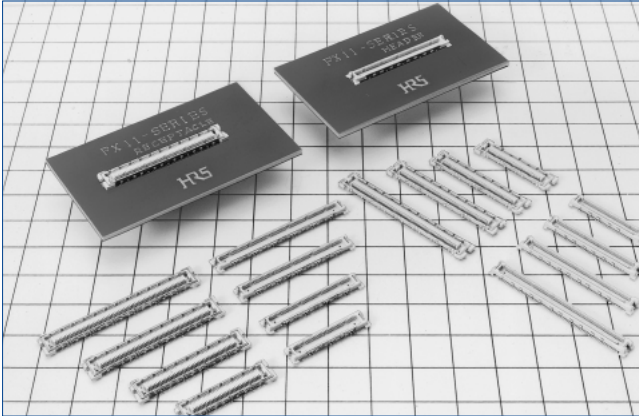


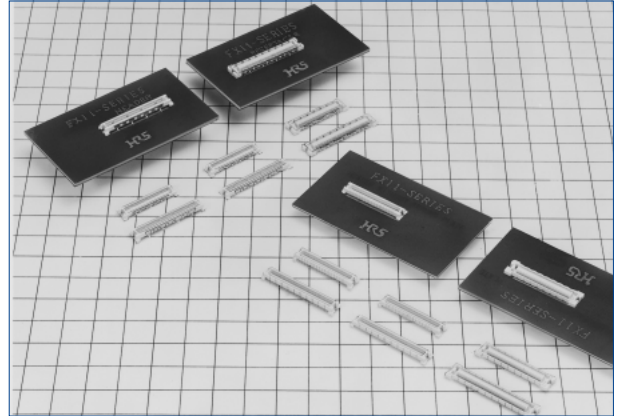
0.5mm Pitch Connectors with Ground Plate for 2mm to 3mm High-Speed Board-to-Board Connections

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 shearing 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

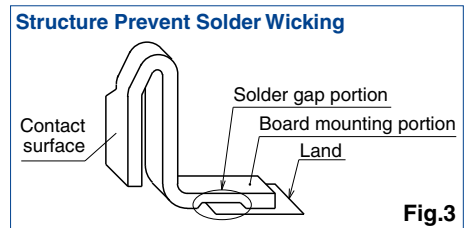
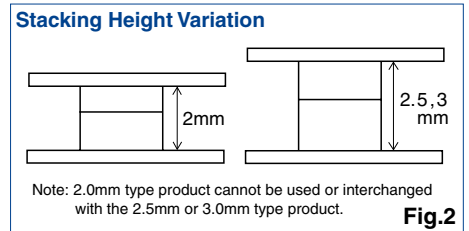
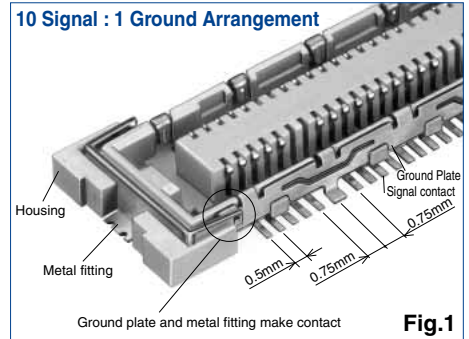
A solder gap has been designed into the contact SMT portion to prevent solder wicking. (Fig.3)

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.



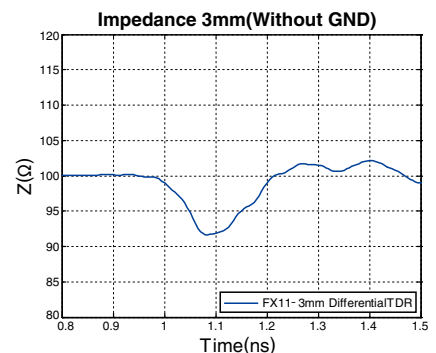
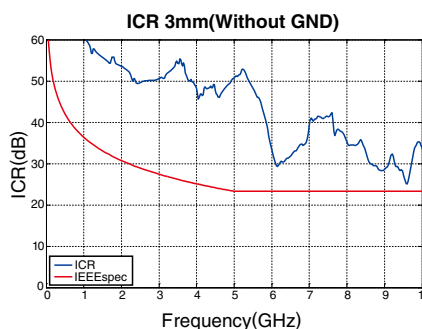
Signal Integrity Features

● 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%).



◆ 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 |

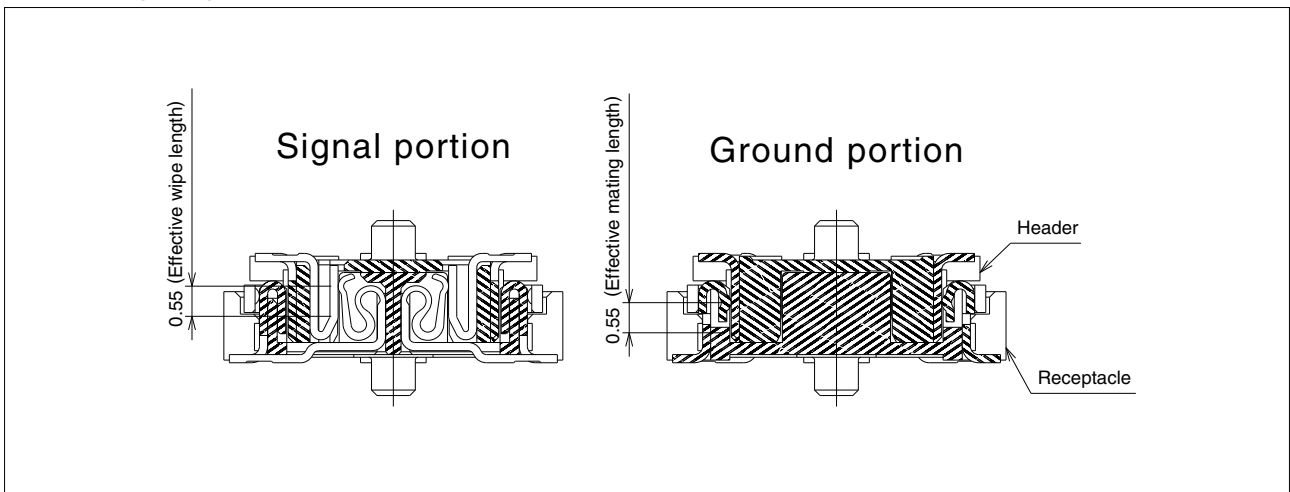
| | | | |
|-------------|--------|-------------|----------------|
| Receptacle | Header | FX11#-*P-SV | FX11#-*P-SV0.5 |
| FX11#-*S-SV | | 2.5mm | 3mm |

Note 1: The thickness of the solder paste is not included in the stacking height.

