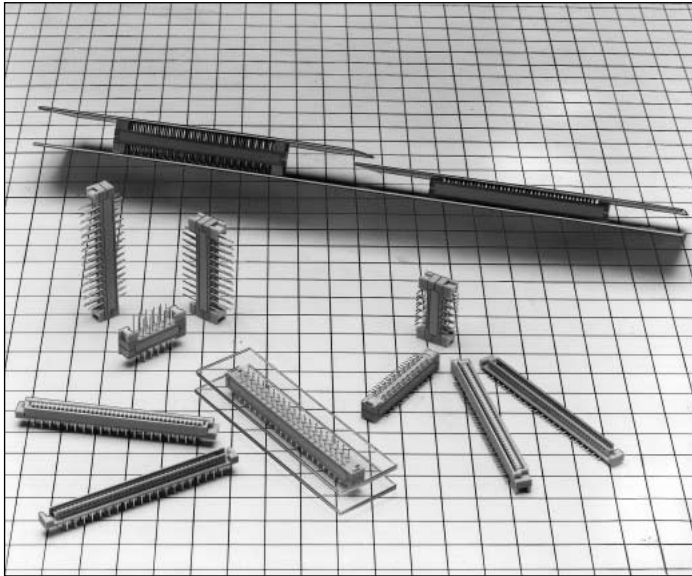
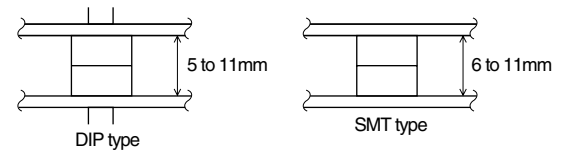


# Stacking Height 5 to 11mm Half Pitch Connector

## FX4 Series



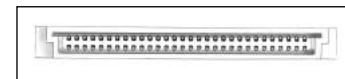
### Stacking Height Flexible



The mounting area 70% reduced, compared with conventional product (FX2 series)



FX2 series



FX4 series

(Compared with 60 contacts)

## ■Features

The FX4 series is a miniature board to board connectors, where the stacking height can be set at the 1mm interval. According to the mounting method, you can select the product from the dip type and SMT type.

### ●Dip Type

#### 1. Small and Light

The mounting space and weight is reduced about 30%, compared to the conventional product (HRS FX2 series), respectively, and the mounting area about 70% reduced, compared to the conventional one.

#### 2. Stacking Height 5 to 11mm

The board to board stacking height can be set per 1mm from 5mm up to 11mm.

#### 3. Flux Swell Prevention

When solder is dipped, the flux swell from the board rear side is completely prevented.

#### 4. Mis-insertion Prevention and Low Insertion/Extraction Force Mechanism

The connection area is designed to completely prevent the mis-insertion.

Moreover, the low insertion/extraction mechanism is adopted.

### ●SMT Type

#### 1. Small and Light

The mounting space and weight is reduced about 40%, compared with the conventional product (HRS FX2 series), and the mounting area is reduced 80%, compared to the conventional one.

#### 2. Stacking Height 6 to 11mm

The board to board stacking height can be set per 1mm from 6mm up to 11mm. In addition, the height can be also set in combination with the dip type.

#### 3. Mis-insertion Prevention and Low Insertion/Extraction Structure

The connection area is designed to completely prevent the mis-insertion.

Moreover, the low insertion/extraction force mechanism is adopted.

#### 4. Positioning Boss Selectable

According to the mounting condition, it is selected whether or not the boss is required. Regarding the boss attached type, the boss eccentric position can stabilize the mounting direction.

## ■Applications

Computers, peripheral equipments, business equipments, etc.

## ■Product Specifications

|        |                        |                                                   |                                                 |
|--------|------------------------|---------------------------------------------------|-------------------------------------------------|
| Rating | Current rating 0.5A    | Operating Temperature Range -55℃ to +85℃ (Note 1) | Storage Temperature Range -10℃ to +60℃ (Note 2) |
|        | Voltage rating 125V AC | Operating Humidity Range 40% to 80%               | Storage Humidity Range 40% to 70%               |

