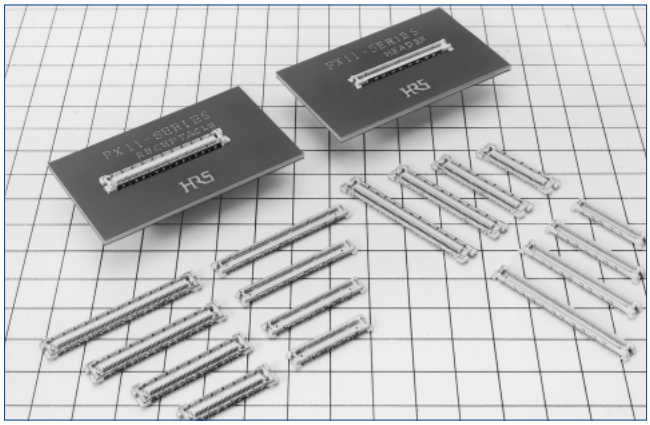
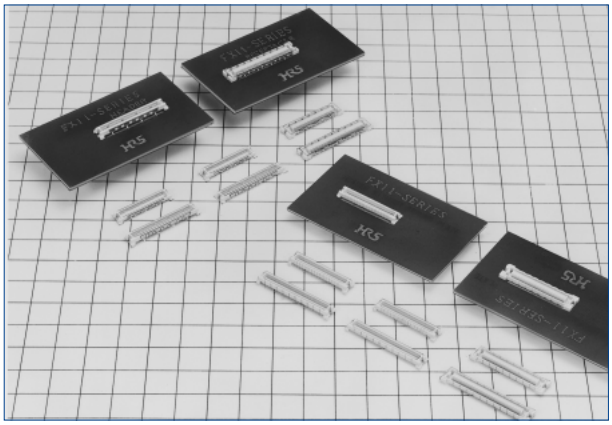
0.5mm Pitch Connectors with Ground Plate for 2mm to 3mm High-Speed Board-to-Board Connections

FX11 Series

Stacking height : 2mm



Stacking height : 2.5mm, 3mm



■Features

1. Low Profile Design

The board-to-board mating height of 2mm, 2.5mm and 3mm suits smaller, thinner case designs. (Fig.2)

2. Improved Transmission Efficiency Between Boards

Transmission characteristics have been improved through a design that fixes ground plates to both sides of the header and receptacle.

3. 10 Signal:1 Ground Arrangement

Signal and ground are arranged in a ratio of 10 : 1 with the ground plate connected to the board Via SMT. The ground stability achieved serves to reduce noise. (Fig.1)

4. Metal Fittings for Added Strength

Metal fittings provide for greater adhesion to the board, which protects the connector against sheaning forces. The unique connector design provides a connection between the fitting and the ground plate for a stronger ground.

5. Suited to High-Density Applications

The signal contact pitch of 0.5mm affords a compact connector, and reduces mounting space on the board.

6. Structure Prevents Solder Wicking

A solder gap has been designed into the contact SMT portion to prevent solder wicking. (Fig.3)

7. High Contact Reliability

Effective wipe length is 0.55mm (2mm height) and 1mm(2.5mm, 3mm height) for signal contacts.

8. Optional Ground Plate

An alternate style is also available without the ground plate. The space provided by the absence of the ground plate is filled with additional signal contacts.

10 Signal : 1 Ground Arrangement

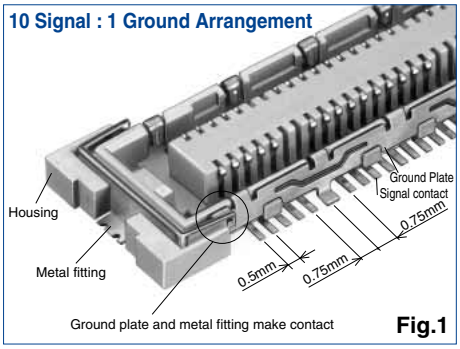
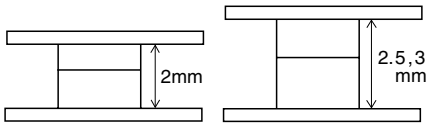


Fig.1

Stacking Height Variation



Note: 2.0mm type product cannot be used or interchanged with the 2.5mm or 3.0mm type product.

Fig.2

Structure Prevent Solder Wicking

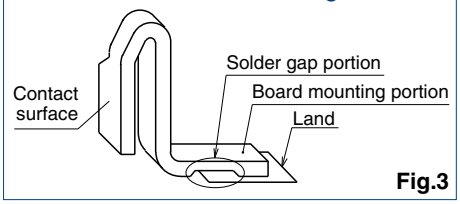


Fig.3

■Signal Integrity Features

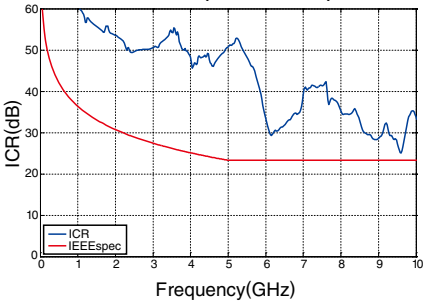
●Insertion-Loss-to-Crosstalk Ratio (ICR)

The insertion-loss-to-crosstalk ratio (ICR) with five differential FEXT aggressors meets the extrapolated IEEE802.3ap specification to 10^{+} Gbps.

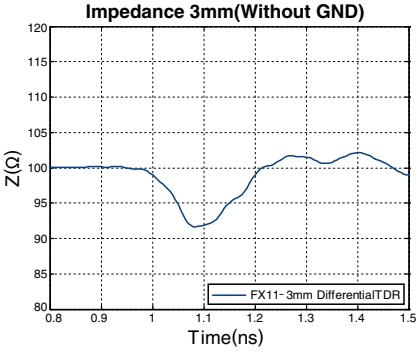
●Differential Impedance

The differential impedance is 100 +/- 10Ω for FX11 at 50 ps rise time(20% to 80%).

ICR 3mm(Without GND)



Impedance 3mm(Without GND)



Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

◆Stacking height variation

● With ground plate

Receptacle \ Header	FX11L#-∗P / ∗-SV
FX11L#-∗S / ∗-SV	2mm

Receptacle \ Header	FX11#-∗P / ∗-SV	FX11#-∗P / ∗-SV0.5
FX11#-∗S / ∗-SV	2.5mm	3mm

● Without ground plate

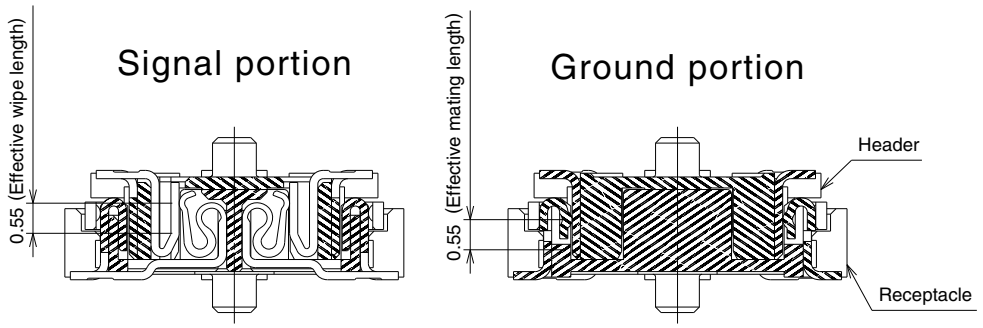
Receptacle \ Header	FX11L#-∗P-SV
FX11L#-∗S-SV	2mm

Receptacle \ Header	FX11#-∗P-SV	FX11#-∗P-SV0.5
FX11#-∗S-SV	2.5mm	3mm

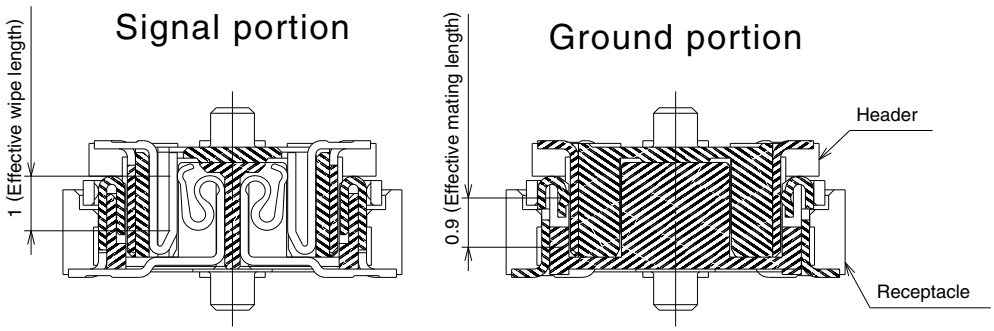
Note 1: The thickness of the solder paste is not included in the stacking height.
Note 2: 2mm type and 2.5mm, 3mm type, with ground plate type and without ground type are not mated with each other.