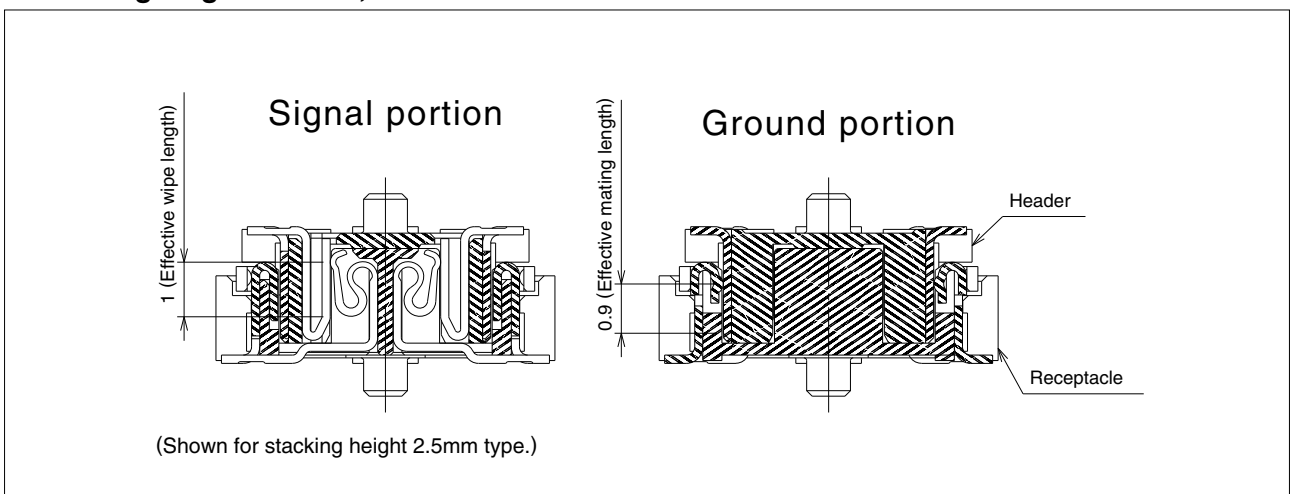
Note 2: 2mm type and 2.5mm, 3mm type, with ground plate type and without ground type are not mated with each other.

◆ Cross section of mating

● Stacking height : 2mm



● Stacking height : 2.5mm, 3mm



Stacking height : 2mm

Product Specifications

| | | | | | | |
|--------|--------------------------------|----------------|---|--|---|---|
| Rating | Rated current Rated voltage | 0.3A 50V AC | Operating temperature range Operating humidity range | -55 to +85°C Relative humidity 95% or less (No condensation) | Storage temperature range Storage humidity range | -10 to +60°C (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/s ² , 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°C, 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°C → 15 to 35°C → 85°C → 15 to 35°C 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°C for 5 seconds |

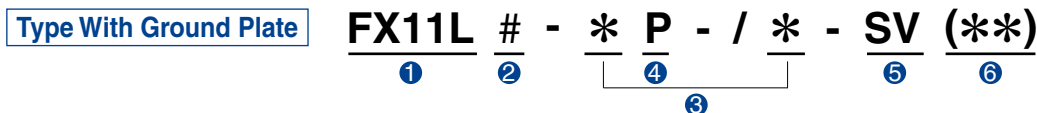
Note 1 : The term “storage” refers to the long-term-storage status of unused items before mounting on the PCB.
The operating temperature/humidity ranges apply to the unmated state after board mounting.

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.

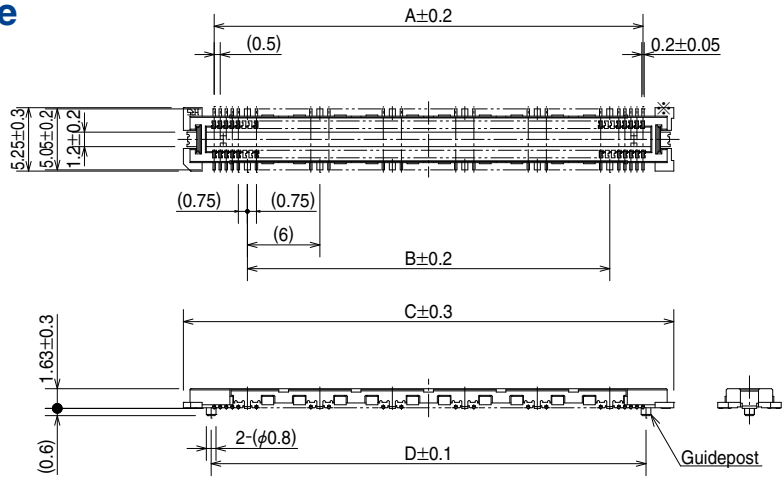


| | |
|--|---|
| ① Series name : FX11L | ④ Connector type P : Header S : Receptacle |
| ② Form Symbol A : With guide post B : Without guide post | ⑤ Contact form SV : Straight SMT |
| ③ Number of contacts Type with ground plate Signal/Ground : 60/6, 80/8, 100/10, 120/12 Type without ground plate Signal : 68, 92, 116, 140 | ⑥ 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) |