| Item                            | Specification                                                                | Condition                                                                                         |
|---------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 1. Insulation Resistance        | 100M ohms min.                                                               | Measured at 250V PC                                                                               |
| 2. Withstanding Voltage         | No flashover or insulation breakdown.                                        | 300V AC for 1 minute                                                                              |
| 3. Resistance                   | 45m ohms max.                                                                | 100mA                                                                                             |
| 4. Vibration                    | No electrical discontinuity of 1μs or more                                   | Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.         |
| 5. Humidity (Steady state)      | Contact resistance: 55m ohms max. Insulation resistance: 100M ohms min.      | 96 hours at temperature of 40℃ and humidity of 90% to 95%                                         |
| 6. Temperature Cycle            | Contact resistance : 55m ohms max.<br>Insulation resistance : 100M ohms min. | (-55℃: 30 minutes 15 to 35℃: 2 to 3 minutes<br>85℃: 30 minutes 15 to 35℃: 2 to 3minutes) 5 cycles |
| 7. Operating Life               | Contact resistance : 55m ohms max.                                           | 300 cycles                                                                                        |
| 8. Resistance to Soldering heat | No deformation of components affecting performance.                          | Reflow: At the recommended temperature profile<br>Manual soldering: 300℃ for 3 seconds            |

Note 1: Includes temperature rise caused by current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

## ■Material

| Part               | Material        | Finish                 | Remarks |
|--------------------|-----------------|------------------------|---------|
| Insulator          | Polyamide       | Beige                  | UL94V-0 |
| Receptacle Contact | Phosphor bronze | Selective gold plating | _____   |
| Header Contact     |                 | Selective gold plating | _____   |

Note : The black dots on the insulator will not affect performance.

## ■Ordering Information

### ●Dip Type

**FX   4C   1 - 80   P - 1.27   DSA   L**  
**①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧**

|                                                                         |                                                 |
|-------------------------------------------------------------------------|-------------------------------------------------|
| ① Series Name : FX                                                      | ⑤ Connector Type   P : Header<br>S : Receptacle |
| ② Series No. : 4C                                                       |                                                 |
| ③ Product Height Variable:None: Standard   1: +1mm<br>2: +2mm   3: +3mm | ⑥ Contact Pitch : 1.27mm                        |
|                                                                         | ⑦ Contact Style : DSA : Straight                |
| ④ Number of Contacts: 20, 32, 40, 52, 60, 68, 80                        | ⑧ L: Board prefixed pin                         |

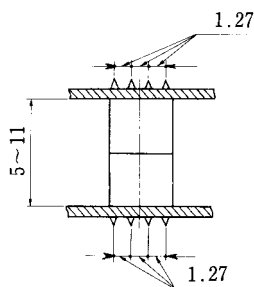
### ●SMT Type

**FX   4A   H - 80   P - 1.27   SV**  
**①   ②   ③   ④   ⑤   ⑥   ⑦**

|                                                                                                                 |                                                   |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| ① Series Name : FX                                                                                              | ④ Number of Contacts : 20, 32, 40, 52, 60, 68, 80 |
| ② Series No. : 4A : With boss<br>4B : Without boss                                                              | ⑤ Connector Type   P : Header<br>S : Receptacle   |
| ③ Product Height Variable   H : +0.5mm   1 : +1mm<br>(Ratio to dip type standard product)   2 : +2mm   3 : +3mm | ⑥ Contact Pitch : 1.27mm                          |
|                                                                                                                 | ⑦ Contact Style : SV : vertical type              |

## ◆ Application Pattern and Stacking Height Combination

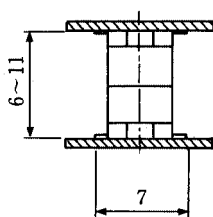
### ● Dip Type



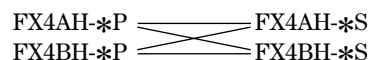
Unit: mm

| Receptacle<br>Header             | FX4C -*S<br>(Catalog page A195) | FX4C2 -*S<br>(Catalog page A196) | FX4C3 -*S<br>(Catalog page A197) |
|----------------------------------|---------------------------------|----------------------------------|----------------------------------|
| FX4C -*P<br>(Catalog page A192)  | 5                               | 7                                | 8                                |
| FX4C1 -*P<br>(Catalog page A193) | 6                               | 8                                | 9                                |
| FX4C3 -*P<br>(Catalog page A194) | 8                               | 10                               | 11                               |

### ● SMT Type



- The stacking height 6mm follows the diagonal diagram as shown below.

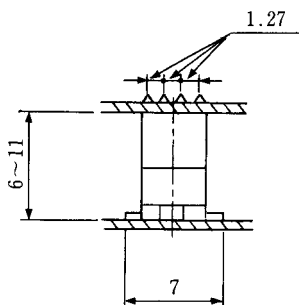


- The stacking height 7mm to 11mm follows the table as shown below.