◆Cross section of mating

● Stacking height : 2mm



● Stacking height : 2.5mm, 3mm



(Shown for stacking height 2.5mm type.)

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

Stacking height : 2mm

■Product Specifications

Rating	Rated current Rated voltage	0.3A 50V AC	Operating temperature range Operating humidity range	-55 to +85℃ Relative humidity 95% or less (No condensation)	Storage temperature range Storage humidity range	-10 to +60℃ (Note 1) 40 to 70% (Note 1)

Item	Requirements	Conditions
1. Insulation resistance	100MΩ or greater	Measured at 100V DC
2. Withstanding voltage	No flashover or breakdown	150V AC applied for 1 minute
3. Contact resistance	60mΩ or less	Measured at 100mA
4. Vibration resistance	No electrical discontinuity for 1μs or greater No damaged, cracked or loose parts	Frequency : 10 to 55Hz, amplitude of 0.75mm in 3 directions, 10 cycles each
5. Shock resistance	No electrical discontinuity for 1μs or longer No damaged, cracked or loose parts	Acceleration of 490m/s², 11ms duration, sine half-wave waveform, for 3 cycles in the both directions of each of the 3 axes
6. Humidity resistance	Contact resistance of 70mΩ or less, insulation resistance of 100MΩ or greater, No damaged, cracked or loose parts	Temperature of 40℃, humidity of 90 to 95%, duration 96h
7. Temperature cycle	Contact resistance of 70mΩ or less, insulation resistance of 100MΩ or greater, No damaged, cracked or loose parts	Temperature : -55℃ → 15 to 35℃ → 85℃ → 15 to 35℃ Time : 30 min. → 2 to 3 min. → 30 min. → 2 to 3 min. for 5 cycles
8. Mating cycles	Contact resistance of 70mΩ or less No damaged, cracked or loose parts	50 times
9. Solder heat resistance	No melting of resin portion which affects performance	Reflow : At the recommended temperature profile Soldering iron temperature : 360℃ for 5 seconds

Note 1 : The term “storage” refers to the long-term-storage status of unused items before mounting on the PCB.
The operating temperature/humidity ranges apply to the unmated state after board mounting.

■Materials / Finish

Part	Material	Finish		Remarks
Insulator	LCP	Beige		UL94V-0
Contacts	Copper alloy	Header	Engagement Area : Gold plating of 0.1μm	———
	Phosphor bronze	Receptacle	Termination Area : Flash plating	
Ground plate	Phosphor bronze	Tin plating		———
Metal fitting	Phosphor bronze	Tin plating		———
Metal plate				———

■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.

Type With Ground Plate

FX11L # - ＊ P - / ＊ - SV (＊＊)
❶ ❷ ❸(❹) ❺ ❻

Type Without Ground Plate

FX11L # - ＊ P - SV (＊＊)
❶ ❷ ❸ ❹ ❺ ❻

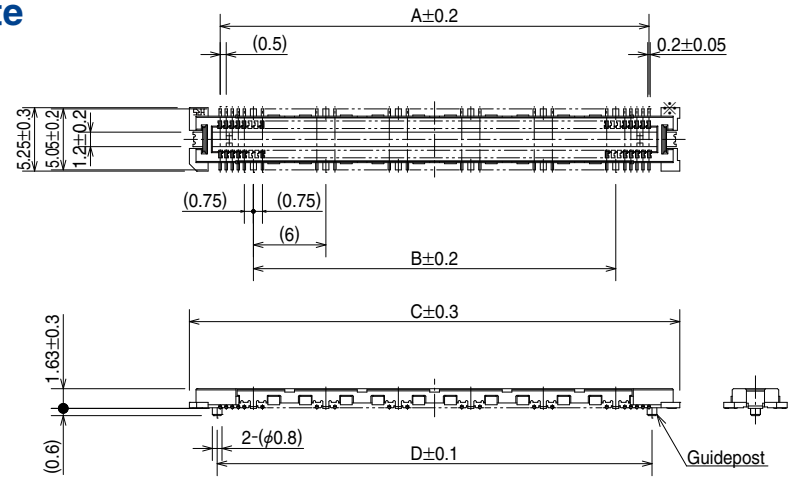
❶ Series name : FX11L	❹ Connector type P : Header S : Receptacle
❷ Form Symbol A : With guide post B : Without guide post	
❸ Number of contacts Type with ground plate Signal/Ground : 60/6, 80/8, 100/10, 120/12 Type without ground plate Signal : 68, 92, 116, 140	❺ Contact form SV : Straight SMT
	❻ Blank, (71) : Tray packaging (Without pick-and-place tape) (21),(91) : Embossed tape packaging (Without pick-and-place tape) (22),(92) : Embossed tape packaging (With pick-and-place tape)

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Header with Ground Plate

● 2mm stacking height





Unit : mm

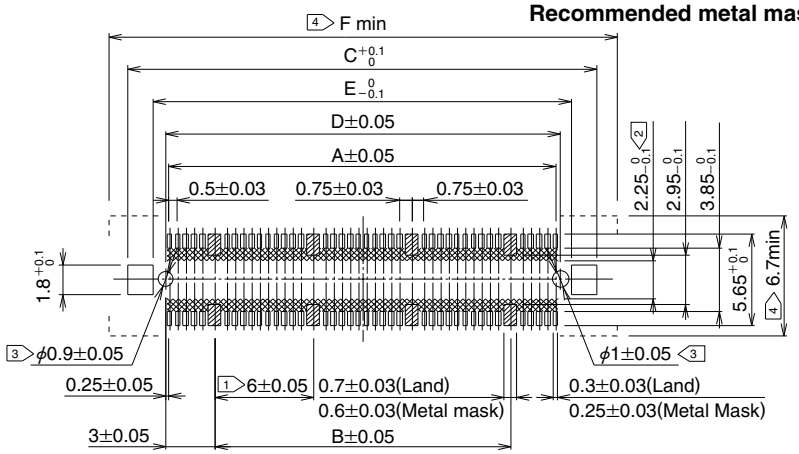
Part No.	HRS No.	No. of Contacts		A	B	C	D	E	F	Remarks	RoHS
		Signal	Ground								
FX11LA-60P/6-SV(71)	573-0002-7 71	60	6	17.5	12	22.6	18	19.4	25.5	With guideposts	Yes
FX11LA-80P/8-SV(71)	573-0003-0 71	80	8	23.5	18	28.6	24	25.4	31.5		
FX11LA-100P/10-SV(71)	573-0004-2 71	100	10	29.5	24	34.6	30	31.4	37.5		
FX11LA-120P/12-SV(71)	573-0005-5 71	120	12	35.5	30	40.6	36	37.4	43.5		
FX11LB-60P/6-SV(71)	573-0012-0 71	60	6	17.5	12	22.6	—	19.4	25.5	Without guideposts	
FX11LB-80P/8-SV(71)	573-0013-3 71	80	8	23.5	18	28.6	—	25.4	31.5		
FX11LB-100P/10-SV(71)	573-0014-6 71	100	10	29.5	24	34.6	—	31.4	37.5		
FX11LB-120P/12-SV(71)	573-0015-9 71	120	12	35.5	30	40.6	—	37.4	43.5		

[Specifications number] – **, (**)
(71) : Tray packaging
(91) : Embossed tape packaging (Without pick-and-place tape)
(92) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm



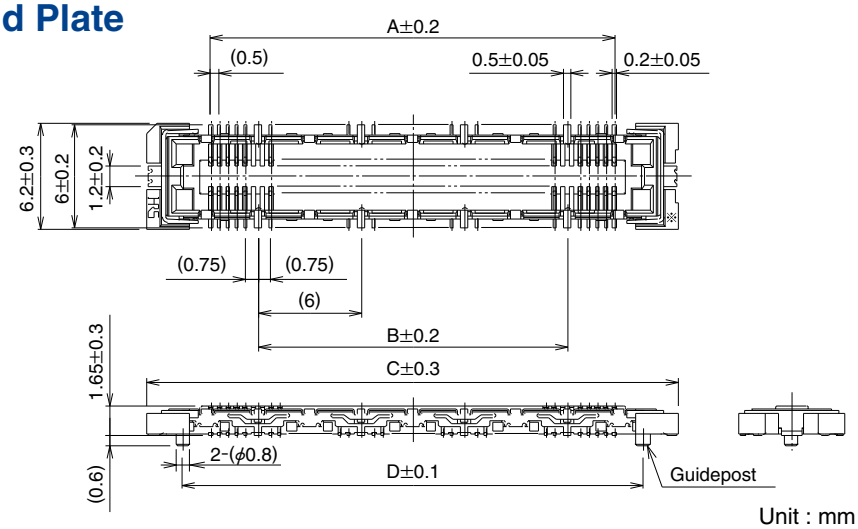
Note 1〉Cross-hatched portions, totaling n places, indicate the ground circuits.
2〉The cross-hatched area ▨ inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
3〉Not required in products without guideposts.
4〉Do not mount a part other than this product in the area of ⬚. Doing so will prevent the engagement of this and the mating connector.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Receptacle with Ground Plate

● **2mm stacking height**





Unit : mm

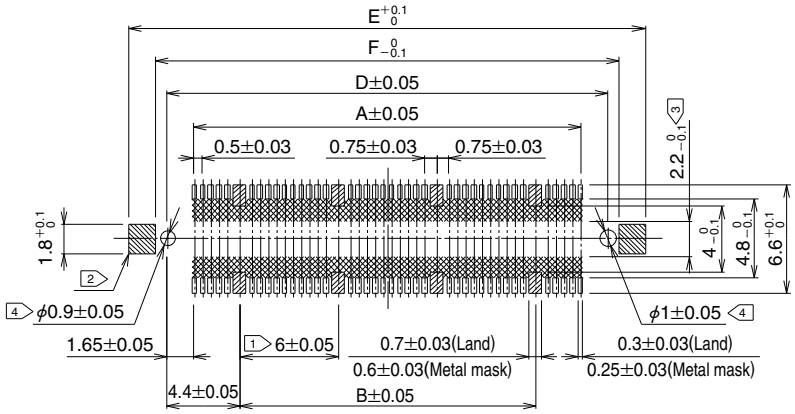
Part No.	HRS No.	No. of Contacts		A	B	C	D	E	F	Remarks	RoHS
		Signal	Ground								
FX11LA-60S/6-SV(71)	573-0102-1 71	60	6	17.5	12	25	20.8	25.4	22.2	With guideposts	Yes
FX11LA-80S/8-SV(71)	573-0103-4 71	80	8	23.5	18	31	26.8	31.4	28.2		
FX11LA-100S/10-SV(71)	573-0104-7 71	100	10	29.5	24	37	32.8	37.4	34.2		
FX11LA-120S/12-SV(71)	573-0105-0 71	120	12	35.5	30	43	38.8	43.4	40.2		
FX11LB-60S/6-SV(71)	573-0112-5 71	60	6	17.5	12	25	—	25.4	22.2	Without guideposts	
FX11LB-80S/8-SV(71)	573-0113-8 71	80	8	23.5	18	31	—	31.4	28.2		
FX11LB-100S/10-SV(71)	573-0114-0 71	100	10	29.5	24	37	—	37.4	34.2		
FX11LB-120S/12-SV(71)	573-0115-3 71	120	12	35.5	30	43	—	43.4	40.2		

[Specifications number] – **, (**)
(71) : Tray packaging (Without pick-and-place tape)
(91) : Embossed tape packaging (Without pick-and-place tape)
(92) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm



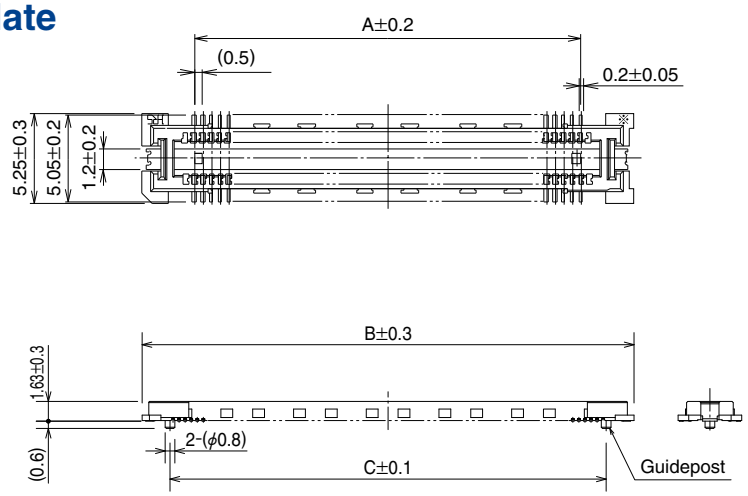
Note 1〉Cross-hatched portions, totaling n places, indicate the ground circuits.
2〉Cross-hatched portions, 2 places on both sides, indicate the metal fittings.
3〉The cross-hatched area ▨ inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
4〉Not required in products without guideposts.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Header without Ground Plate

● 2mm stacking height





Unit : mm

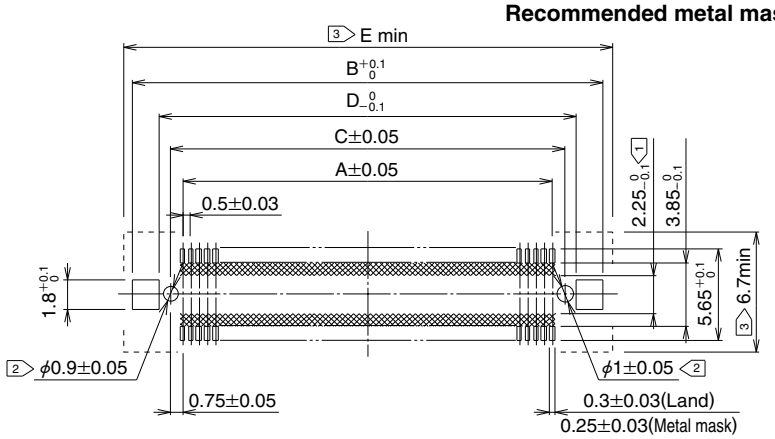
Part No.	HRS No.	No. of Contacts Signal	A	B	C	D	E	Remarks	RoHS
FX11LA-68P-SV(**)	573-0042-1 **	68	16.5	22.6	18	19.4	25.5	With guideposts	Yes
FX11LA-92P-SV(**)	573-0043-4 **	92	22.5	28.6	24	25.4	31.5		
FX11LA-116P-SV(**)	573-0044-7 **	116	28.5	34.6	30	31.4	37.5		
FX11LA-140P-SV(**)	573-0045-0 **	140	34.5	40.6	36	37.4	43.5		
FX11LB-68P-SV(**)	573-0052-5 **	68	16.5	22.6	—	19.4	25.5	Without guideposts	
FX11LB-92P-SV(**)	573-0053-8 **	92	22.5	28.6	—	25.4	31.5		
FX11LB-116P-SV(**)	573-0054-0 **	116	28.5	34.6	—	31.4	37.5		
FX11LB-140P-SV(**)	573-0055-3 **	140	34.5	40.6	—	37.4	43.5		

[Specifications number] – **, (**)
Blank : Tray packaging (Without pick-and-place tape)
(21) : Embossed tape packaging (Without pick-and-place tape)
(22) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm



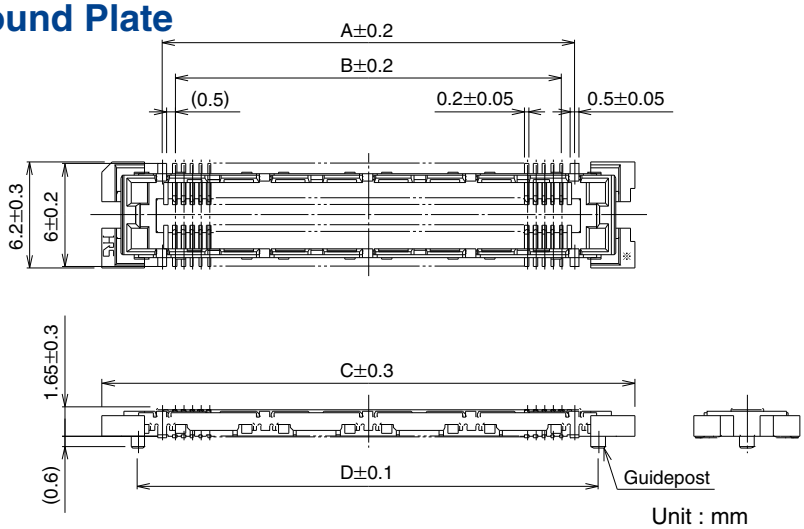
Note 1 The cross-hatched area inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
2 Not required in products without guideposts.
3 Do not mount a part other than this product in the area of . Doing so will prevent the engagement of this and the mating connector.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Receptacle without Ground Plate

● **2mm stacking height**





Unit : mm

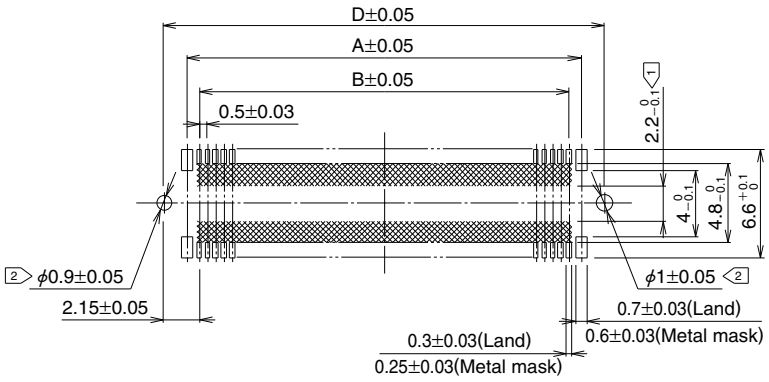
Part No.	HRS No.	No. of Contacts Signal	A	B	C	D	Remarks	RoHS
FX11LA-68S-SV(**)	573-0142-6 **	68	18	16.5	25	20.8	With guideposts	Yes
FX11LA-92S-SV(**)	573-0143-9 **	92	24	22.5	31	26.8		
FX11LA-116S-SV(**)	573-0144-1 **	116	30	28.5	37	32.8		
FX11LA-140S-SV(**)	573-0145-4 **	140	36	34.5	43	38.8		
FX11LB-68S-SV(**)	573-0152-0 **	68	18	16.5	25	—	Without guideposts	
FX11LB-92S-SV(**)	573-0153-2 **	92	24	22.5	31	—		
FX11LB-116S-SV(**)	573-0154-5 **	116	30	28.5	37	—		
FX11LB-140S-SV(**)	573-0155-8 **	140	36	34.5	43	—		

[Specifications number] – **, (**)
Blank : Tray packaging (Without pick-and-place tape)
(21) : Embossed tape packaging (Without pick-and-place tape)
(22) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm



Note 1 The cross-hatched area inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
2 Not required in products without guideposts.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

Stacking height : 2.5mm, 3mm

■Product Specifications

Rating	Rated current Rated voltage	0.3A 50V AC	Operating temperature range Operating humidity range	-55 to +85℃ Relative humidity 95% or less (No condensation)	Storage temperature range Storage humidity range	-10 to +60℃ (Note 1) 40 to 70% (Note 1)

Item	Requirements	Conditions
1. Insulation resistance	100MΩ or greater	Measured at 100V DC
2. Withstanding voltage	No flashover or breakdown	150V AC applied for 1 minute
3. Contact resistance	70mΩ or less	Measured at 100mA
4. Vibration resistance	No electrical discontinuity for 1μs or greater No damaged, cracked or loose parts	Frequency : 10 to 55Hz, amplitude of 0.75mm in 3 directions,10 cycles each
5. Shock resistance	No electrical discontinuity for 1μs or longer No damaged, cracked or loose parts	Acceleration of 490m/s², 11ms duration, sine half-wave waveform, for 3 cycles in the both directions of each of the 3 axes
6. Humidity resistance	Contact resistance of 80mΩ or less, insulation resistance of 100MΩ or greater, No damaged, cracked or loose parts	Temperature of 40℃, humidity of 90 to 95%, duration 96h
7. Temperature cycle	Contact resistance of 80mΩ or less, insulation resistance of 100MΩ or greater, No damaged, cracked or loose parts	Temperature : -55℃ → 15 to 35℃ → 85℃ → 15 to 35℃ Time : 30 min. → 2 to 3 min. → 30 min. → 2 to 3 min. for 5 cycles
8. Mating cycles	Contact resistance of 80mΩ or less No damaged, cracked or loose parts	50 times
9. Solder heat resistance	No melting of resin portion which affects performance	Reflow : At the recommended temperature profile Soldering iron temperature : 360℃ for 5 seconds

Note 1 : The term “storage” refers to the long-term-storage status of unused items before mounting on the PCB.
The operating temperature/humidity ranges apply to the unmated state after board mounting.

■Materials / Finish

Part	Material	Finish		Remarks
Insulator	LCP	Beige		UL94V-0
Contacts	Copper alloy	Header	Engagement Area : Gold plating of 0.1μm	———
	Phosphor bronze	Receptacle	Termination Area : Flash plating	
Ground plate	Phosphor bronze	Tin plating		———
Metal fitting	Phosphor bronze	Tin plating		———
Metal plate				———

■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.

Type With Ground Plate

FX11 ❶ # ❷ - ＊ ❸ P ❹ / ＊ ❸ - SV ❺ 0.5 ❻ (＊＊) ❼

Type Without Ground Plate

FX11 ❶ # ❷ - ＊ ❸ P ❹ - SV ❺ 0.5 ❻ (＊＊) ❼

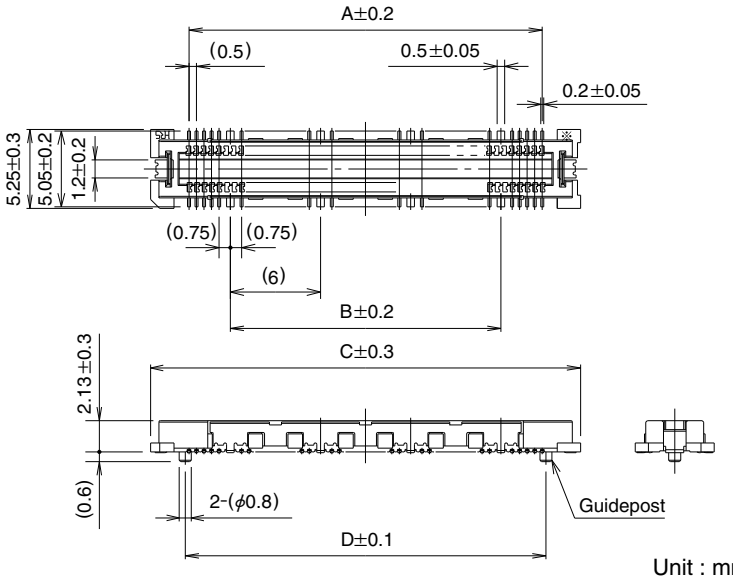
❶ Series name : FX11	❹ Connector type P : Header S : Receptacle
❷ Form Symbol A : With guide post B : Without guide post	❺ Contact form SV : Straight SMT
❸ Number of contacts [Type with ground plate] Signal/Ground:60/6, 80/8, 100/10 [Type without ground plate] Signal : 80, 100	❻ Product height Blank: Standard 0.5 : Standard + 0.5mm
	❼ Blank, (71) : Tray packaging (Without pick-and-place tape) (21),(91) : Embossed tape packaging (Without pick-and-place tape) (22),(92) : Embossed tape packaging (With pick-and-place tape)