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Header with Ground Plate

2mm stacking height



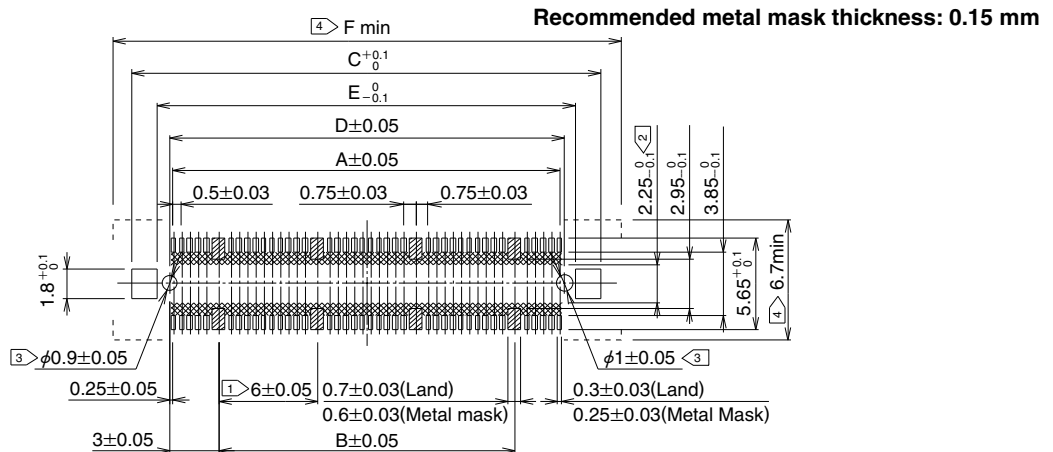
Unit : mm

| 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)

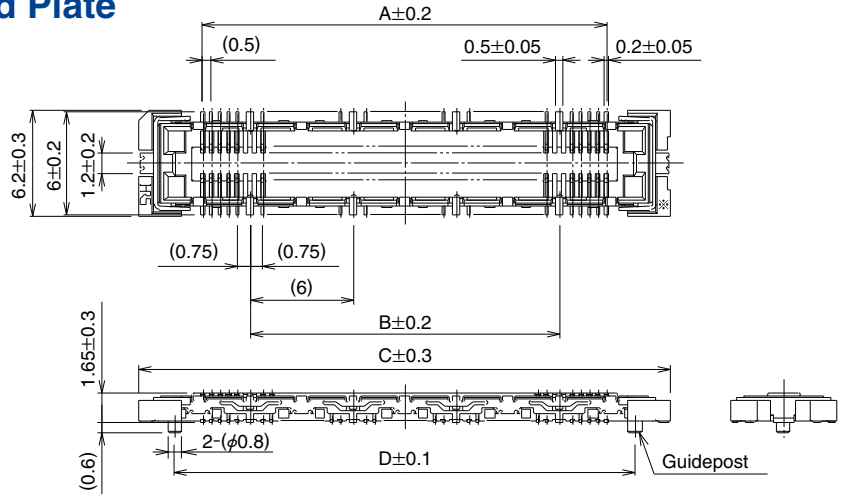
Recommended Land Pattern Dimensions (Metal Mask Dimensions)



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.

Receptacle with Ground Plate

2mm stacking height



Unit : mm

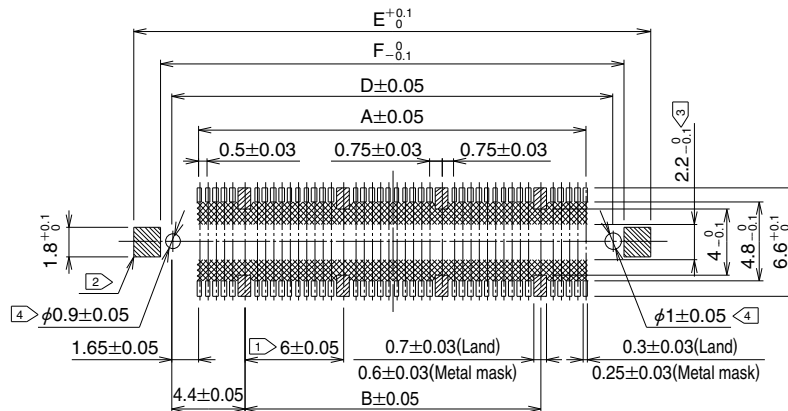
| Part No. | HRS No. | No. of Contacts | | A | B | C | D | E | F | Remarks | RoHS |
|-----------------------|---------------|-----------------|--------|------|----|----|------|------|------|--------------------|------|
| | | Signal | Ground | | | | | | | | |
| FX11LA-60S/6-SV(71) | 573-0102-1 71 | 60 | 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)

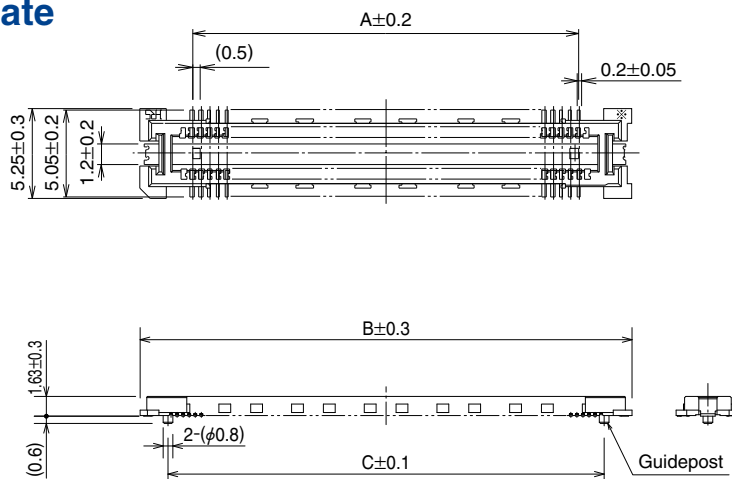
Recommended metal mask thickness: 0.15 mm



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.