Unit:mm

| Receptacle<br>Header             | FX4A1 -*S<br>(Catalog page A202) | FX4A2 -*S<br>(Catalog page A203) | FX4A3 -*S<br>(Catalog page A204) |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
|                                  | FX4B1 -*S<br>(Catalog page A202) | FX4B2 -*S<br>(Catalog page A203) | FX4B3 -*S<br>(Catalog page A204) |
| FX4A1 -*P<br>(Catalog page A199) | 7                                | 8                                | 9                                |
| FX4B1 -*P<br>(Catalog page A199) |                                  |                                  |                                  |
| FX4A3 -*P<br>(Catalog page A200) | 9                                | 10                               | 11                               |
| FX4B3 -*P<br>(Catalog page A200) |                                  |                                  |                                  |

### ● Dip Type and SMT Type



Unit:mm

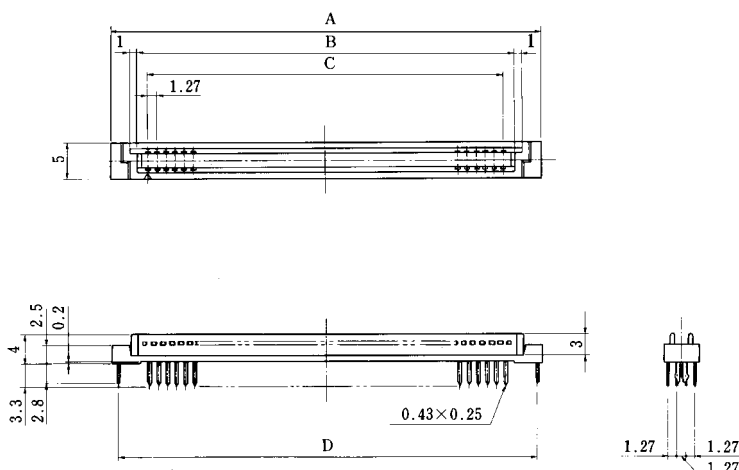
| Receptacle<br>Header             | FX4A1 -*S<br>(Catalog page A202) | FX4A2 -*S<br>(Catalog page A203) | FX4A3 -*S<br>(Catalog page A204) |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
|                                  | FX4B1 -*S<br>(Catalog page A202) | FX4B2 -*S<br>(Catalog page A203) | FX4B3 -*S<br>(Catalog page A204) |
| FX4C -*P<br>(Catalog page A192)  | 6                                | 7                                | 8                                |
| FX4C1 -*P<br>(Catalog page A193) | 7                                | 8                                | 9                                |
| FX4C3 -*P<br>(Catalog page A194) | 9                                | 10                               | 11                               |

| Receptacle<br>Header             | FX4A1 -*P<br>(Catalog page A199) | FX4A3 -*P<br>(Catalog page A200) |
|----------------------------------|----------------------------------|----------------------------------|
|                                  | FX4B1 -*P<br>(Catalog page A199) | FX4B3 -*P<br>(Catalog page A203) |
| FX4C -*S<br>(Catalog page A195)  | 6                                | 8                                |
| FX4C2 -*S<br>(Catalog page A196) | 8                                | 10                               |
| FX4C3 -*S<br>(Catalog page A197) | 9                                | 11                               |

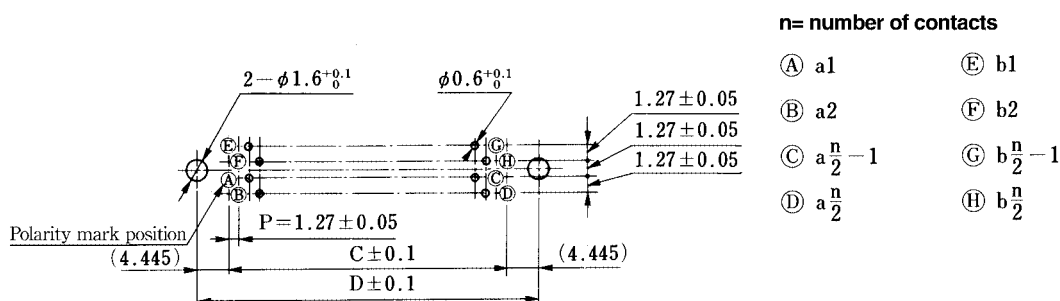
The above stacking height doesn't include the solder paste thickness.

Thus, please consider that the stacking height after the mounting process will be slightly higher than the conventional height.