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Header with Ground Plate

● 2.5mm stacking height





Unit : mm

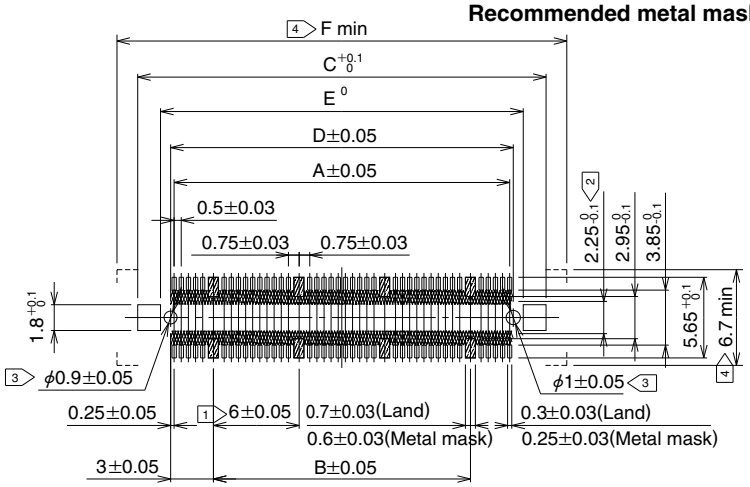
Part No.	HRS No.	No. of Contacts		A	B	C	D	E	F	Remarks	RoHS
		Signal	Ground								
FX11A-60P/06-SV(71)	573-0502-0 71	60	6	17.5	12	22.6	18	19.4	25.5	With guideposts	Yes
FX11A-80P/08-SV(71)	573-0503-2 71	80	8	23.5	18	28.6	24	25.4	31.5		
FX11A-100P/10-SV(71)	573-0504-5 71	100	10	29.5	24	34.6	30	31.4	37.5		
FX11B-60P/06-SV(71)	573-0512-3 71	60	6	17.5	12	22.6	—	19.4	25.5	Without guideposts	
FX11B-80P/08-SV(71)	573-0513-6 71	80	8	23.5	18	28.6	—	25.4	31.5		
FX11B-100P/10-SV(71)	573-0514-9 71	100	10	29.5	24	34.6	—	31.4	37.5		

[Specifications number] – **, (**)
(71) : Tray packaging (Without pick-and-place tape)
(91) : Embossed tape packaging (Without pick-and-place tape)
(92) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm



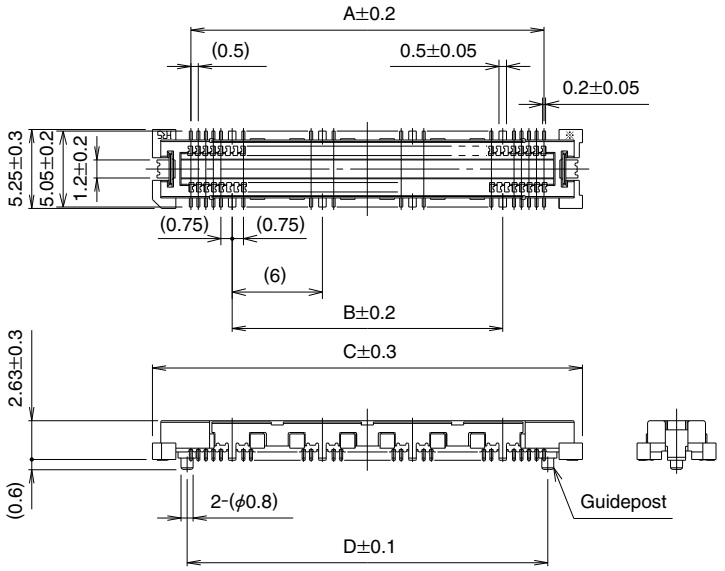
Note 1〉Cross-hatched portions, totaling n places, indicate the ground circuits.
2〉The cross-hatched area ▨ inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
3〉Not required in products without guideposts.
4〉Do not mount a part other than this product in the area of ⬚. Doing so will prevent the engagement of this and the mating connector.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Header with Ground Plate

● 3mm stacking height





Unit : mm

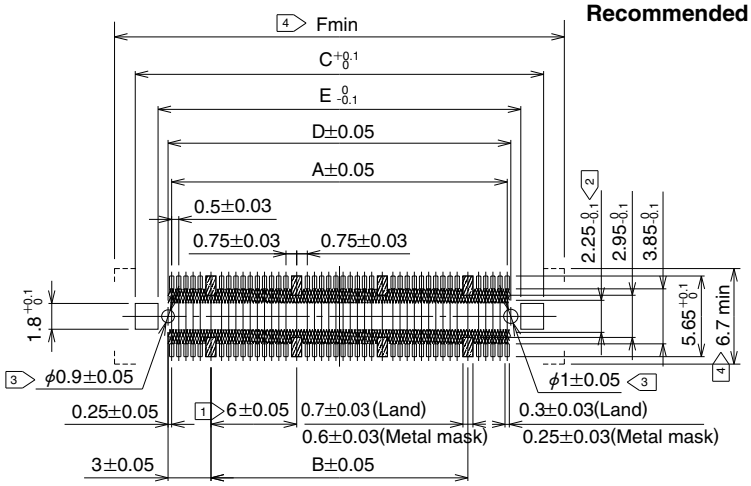
Part No.	HRS No.	No. of Contacts		A	B	C	D	E	F	Remarks	RoHS
		Signal	Ground								
FX11A-60P/6-SV0.5(71)	573-0602-4 71	60	6	17.5	12	22.6	18	19.4	25.5	With guideposts	Yes
FX11A-80P/8-SV0.5(71)	573-0603-7 71	80	8	23.5	18	28.6	24	25.4	31.5		
FX11A-100P/10-SV0.5(71)	573-0604-0 71	100	10	29.5	24	34.6	30	31.4	37.5		
FX11B-60P/6-SV0.5(71)	573-0612-8 71	60	6	17.5	12	22.6	—	19.4	25.5	Without guideposts	
FX11B-80P/8-SV0.5(71)	573-0613-0 71	80	8	23.5	18	28.6	—	25.4	31.5		
FX11B-100P/10-SV0.5(71)	573-0614-3 71	100	10	29.5	24	34.6	—	31.4	37.5		

[Specifications number] – **, (**)
(71) : Tray packaging (Without pick-and-place tape)
(91) : Embossed tape packaging (Without pick-and-place tape)
(92) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm



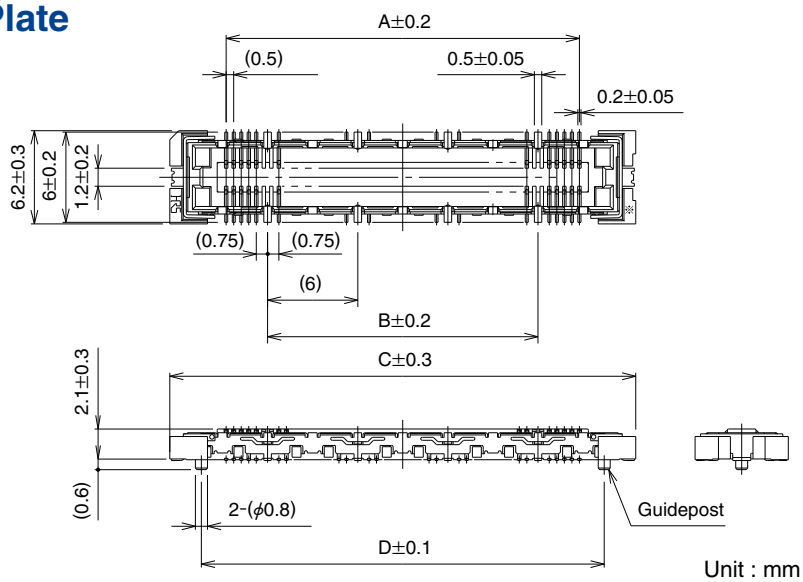
Note 1〉Cross-hatched portions, totaling n places, indicate the ground circuits.
2〉The cross-hatched area ▨ inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
3〉Not required in products without guideposts.
4〉Do not mount a part other than this product in the area of ⬚. Doing so will prevent the engagement of this and the mating connector.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Receptacle with Ground Plate