Header without Ground Plate

2mm stacking height



Unit : mm

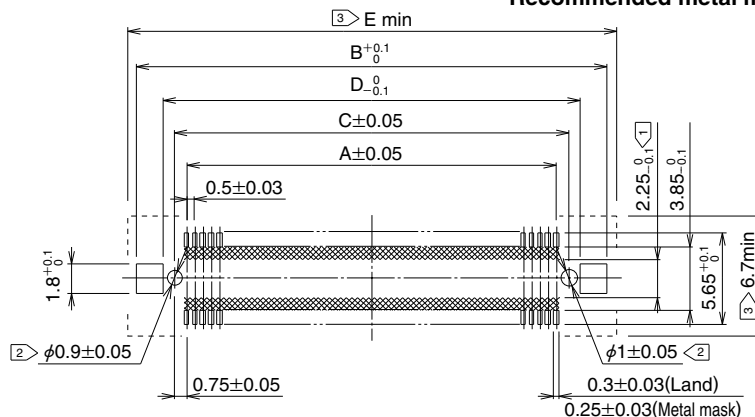
| Part No. | HRS No. | No. of Contacts | A | B | C | D | E | Remarks | RoHS |
|--------------------|---------------|-----------------|------|------|----|------|------|--------------------|------|
| | | Signal | | | | | | | |
| FX11LA-68P-SV(**) | 573-0042-1 ** | 68 | 16.5 | 22.6 | 18 | 19.4 | 25.5 | 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)

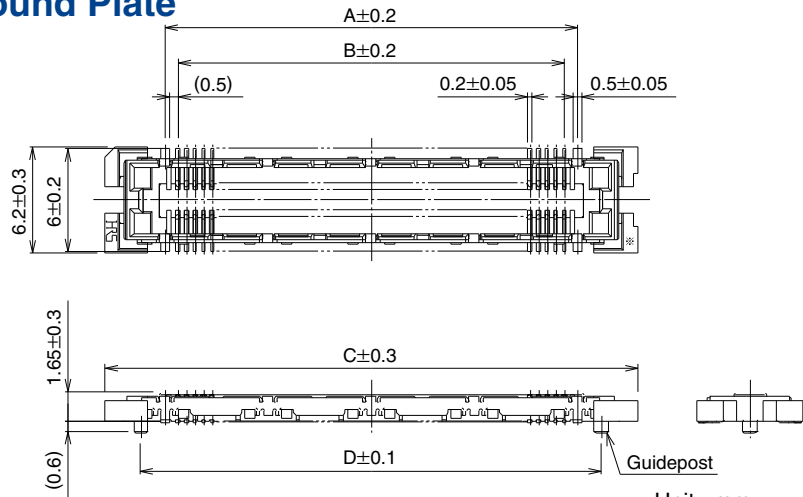
Recommended metal mask thickness: 0.15 mm



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.
 Note ② Not required in products without guideposts.
 Note 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.

■ Receptacle without Ground Plate

● 2mm stacking height



Unit : mm

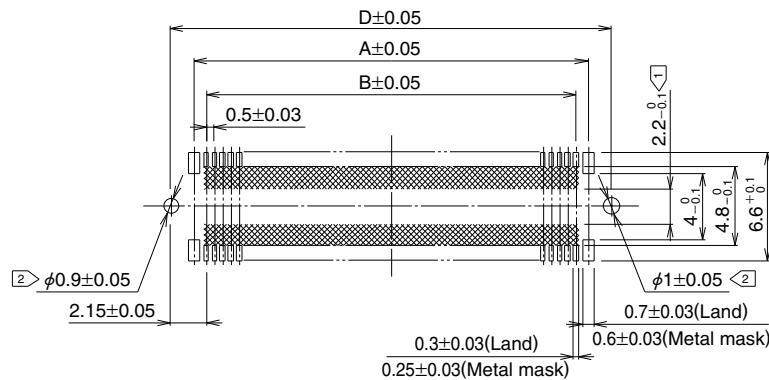
| Part No. | HRS No. | No. of Contacts | A | B | C | D | Remarks | RoHS |
|--------------------|---------------|-----------------|----|------|----|------|--------------------|------|
| | | Signal | | | | | | |
| FX11LA-68S-SV(**) | 573-0142-6 ** | 68 | 18 | 16.5 | 25 | 20.8 | With guideposts | Yes |
| 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.
 Note ② Not required in products without guideposts.

Stacking height : 2.5mm, 3mm

Product Specifications

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

| 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/s ² , 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°C, 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°C → 15 to 35°C → 85°C → 15 to 35°C 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°C for 5 seconds |

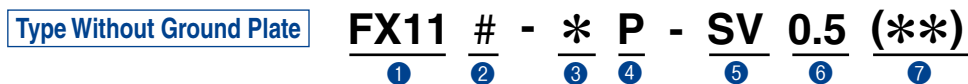
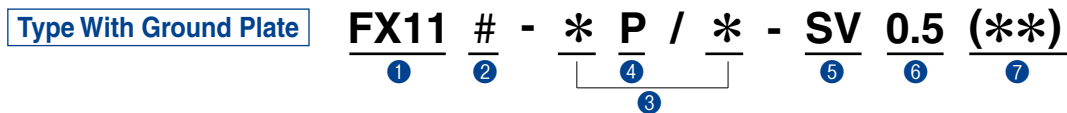
Note 1 : The term "storage" refers to the long-term-storage status of unused items before mounting on the PCB.
The operating temperature/humidity ranges apply to the unmated state after board mounting.

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

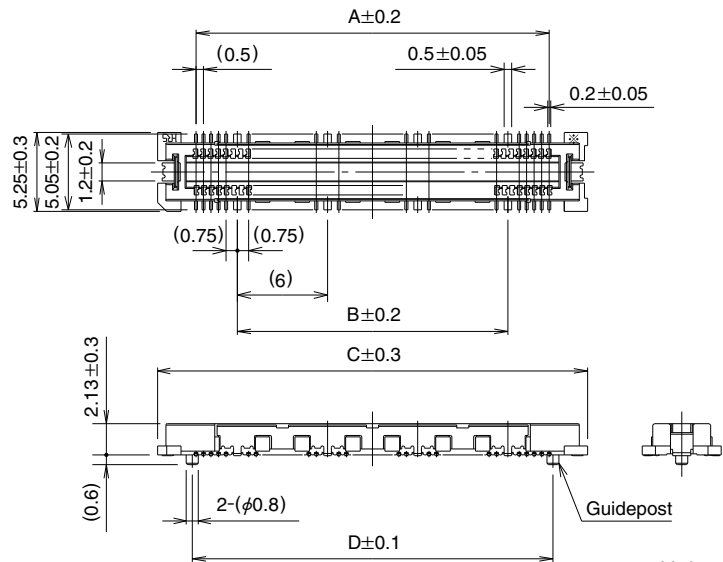
Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.