## ■Header (DIP Type)-Stacking Height: Standard type



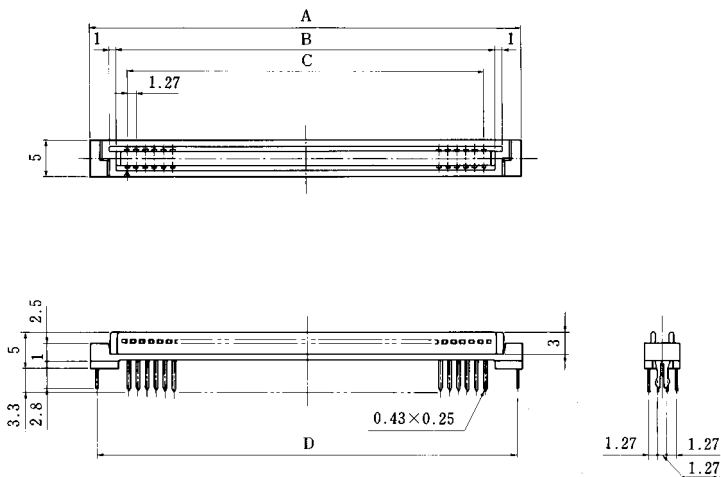
## ◆PCB mounting pattern



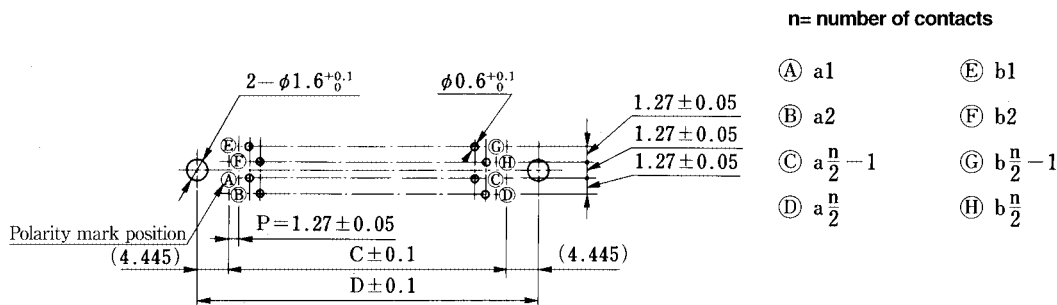
Unit: mm

| Part Number       | CL No.     | Number of Contacts | A     | B     | C     | D     |
|-------------------|------------|--------------------|-------|-------|-------|-------|
| FX4C-20P-1.27DSA  | 574-0001-0 | 20                 | 21.87 | 14.58 | 11.43 | —     |
| FX4C-20P-1.27DSAL | 574-0051-9 |                    |       |       |       | 20.32 |
| FX4C-32P-1.27DSA  | 574-0002-3 | 32                 | 29.49 | 22.2  | 19.05 | —     |
| FX4C-32P-1.27DSAL | 574-0052-1 |                    |       |       |       | 27.94 |
| FX4C-40P-1.27DSA  | 574-0003-6 | 40                 | 34.57 | 27.28 | 24.13 | —     |
| FX4C-40P-1.27DSAL | 574-0053-4 |                    |       |       |       | 33.02 |
| FX4C-52P-1.27DSA  | 574-0004-9 | 52                 | 42.19 | 34.9  | 31.75 | —     |
| FX4C-52P-1.27DSAL | 574-0054-7 |                    |       |       |       | 40.64 |
| FX4C-60P-1.27DSA  | 574-0005-1 | 60                 | 47.27 | 39.98 | 36.83 | —     |
| FX4C-60P-1.27DSAL | 574-0055-0 |                    |       |       |       | 45.72 |
| FX4C-68P-1.27DSA  | 574-0006-4 | 68                 | 52.35 | 45.06 | 41.91 | —     |
| FX4C-68P-1.27DSAL | 574-0056-2 |                    |       |       |       | 50.8  |
| FX4C-80P-1.27DSA  | 574-0007-7 | 80                 | 59.97 | 52.68 | 49.53 | —     |
| FX4C-80P-1.27DSAL | 574-0057-5 |                    |       |       |       | 58.42 |