● 2.5mm, 3mm stacking height





Unit : mm

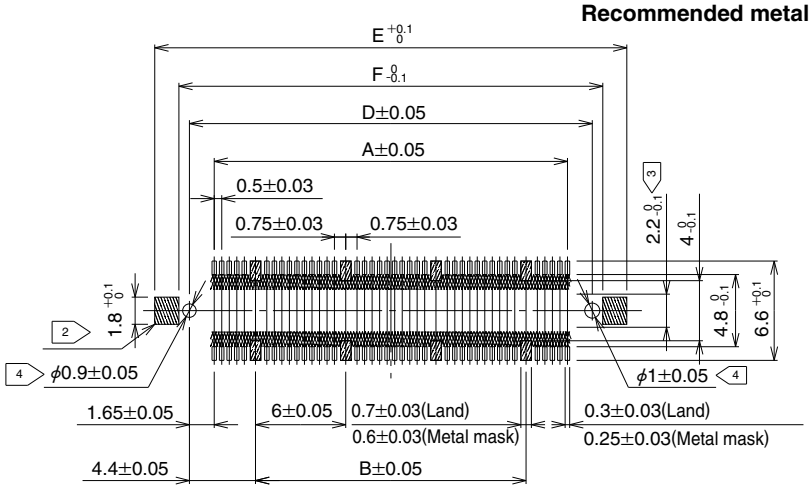
Part No.	HRS No.	No. of Contacts		A	B	C	D	E	F	Remarks	RoHS
		Signal	Ground								
FX11A-60S/6 SV(71)	573-0702-9 71	60	6	17.5	12	25	20.8	25.4	22.2	With guideposts	Yes
FX11A-80S/8 SV(71)	573-0703-1 71	80	8	23.5	18	31	26.8	31.4	28.2		
FX11A-100S/10 SV(71)	573-0704-4 71	100	10	29.5	24	37	32.8	37.4	34.2		
FX11B-60S/6 SV(71)	573-0712-2 71	60	6	17.5	12	25	—	25.4	22.2	Without guideposts	
FX11B-80S/8 SV(71)	573-0713-5 71	80	8	23.5	18	31	—	31.4	28.2		
FX11B-100S/10 SV(71)	573-0714-8 71	100	10	29.5	24	37	—	37.4	34.2		

[Specifications number] – **, (**)
(71) : Tray packaging (Without pick-and-place tape)
(91) : Embossed tape packaging (Without pick-and-place tape)
(92) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm

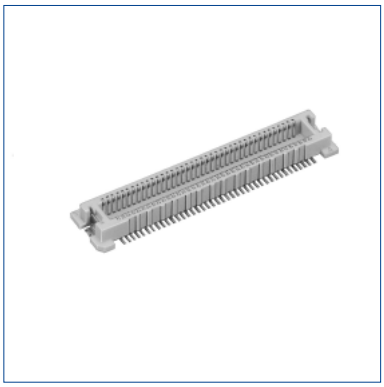


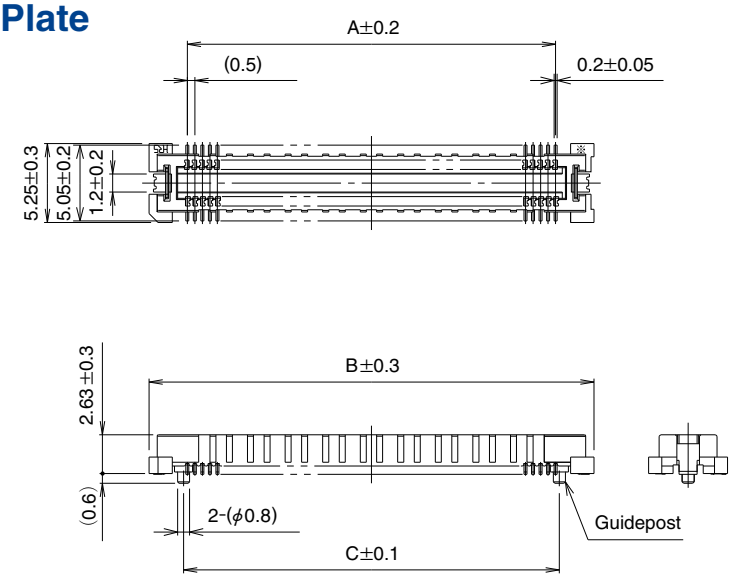
Note 1〉Cross-hatched portions, totaling n places, indicate the ground circuits.
2〉Cross-hatched portions, totaling 2 places, indicate the metal fittings.
3〉The cross-hatched area ▨ inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
4〉Not required in products without guideposts.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Header without Ground Plate

● 2.5mm stacking height





Unit : mm

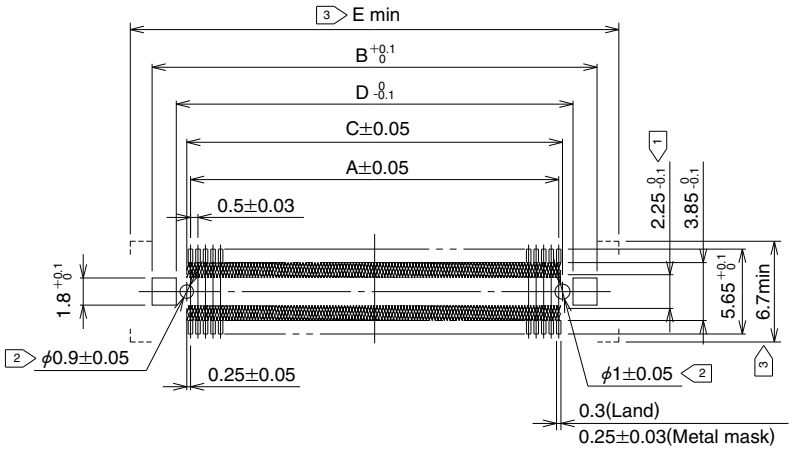
Part No.	HRS No.	No. of Contacts Signal	A	B	C	D	E	Remarks	RoHS
FX11A-80P-SV(**)	573-0548-0 **	80	19.5	24.6	20	21.4	27.5	With guideposts	Yes
FX11A-100P-SV(**)	573-0543-7 **	100	24.5	29.6	25	26.4	32.5		
FX11B- 80P-SV(**)	573-0558-4 **	80	19.5	24.6	—	21.4	27.5	Without guideposts	
FX11B-100P-SV(**)	573-0553-0 **	100	24.5	29.6	—	26.4	32.5		

[Specifications number] – **, (**)
Blank : Tray packaging (Without pick-and-place tape)
(21) : Embossed tape packaging (Without pick-and-place tape)
(22) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm



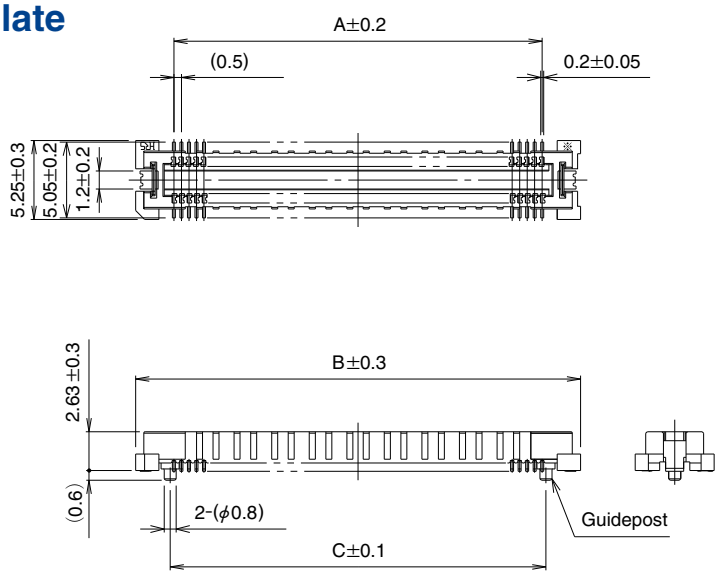
Note 1 The cross-hatched area inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
2 Not required in products without guideposts.
3 Do not mount a part other than this product in the area of . Doing so will prevent the engagement of this and the mating connector.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Header without Ground Plate