| | |
|---|---|
| ① Series name : FX11 | ④ Connector type P : Header S : Receptacle |
| ② Form Symbol A : With guide post B : Without guide post | ⑤ Contact form SV : Straight SMT |
| ③ Number of contacts <input type="checkbox"/> Type with ground plate Signal/Ground:60/6, 80/8, 100/10 <input type="checkbox"/> Type without ground plate Signal : 80, 100 | ⑥ Product height Blank: Standard 0.5 : Standard + 0.5mm |
| | ⑦ 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) |

Header with Ground Plate

2.5mm stacking height



Unit : mm

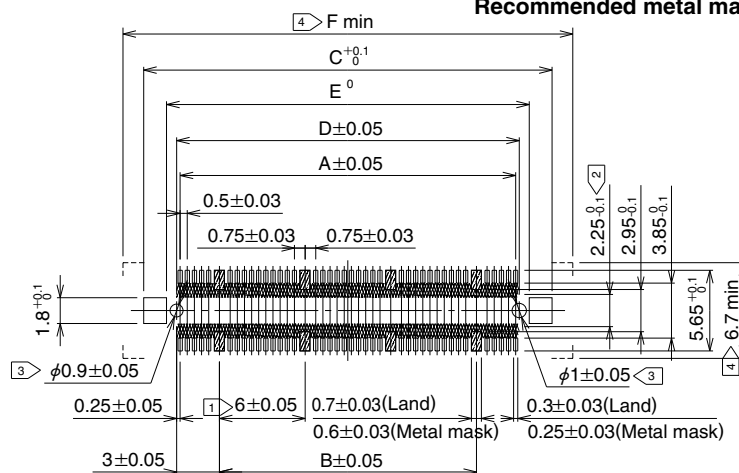
| Part No. | HRS No. | No. of Contacts | | A | B | C | D | E | F | Remarks | RoHS |
|----------------------|---------------|-----------------|--------|------|----|------|----|------|------|--------------------|------|
| | | Signal | Ground | | | | | | | | |
| FX11A-60P/06-SV(71) | 573-0502-0 71 | 60 | 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)

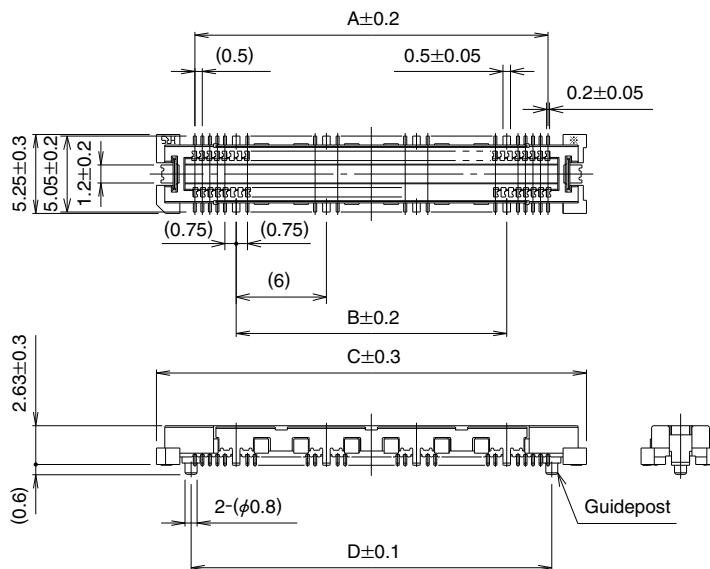
Recommended metal mask thickness: 0.15 mm



- 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.

Header with Ground Plate

● 3mm stacking height



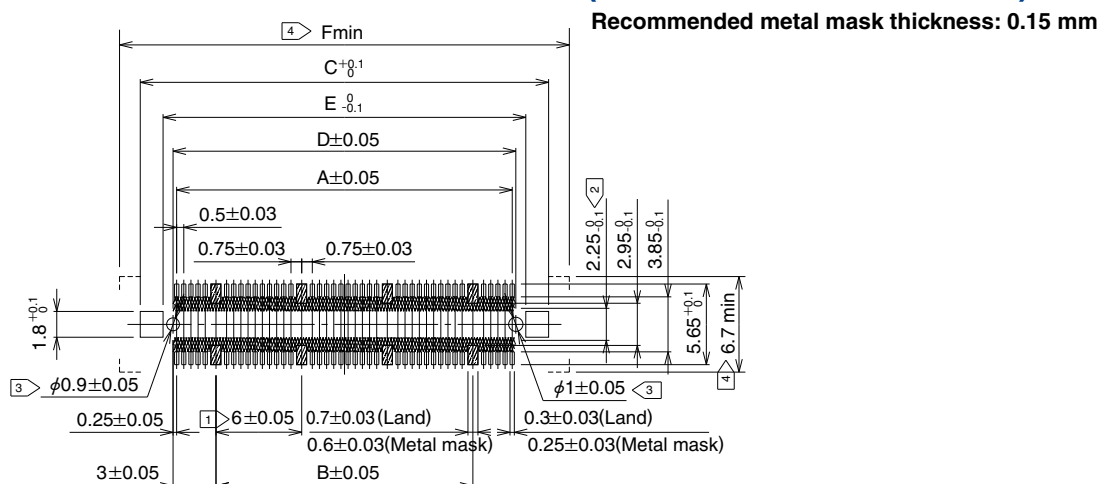
Unit : mm

| 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)

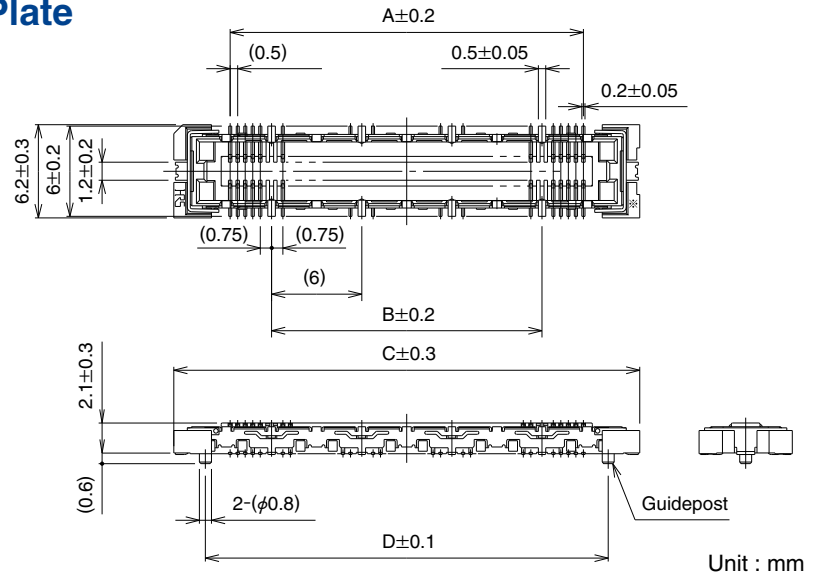
Recommended Land Pattern Dimensions (Metal Mask Dimensions)



- Note ① Cross-hatched portions, totaling n places, indicate the ground circuits.
- Note 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.
- Note ③ Not required in products without guideposts.
- Note 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.