■Header (DIP Type)-Stacking Height: Standard+1mm type

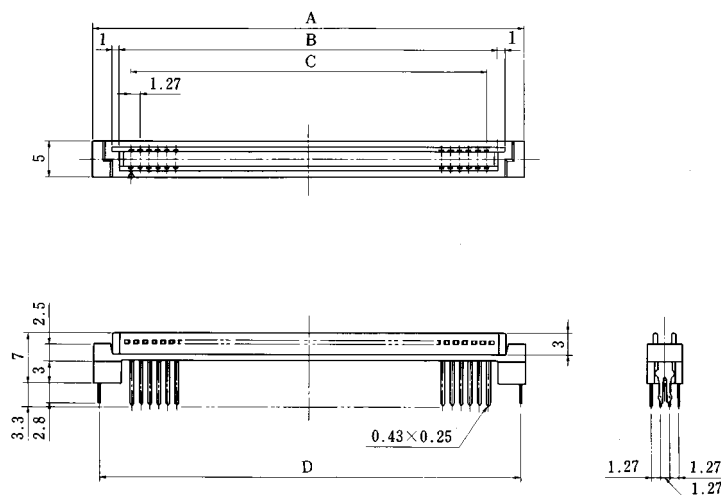


◆PCB mounting pattern

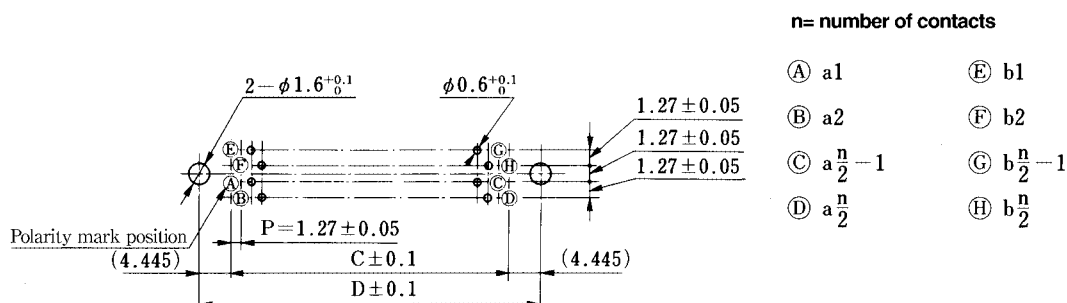


| Unit: mm           |            |                    |       |       |       |       |
|--------------------|------------|--------------------|-------|-------|-------|-------|
| Part Number        | CL No.     | Number of Contacts | A     | B     | C     | D     |
| FX4C1-20P-1.27DSA  | 574-0011-4 | 20                 | 21.87 | 14.58 | 11.43 | —     |
| FX4C1-20P-1.27DSAL | 574-0061-2 |                    |       |       |       | 20.32 |
| FX4C1-32P-1.27DSA  | 574-0012-7 | 32                 | 29.49 | 22.2  | 19.05 | —     |
| FX4C1-32P-1.27DSAL | 574-0062-5 |                    |       |       |       | 27.94 |
| FX4C1-40P-1.27DSA  | 574-0013-0 | 40                 | 34.57 | 27.28 | 24.13 | —     |
| FX4C1-40P-1.27DSAL | 574-0063-8 |                    |       |       |       | 33.02 |
| FX4C1-52P-1.27DSA  | 574-0014-2 | 52                 | 42.19 | 34.9  | 31.75 | —     |
| FX4C1-52P-1.27DSAL | 574-0064-0 |                    |       |       |       | 40.64 |
| FX4C1-60P-1.27DSA  | 574-0015-5 | 60                 | 47.27 | 39.98 | 36.83 | —     |
| FX4C1-60P-1.27DSAL | 574-0065-3 |                    |       |       |       | 45.72 |
| FX4C1-68P-1.27DSA  | 574-0016-8 | 68                 | 52.35 | 45.06 | 41.91 | —     |
| FX4C1-68P-1.27DSAL | 574-0066-6 |                    |       |       |       | 50.8  |
| FX4C1-80P-1.27DSA  | 574-0017-0 | 80                 | 59.97 | 52.68 | 49.53 | —     |
| FX4C1-80P-1.27DSAL | 574-0067-9 |                    |       |       |       | 58.42 |