● 3mm stacking height





Unit : mm

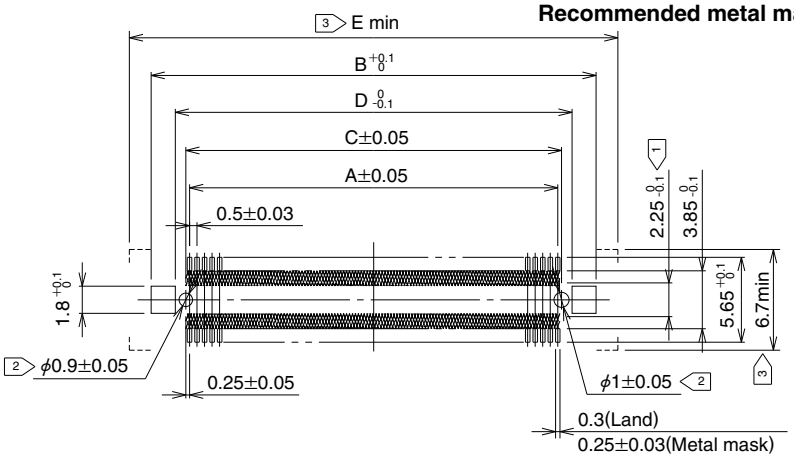
Part No.	HRS No.	No. of Contacts Signal	A	B	C	D	E	Remarks	RoHS
FX11A-80P-SV0.5(**)	573-0648-5 **	80	19.5	24.6	20	21.4	27.5	With guideposts	Yes
FX11A-100P-SV0.5(**)	573-0643-1 **	100	24.5	29.6	25	26.4	32.5		
FX11B-80P-SV0.5(**)	573-0658-9 **	80	19.5	24.6	—	21.4	27.5	Without guideposts	
FX11B-100P-SV0.5(**)	573-0653-5 **	100	24.5	29.6	—	26.4	32.5		

[Specifications number] – **, (**)
Blank : Tray packaging (Without pick-and-place tape)
(21) : Embossed tape packaging (Without pick-and-place tape)
(22) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm



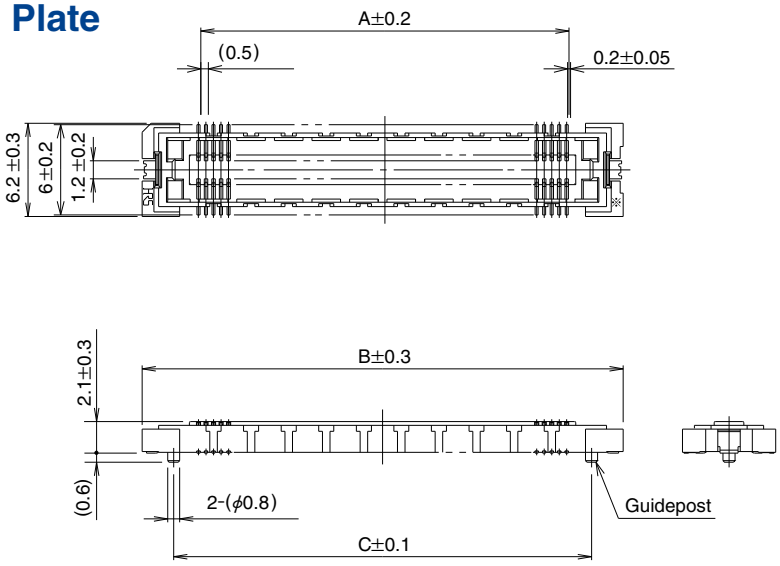
Note 1 The cross-hatched area ▨ inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
2 Not required in products without guideposts.
3 Do not mount a part other than this product in the area of ⬚. Doing so will prevent the engagement of this and the mating connector.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Receptacle without Ground Plate

● 2.5mm, 3mm stacking height





Unit : mm

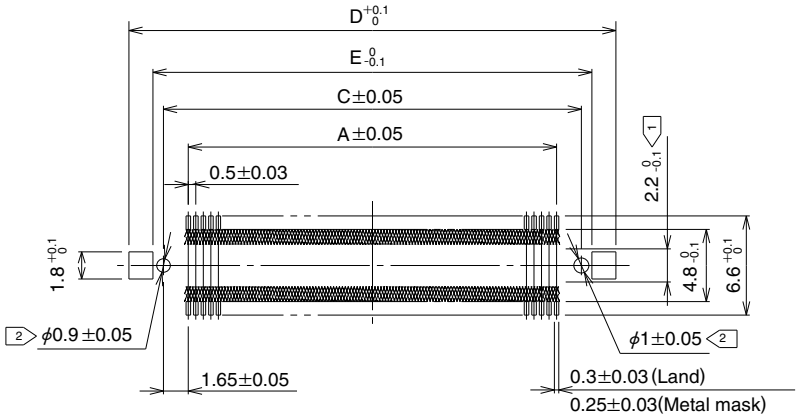
Part No.	HRS No.	No. of Contacts Signal	A	B	C	D	E	Remarks	RoHS
FX11A-80S-SV(**)	573-0748-0 **	80	19.5	27	22.8	27.4	24.2	With guideposts	Yes
FX11A-100S-SV(**)	573-0743-6 **	100	24.5	32	27.8	32.4	29.2		
FX11B-80S-SV(**)	573-0758-3 **	80	19.5	27	—	27.4	24.2	Without guideposts	
FX11B-100S-SV(**)	573-0753-0 **	100	24.5	32	—	32.4	29.2		

[Specifications number] – **, (**)
Blank : Tray packaging (Without pick-and-place tape)
(21) : Embossed tape packaging (Without pick-and-place tape)
(22) : Embossed tape packaging (With pick-and-place tape)

Note 1 : There is no polarity in terms of board mounting for this product.
Note 2 : The coplanarity of this product's SMT leads is 0.1 mm or less.
Note 3 : Please order embossed tape packaged items by the reel. (1,000 pcs/reel)

◆Recommended Land Pattern Dimensions (Metal Mask Dimensions)

Recommended metal mask thickness: 0.15 mm

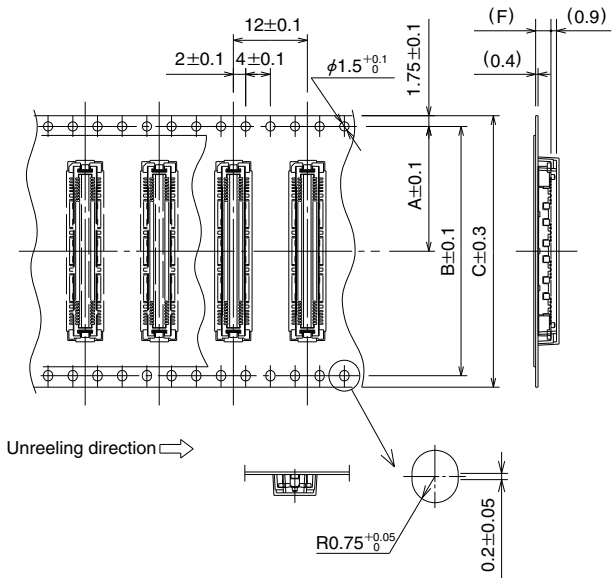


Note 1 The cross-hatched area inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.
2 Not required in products without guideposts.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

