2	24.8	7	11.8	23.6	
FX26-40S-1SV15	Under Development (Note 1)	40	30.3	19	23.4	25.2	29.8	9.5	14.3	28.6	
FX26-50S-1SV15	Under Development (Note 1)	50	35.3	24	28.4	30.2	34.8	12	16.8	33.6	
FX26-60S-1SV15	Under Development (Note 1)	60	40.3	29	33.4	35.2	39.8	14.5	19.3	38.6	

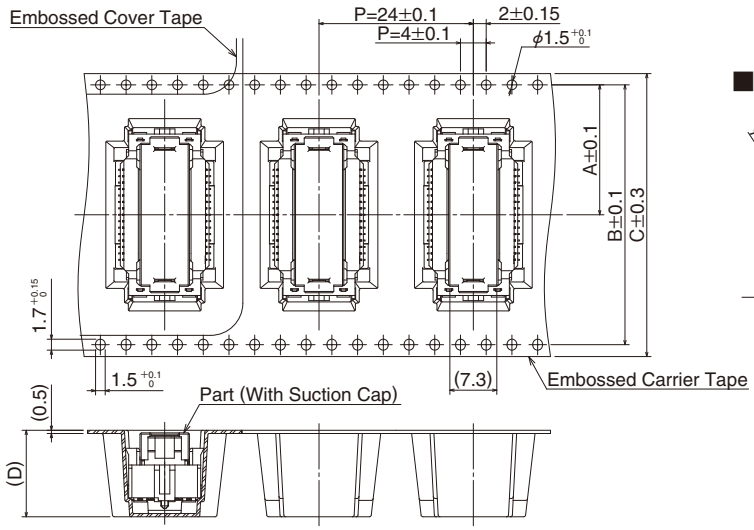
Note 1 : Pin counts with the HRS No. left blank are currently under development.
For details contact a Hirose sales representative.

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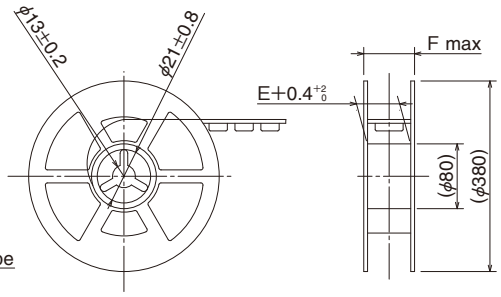
■Embossed Packaging Diagram

●Straight Header

［FX26-**P-1SV］
［FX26-**P-1SV5］



■Reel Diagram

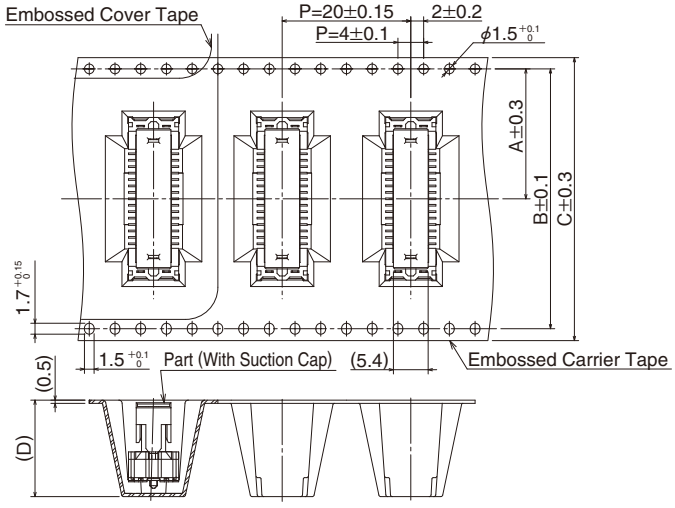


Unit : mm

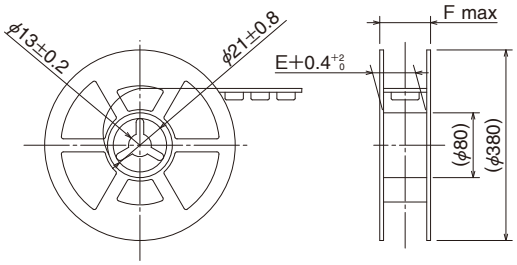
Part No.	No. of Pos.	A	B	C	D	E	F	Packaging Quantity
FX26-**P-1SV	20, 30	20.2	40.4	44	13.45	44.4	50.4	250 pcs per reel
	40, 50, 60	26.2	52.4	56		56.4	62.4	
FX26-**P-1SV5	20, 30	20.2	40.4	44	18.45	44.4	50.4	200 pcs per reel
	40, 50, 60	26.2	52.4	56		56.4	62.4	