## ■Header (DIP Type)-Stacking Height: Standard+3mm type



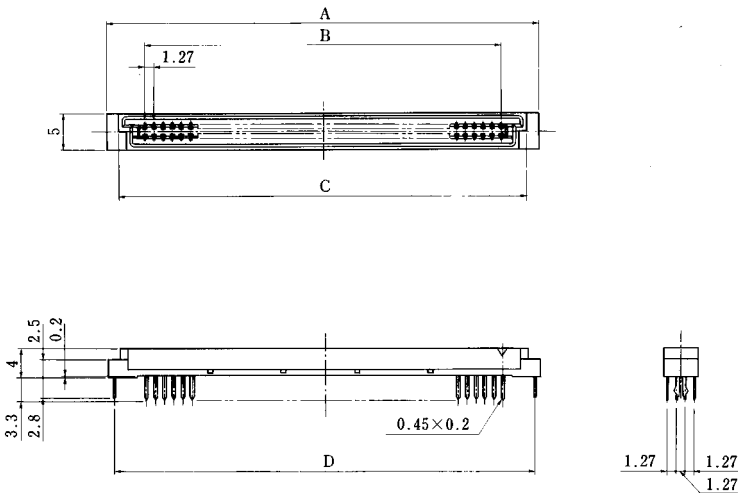
## ◆PCB mounting pattern



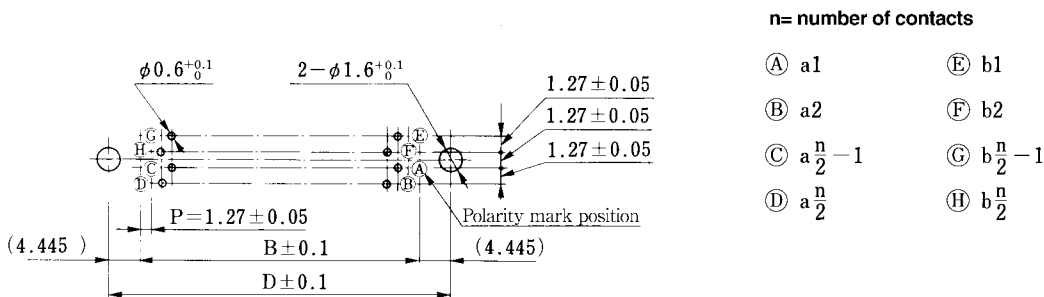
Unit: mm

| Part Number        | CL No.     | Number of Contacts | A     | B     | C     | D     |
|--------------------|------------|--------------------|-------|-------|-------|-------|
| FX4C3-20P-1.27DSA  | 574-0031-1 | 20                 | 21.87 | 14.58 | 11.43 | —     |
| FX4C3-20P-1.27DSAL | 574-0081-0 |                    |       |       |       | 20.32 |
| FX4C3-32P-1.27DSA  | 574-0032-4 | 32                 | 29.49 | 22.2  | 19.05 | —     |
| FX4C3-32P-1.27DSAL | 574-0082-2 |                    |       |       |       | 27.94 |
| FX4C3-40P-1.27DSA  | 574-0033-7 | 40                 | 34.57 | 27.28 | 24.13 | —     |
| FX4C3-40P-1.27DSAL | 574-0083-5 |                    |       |       |       | 33.02 |
| FX4C3-52P-1.27DSA  | 574-0034-0 | 52                 | 42.19 | 34.9  | 31.75 | —     |
| FX4C3-52P-1.27DSAL | 574-0084-8 |                    |       |       |       | 40.64 |
| FX4C3-60P-1.27DSA  | 574-0035-2 | 60                 | 47.27 | 39.98 | 36.83 | —     |
| FX4C3-60P-1.27DSAL | 574-0085-0 |                    |       |       |       | 45.72 |
| FX4C3-68P-1.27DSA  | 574-0036-5 | 68                 | 52.35 | 45.06 | 41.91 | —     |
| FX4C3-68P-1.27DSAL | 574-0086-3 |                    |       |       |       | 50.8  |
| FX4C3-80P-1.27DSA  | 574-0037-8 | 80                 | 59.97 | 52.68 | 49.53 | —     |
| FX4C3-80P-1.27DSAL | 574-0087-6 |                    |       |       |       | 58.42 |