Receptacle with Ground Plate

2.5mm, 3mm stacking height



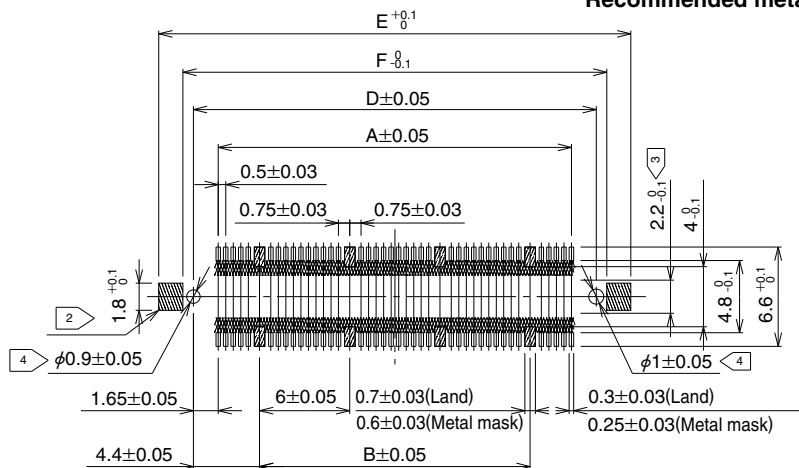
| Part No. | HRS No. | No. of Contacts | | A | B | C | D | E | F | Remarks | RoHS |
|----------------------|---------------|-----------------|--------|------|----|----|------|------|------|--------------------|------|
| | | Signal | Ground | | | | | | | | |
| FX11A-60S/6 SV(71) | 573-0702-9 71 | 60 | 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)

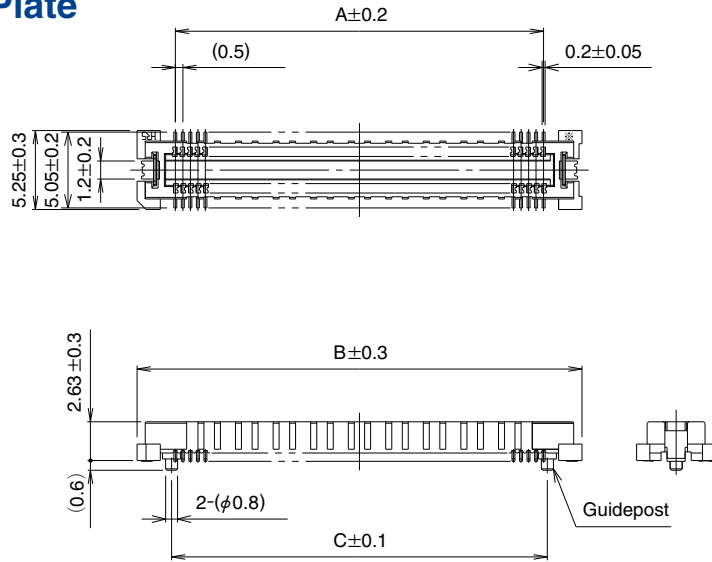
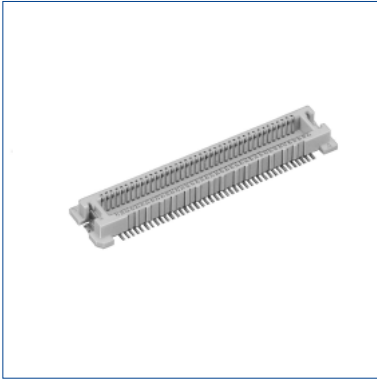
Recommended metal mask thickness: 0.15 mm



Note ① Cross-hatched portions, totaling n places, indicate the ground circuits.
 Note ② Cross-hatched portions, totaling 2 places, indicate the metal fittings.
 Note 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.
 Note ④ Not required in products without guideposts.

Header without Ground Plate

2.5mm stacking height



Unit : mm

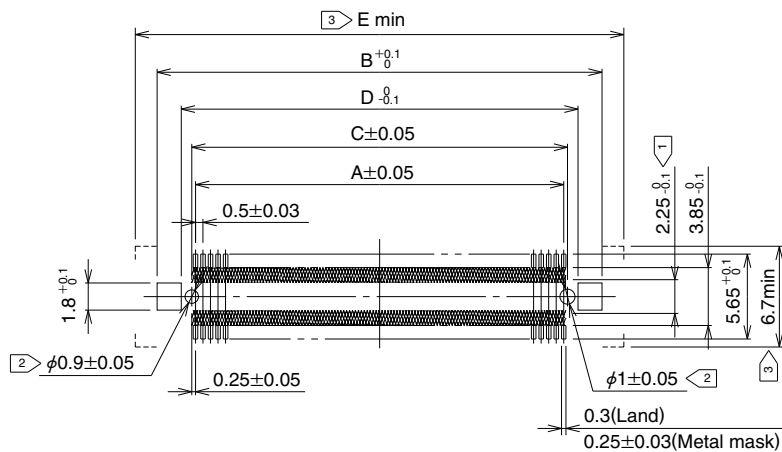
| Part No. | HRS No. | No. of Contacts | A | B | C | D | E | Remarks | RoHS |
|-------------------|---------------|-----------------|------|------|----|------|------|--------------------|------|
| | | Signal | | | | | | | |
| FX11A-80P-SV(**) | 573-0548-0 ** | 80 | 19.5 | 24.6 | 20 | 21.4 | 27.5 | With 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)