●Straight Receptacle

［FX26-**S-1SV20］
［FX26-**S-1SV18］
［FX26-**S-1SV15］



■Reel Diagram

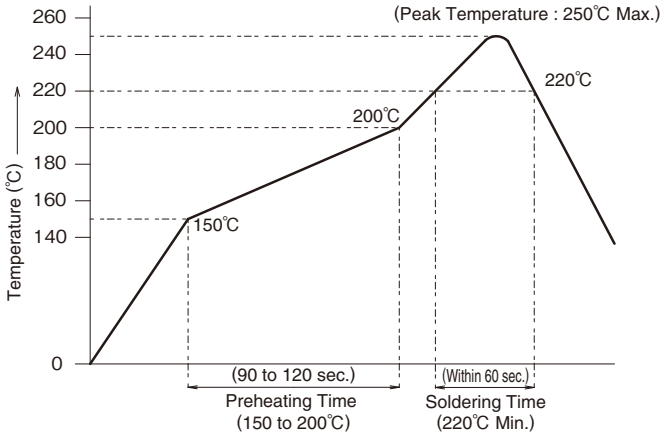


Unit : mm

Part No.	No. of Pos.	A	B	C	D	E	F	Packaging Quantity
FX26-**S-1SV20	20, 30	20.2	40.4	44	20	44.4	50.4	200 pcs per reel
	40, 50, 60	26.2	52.4	56		56.4	62.4	
FX26-**S-1SV18	20, 30	20.2	40.4	44	18	44.4	50.4	200 pcs per reel
	40, 50, 60	26.2	52.4	56		56.4	62.4	
FX26-**S-1SV15	20, 30	20.2	40.4	44	15	44.4	50.4	250 pcs per reel
	40, 50, 60	26.2	52.4	56		56.4	62.4	

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■Recommended Temperature Profile



<Applicable Conditions>

Test Board Measurements	:	110×85×1.6mm
Material	:	Glass Epoxy
Solder Composition	:	Sn-3Ag-0.5Cu
Flux Content	:	11wt%
Metal Mask Thickness	:	0.15mm
Reflow Times	:	2 times Max.

※The temperature profile is a reference under the above conditions. Temperature profile may change depending on the solder paste types, manufacturers, PCB size, and other soldering materials. Please fully check the mounting conditions before use.

■Cleaning Conditions

●Cleaning with Organic Solvent

Solvent	Cleaning at Normal Temperature	Heated Cleaning
IPA (Isopropyl Alcohol)	○	○

●Cleaning with Water

When water-type cleaning agents (terpene, alkaline saponification agents) are used, select cleaning agents based on the 'table of influence' on metals and resins issued by the cleaning agent manufacturer.
Caution : Do not leave the connector with any water content left on it.

●Cleaning Precautions

If flux or cleaning agent remains on the connector during part cleaning with organic solvent and water-based agents, it may cause deterioration of electrical performance. Confirm cleaning is performed properly.

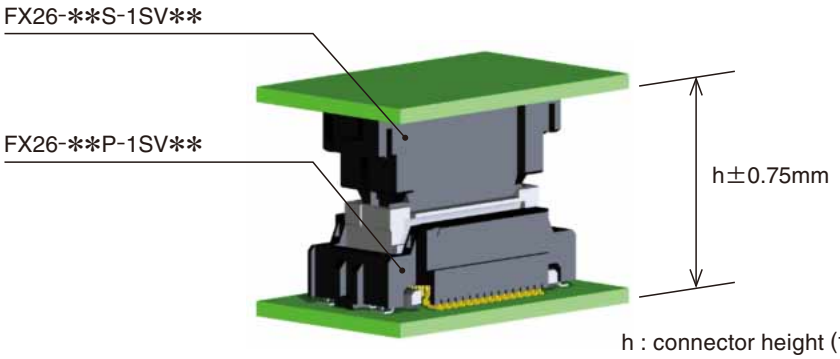
■Usage Precautions

●Securing Boards Together

If the board is supported only by the connector, an excessive load may be applied, causing damage or poor contact. Use other methods to secure the board other than connectors.