■Receptacle (DIP Type)-Stacking Height: Standard type

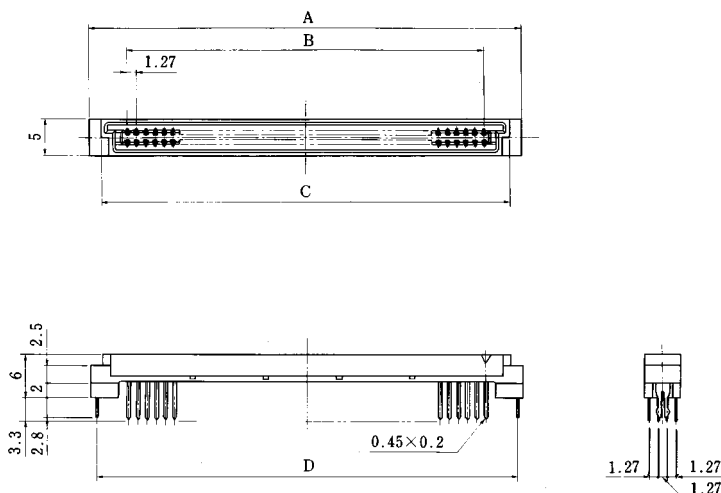


◆PCB mounting pattern

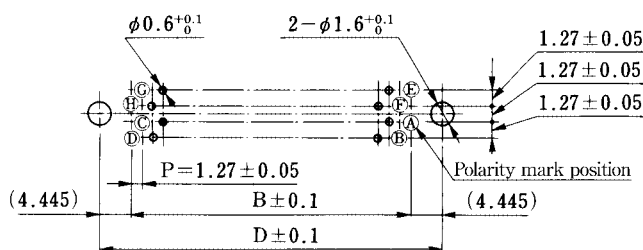


| Unit: mm          |            |                    |       |       |       |       |
|-------------------|------------|--------------------|-------|-------|-------|-------|
| Part Number       | CL No.     | Number of Contacts | A     | B     | C     | D     |
| FX4C-20S-1.27DSA  | 574-0101-5 | 20                 | 21.87 | 11.43 | 18.48 | —     |
| FX4C-20S-1.27DSAL | 574-0151-3 |                    |       |       |       | 20.32 |
| FX4C-32S-1.27DSA  | 574-0102-8 | 32                 | 29.49 | 19.05 | 26.1  | —     |
| FX4C-32S-1.27DSAL | 574-0152-6 |                    |       |       |       | 27.94 |
| FX4C-40S-1.27DSA  | 574-0103-0 | 40                 | 34.57 | 24.13 | 31.18 | —     |
| FX4C-40S-1.27DSAL | 574-0153-9 |                    |       |       |       | 33.02 |
| FX4C-52S-1.27DSA  | 574-0104-3 | 52                 | 42.19 | 31.75 | 38.8  | —     |
| FX4C-52S-1.27DSAL | 574-0154-1 |                    |       |       |       | 40.64 |
| FX4C-60S-1.27DSA  | 574-0105-6 | 60                 | 47.27 | 36.83 | 43.88 | —     |
| FX4C-60S-1.27DSAL | 574-0155-4 |                    |       |       |       | 45.72 |
| FX4C-68S-1.27DSA  | 574-0106-9 | 68                 | 52.35 | 41.91 | 48.96 | —     |
| FX4C-68S-1.27DSAL | 574-0156-7 |                    |       |       |       | 50.8  |
| FX4C-80S-1.27DSA  | 574-0107-1 | 80                 | 59.97 | 49.53 | 56.58 | —     |
| FX4C-80S-1.27DSAL | 574-0157-0 |                    |       |       |       | 58.42 |

## ■Receptacle (DIP Type)-Stacking Height: Standard+2mm type



## ◆PCB mounting pattern



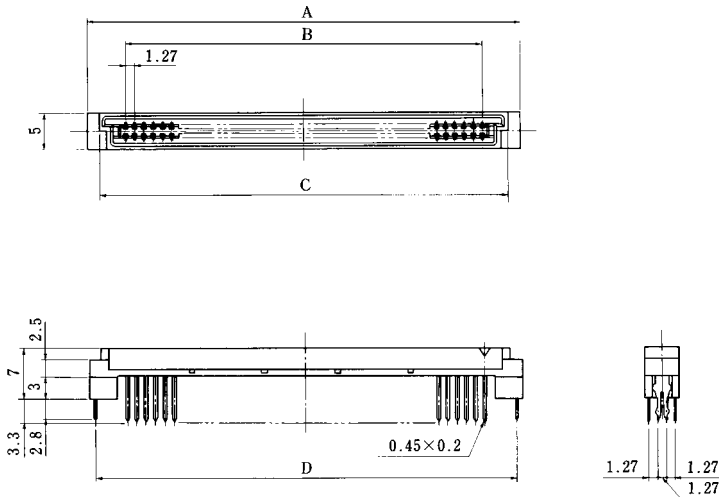
n= number of contacts

- |                       |                       |
|-----------------------|-----------------------|
| Ⓐ a1                  | Ⓔ b1                  |
| Ⓑ a2                  | Ⓕ b2                  |
| Ⓒ $a \frac{n}{2} - 1$ | Ⓖ $b \frac{n}{2} - 1$ |
| Ⓓ $a \frac{n}{2}$     | Ⓗ $b \frac{n}{2}$     |