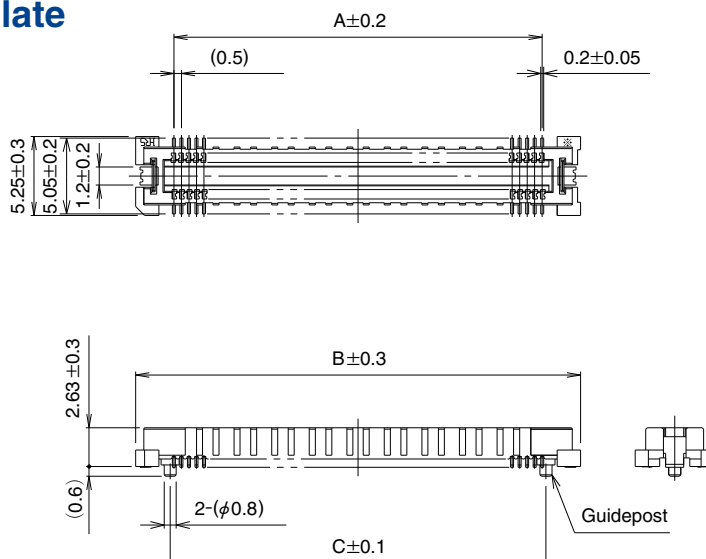
Recommended metal mask thickness: 0.15 mm



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.
 Note ② Not required in products without guideposts.
 Note 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.

Header without Ground Plate

3mm stacking height



Unit : mm

| Part No. | HRS No. | No. of Contacts | A | B | C | D | E | Remarks | RoHS |
|----------------------|---------------|-----------------|------|------|----|------|------|--------------------|------|
| | | Signal | | | | | | | |
| 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)

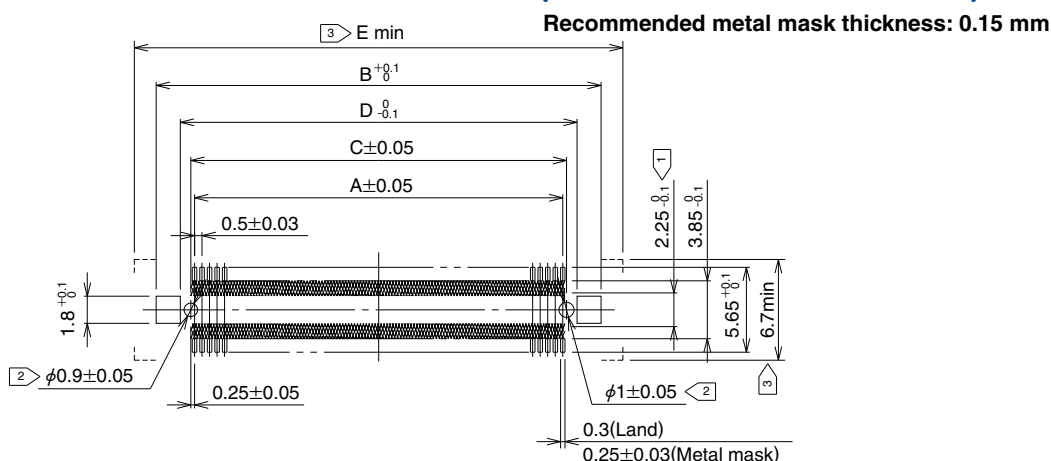
(22) : Embossed tape packaging (With pick-and-place tape)

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)



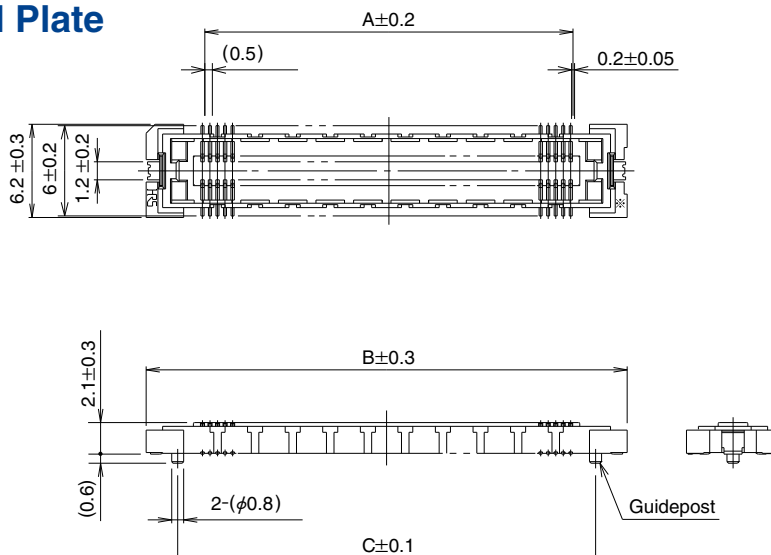
Note ① The cross-hatched area inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.

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.

■ Receptacle without Ground Plate

● 2.5mm, 3mm stacking height



Unit : mm

| Part No. | HRS No. | No. of Contacts | A | B | C | D | E | Remarks | RoHS |
|-------------------|---------------|-----------------|------|----|------|------|------|--------------------|------|
| | | Signal | | | | | | | |
| 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)

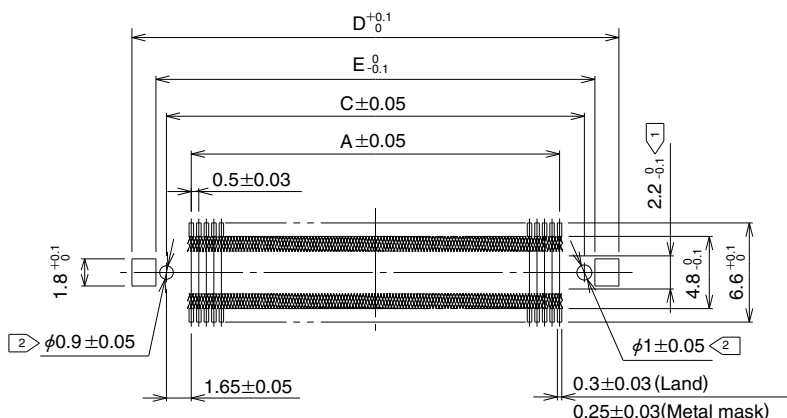
Note 1 : There is no polarity in terms of board mounting for this product.