◆Embossed Carrier Tape Dimensions

●Header

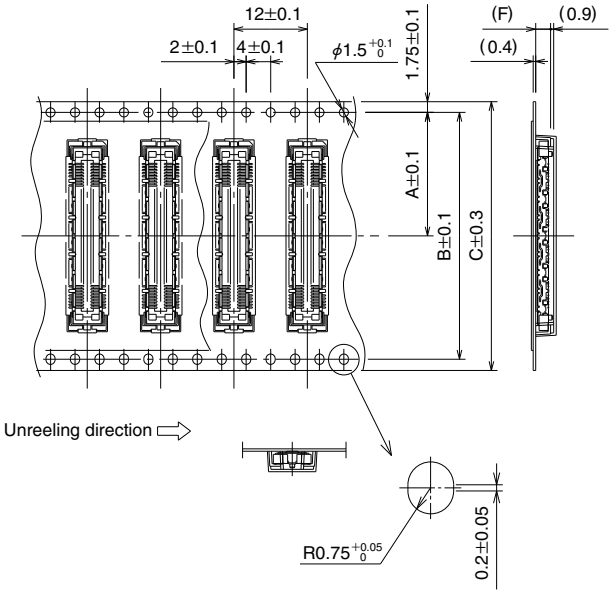


Unit : mm

Insertion Connector	A	B	C	D	E	F
FX11L #-60P/6-SV	20.2	40.4	44	45.5	50.5	1.98
FX11L #-80P/8-SV						
FX11L #-100P/10 -SV	26.2	52.4	56	59	64	
FX11L #-120P/12 -SV						
FX11L #-68P-SV	20.2	40.4	44	45.5	50.5	
FX11L #-92P-SV						
FX11L #-116P-SV	26.2	52.4	56	59	64	
FX11L #-140P-SV						
FX11#-60P/6-SV	20.2	40.4	44	45.5	50.5	2.48
FX11#-80P/8-SV						
FX11#-100P/10-SV	26.2	52.4	56	59	64	
FX11#-80P-SV	20.2	40.4	44	45.5	50.5	
FX11#-100P-SV						
FX11#-60P/6-SV0.5	20.2	40.4	44	45.5	50.5	2.98
FX11#-80P/8-SV0.5						
FX11#-100P/10-SV0.5	26.2	52.4	56	59	64	
FX11#-80P-SV0.5	20.2	40.4	44	45.5	50.5	
FX11#-100P-SV0.5						

Note 1 : There is no polarity in terms of embossed tape packaging for this product.
Note 2 : Left figure is representative of products with ground plates.

●Receptacle

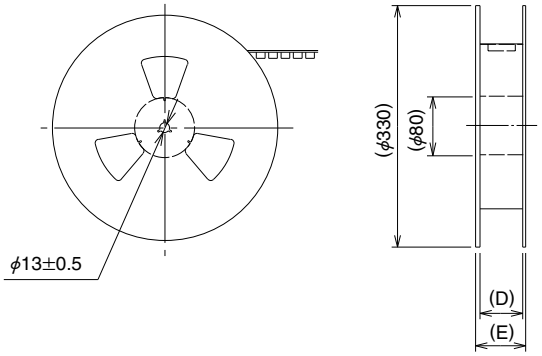


Unit : mm

Insertion Connector	A	B	C	D	E	F
FX11L #-60S/6-SV	20.2	40.4	44	45.5	50.5	2
FX11L #-80S/8-SV						
FX11L #-100S/10 -SV	26.2	52.4	56	59	64	
FX11L #-120S/12 -SV						
FX11L #-68S-SV	20.2	40.4	44	45.5	50.5	
FX11L #-92S-SV						
FX11L #-116S-SV	26.2	52.4	56	59	64	
FX11L #-140S-SV						
FX11#-60S/6-SV	20.2	40.4	44	45.5	50.5	2.45
FX11#-80S/8-SV						
FX11#-100S/10-SV	26.2	52.4	56	59	64	
FX11#-80S -SV	20.2	40.4	44	45.5	50.5	
FX11# -100S-SV						

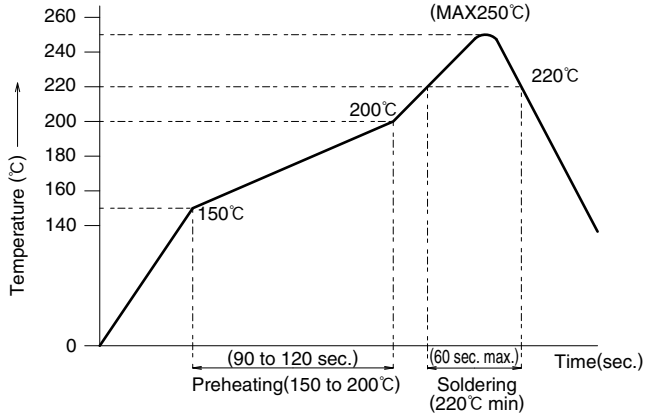
Note 1 : There is no polarity in terms of embossed tape packaging for this product.
Note 2 : Left figure is representative of products with ground plates.

●Reel Dimensions



Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

◆Recommended Temperature Profile



Note : The temperature profile indicates the maximum temperature of the connector surfaces at the highest point from the PCB mounting surface.

HRS test conditions

Test boardGlass epoxy 60mm×35mm×1.6mm thick
Solder method : Reflow
Solder composition : Paste,96.5%Sn/ 3%Ag/ 0.5%Cu
Metal mask : 0.15mm thick
Reflow cycles : 2 cycles

The temperature profile is based on the above conditions. In individual applications the actual temperature may vary, depending on solder paste type, volume/thickness and board size/thickness. Consult your solder paste and equipment manufacturer for specific recommendations.

◆Washing Conditions

Organic Solvent Washing

Solvent	Room temperature washing	Heated washing
IPA(Isopropyl alcohol)	Yes	Yes

Water Type Washing

When using water type cleaning agents (e.g., terpene, and alkali saponifiers), select the cleaning agent based on the documentation issued by the various manufacturers of cleaning agents which describes the effects on metals and resins. Be careful that parts are not left with moisture remaining on them.

Washing Precautions

Residual flux or cleaning agent on the contacts when washing with organic solvents or water type cleaners can give rise to the deterioration of electrical performance. In this regard it is important to check whether a thorough washing has been performed.

◆Connector Handling Precautions

1. Allowable Creepage Dimensions at Time of Mating

[Stacking height : 2mm]

The effective coupling length of this product is 0.55mm for the signal portion and the ground portion. The creepage of the header and receptacle at the time of mating should be within 0.18mm of the completely coupled condition.

[Stacking height : 2.5mm, 3mm]

The effective coupling length of this product is 1mm for the signal portion and 0.9mm for the ground portion. The creepage of the header and receptacle at the time of mating should be within 0.4mm of the completely coupled condition.

2. Compatibility

2mm type and 2.5mm, 3mm type, with ground plate type and without ground type are not mated with each other.

3. Retension of Boards

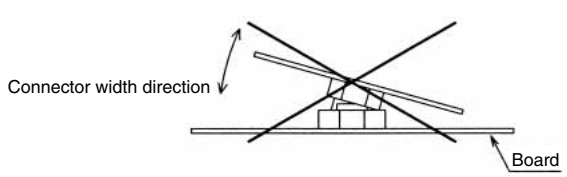
Avoid the support of boards by connectors alone and adopt a board locking measure that does not rely on the connectors.

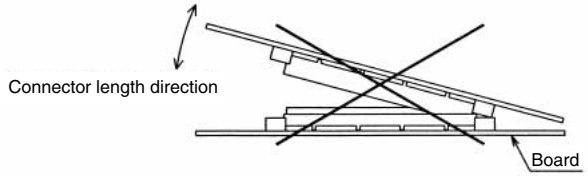
4. Solder Repair

Flux may rise as far as the contact portion of the connector depending on the flux coating and other factors at the time of repair. This will cause poor contact reliability; therefore, before use, the aforementioned washing conditions should be taken into consideration prior to connector washing.

5. Miscellaneous

·Note that excessive twisting while inserting or withdrawing connectors will cause damage.
·The shade of the molded items may vary somewhat depending on the manufacturing lot; however, this does not affect performance.





Creative Links to World Electronics ®
HRS

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

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

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 11/2017. Contents are subject to change without notice for the purpose of improvements.