●About Board-to-Board Set Up Dimensions

The dimensions between PCBs shall be within the following range :



h : connector height (15, 18, 20, 23, 25)

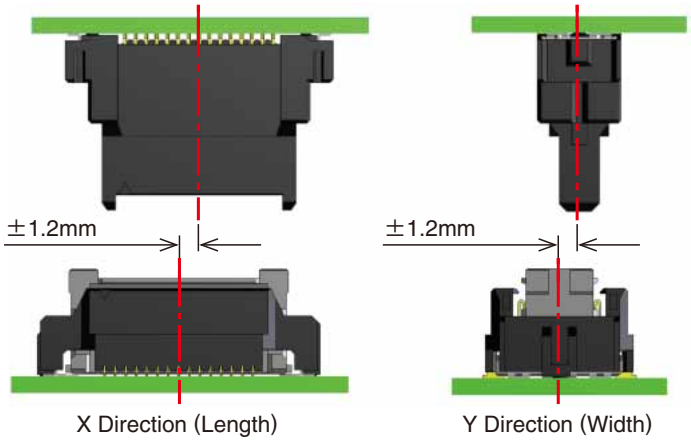
※The above ±0.75mm intersection is different from board amplitude. Refer to the next page for board amplitude.

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●Mating Operations Cautions

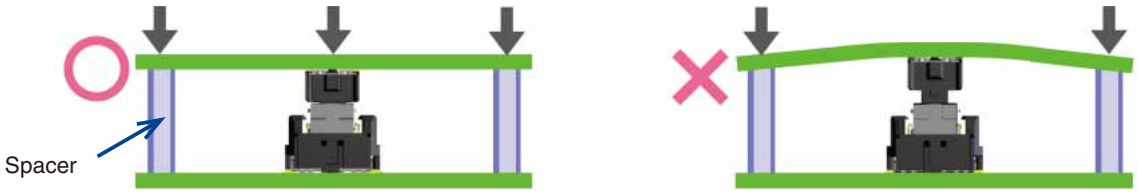
It is recommended to operate straight and without tilting.

・The mating self-alignment is ±1.2mm in the X and Y directions.
Mate the connector while following the self-alignment guide and without applying excessive force.



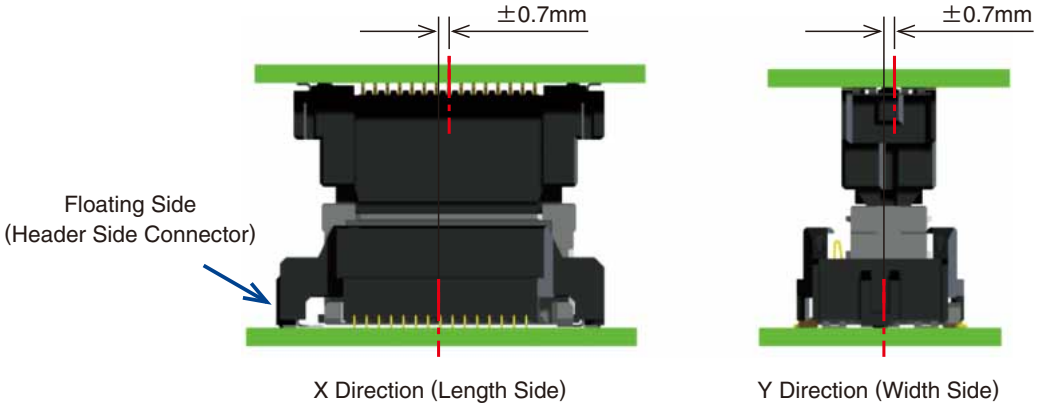
※Rotational insertion and extraction are not recommended as it may damage the connector.

・To prevent incomplete mating or mating failure, install a backup on the back surface of the connector mounting portion during mating. Fix the board with screws after mating it securely.



●Permissible Misalignment in the Mated State (Floating Range)

This connector is designed to float when mated, with a permissible misalignment of ±0.7mm in both the X and Y directions.
However, it is not applicable to absorbing when the misalignment amount is continually changing due to vibration, etc. Be sure to secure PCBs after mating.



●Board Amplitude Under Vibration Conditions

This connector can absorb the board amplitude in the Z direction (connector mating direction).
However, it cannot absorb any vibration in the Z direction. The maximum absorption is 0.05mm.
Make a board design that suppresses the amplitude (Amount of change in height between substrates) of the connector mounting portion to 0.05mm or less under a vibration environment in use.
Also, design the fastening position, fastening method and case.

・Pay attention to board resonance.
・When frequency exceeds 1000Hz under constant and sweep vibrations, reduce the acceleration applied to the connector and connector mating portion to 5G or less.

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2-6-3,Nakagawa Chuoh,Tsuzuki-Ku,Yokohama-Shi 224-8540,JAPAN
https://www.hirose.com/

The characteristics and the specifications contained herein are for reference purpose. Please refer to the latest customer drawings prior to use.
The contents of this catalog are current as of date of 08/2022. Contents are subject to change without notice for the purpose of improvements.