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



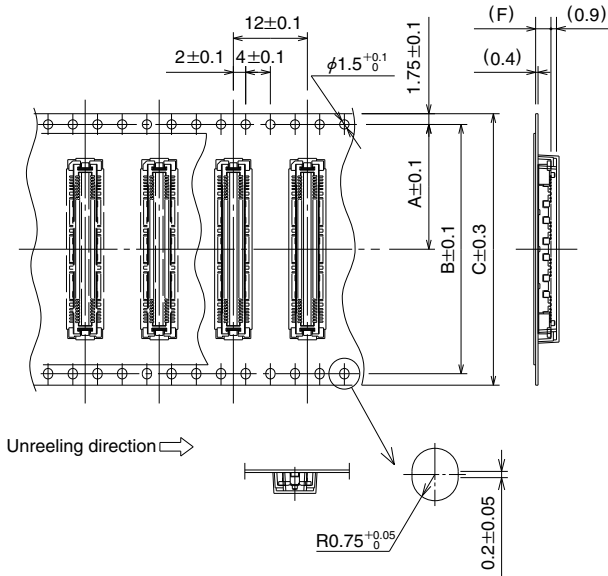
Note ① The cross-hatched area inside the SMT land may come into contact with the connector contacts and thus care should be taken that the pattern does not extend beyond the SMT land width.

Note ② Not required in products without guideposts.

◆ Embossed Carrier Tape Dimensions

Unit : mm

● Header

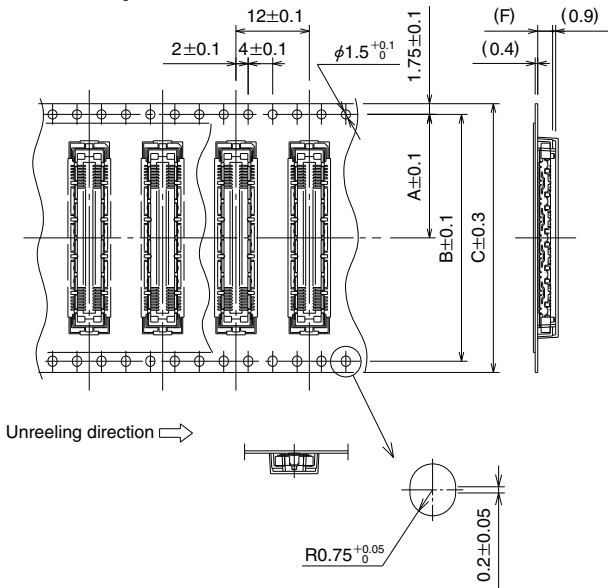


| Insertion Connector | A | B | C | D | E | F | | |
|----------------------|------|------|----|------|------|------|------|------|
| FX11L #-60P/6-SV | 20.2 | 40.4 | 44 | 45.5 | 50.5 | 1.98 | | |
| FX11L #-80P/8-SV | | | | | | | | |
| FX11L #-100P/10-SV | 26.2 | 52.4 | 56 | 59 | 64 | | 1.98 | |
| FX11L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

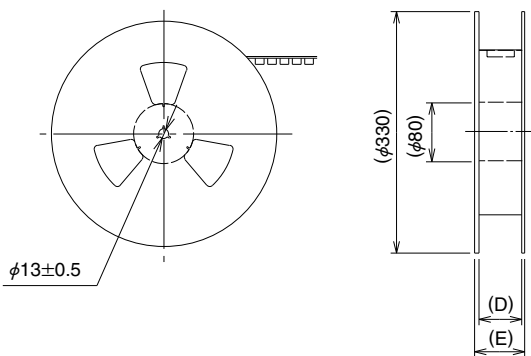


| Insertion Connector | A | B | C | D | E | F | | |
|---------------------|------|------|----|------|------|------|------|------|
| FX11L #-60S/6-SV | 20.2 | 40.4 | 44 | 45.5 | 50.5 | 2 | | |
| FX11L #-80S/8-SV | | | | | | | | |
| FX11L #-100S/10-SV | 26.2 | 52.4 | 56 | 59 | 64 | | 2 | |
| FX11L #-120S/12-SV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

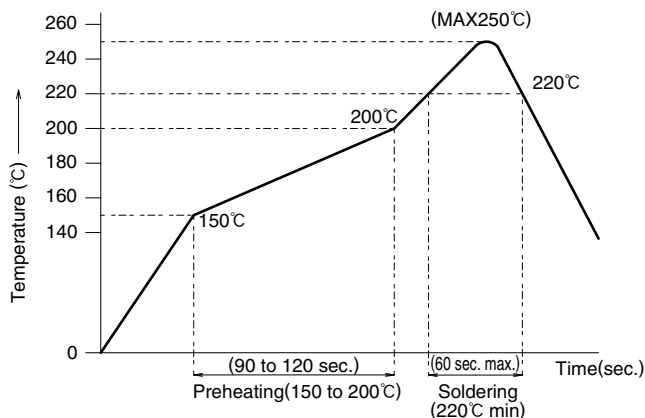
Note 1 : There is no polarity in terms of embossed tape packaging for this product.

Note 2 : Left figure is representative of products with ground plates.

● Reel Dimensions



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 board: Glass 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

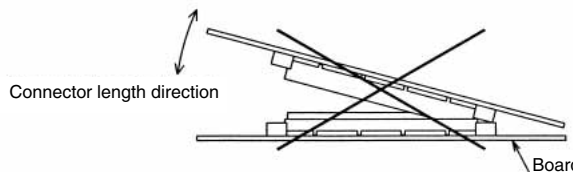
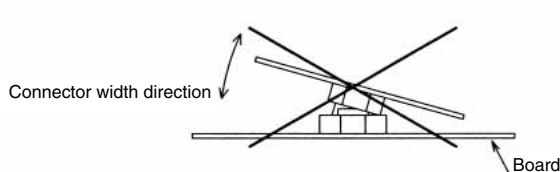
Avoid the support of boards by connectors alone and adopt a board locking measure that does not rely on the connectors.

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.



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