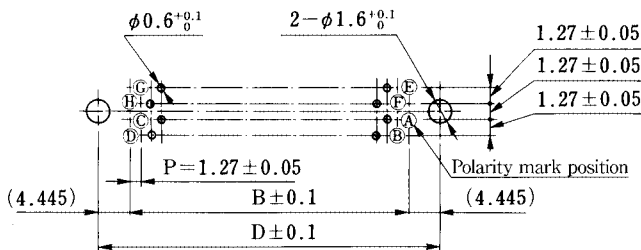
Unit: mm

| Part Number        | CL No.     | Number of Contacts | A     | B     | C     | D     |
|--------------------|------------|--------------------|-------|-------|-------|-------|
| FX4C2-20S-1.27DSA  | 574-0121-2 | 20                 | 21.87 | 11.43 | 18.48 | —     |
| FX4C2-20S-1.27DSAL | 574-0171-0 |                    |       |       |       | 20.32 |
| FX4C2-32S-1.27DSA  | 574-0122-5 | 32                 | 29.49 | 19.05 | 26.1  | —     |
| FX4C2-32S-1.27DSAL | 574-0172-3 |                    |       |       |       | 27.94 |
| FX4C2-40S-1.27DSA  | 574-0123-8 | 40                 | 34.57 | 24.13 | 31.18 | —     |
| FX4C2-40S-1.27DSAL | 574-0173-6 |                    |       |       |       | 33.02 |
| FX4C2-52S-1.27DSA  | 574-0124-0 | 52                 | 42.19 | 31.75 | 38.8  | —     |
| FX4C2-52S-1.27DSAL | 574-0174-9 |                    |       |       |       | 40.64 |
| FX4C2-60S-1.27DSA  | 574-0125-3 | 60                 | 47.27 | 36.83 | 43.88 | —     |
| FX4C2-60S-1.27DSAL | 574-0175-1 |                    |       |       |       | 45.72 |
| FX4C2-68S-1.27DSA  | 574-0126-6 | 68                 | 52.35 | 41.91 | 48.96 | —     |
| FX4C2-68S-1.27DSAL | 574-0176-4 |                    |       |       |       | 50.8  |
| FX4C2-80S-1.27DSA  | 574-0127-9 | 80                 | 59.97 | 49.53 | 56.58 | —     |
| FX4C2-80S-1.27DSAL | 574-0177-7 |                    |       |       |       | 58.42 |

■Receptacle (DIP Type)-Stacking Height: Standard+3mm type



◆PCB mounting pattern

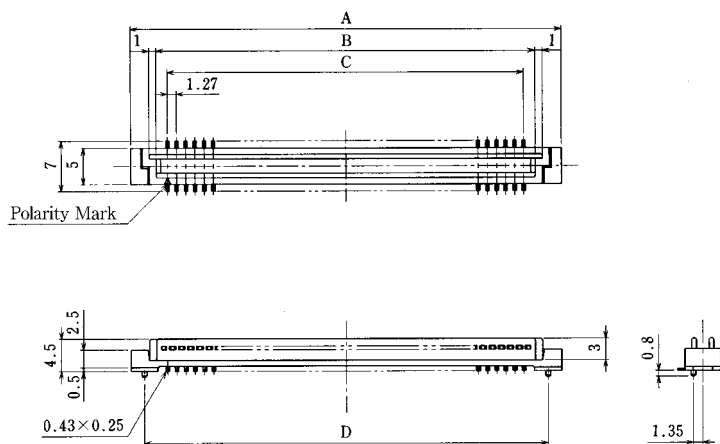


n= number of contacts

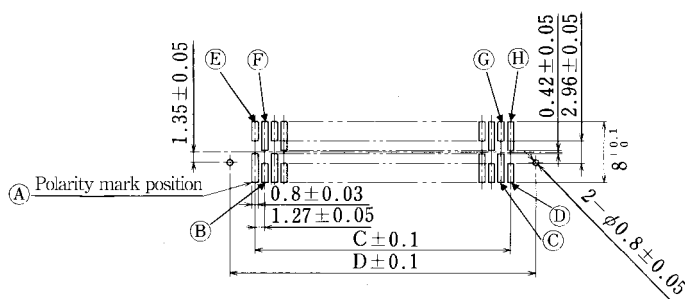
- Ⓐ a1
- Ⓑ a2
- Ⓒ  $a\frac{n}{2}-1$
- Ⓓ  $a\frac{n}{2}$
- Ⓔ b1
- Ⓕ b2
- Ⓖ  $b\frac{n}{2}-1$
- Ⓗ  $b\frac{n}{2}$

| Unit: mm           |            |                    |       |       |       |       |
|--------------------|------------|--------------------|-------|-------|-------|-------|
| Part Number        | CL No.     | Number of Contacts | A     | B     | C     | D     |
| FX4C3-20S-1.27DSA  | 574-0131-6 | 20                 | 21.87 | 11.43 | 18.48 | —     |
| FX4C3-20S-1.27DSAL | 574-0181-4 |                    |       |       |       | 20.32 |
| FX4C3-32S-1.27DSA  | 574-0132-9 | 32                 | 29.49 | 19.05 | 26.1  | —     |
| FX4C3-32S-1.27DSAL | 574-0182-7 |                    |       |       |       | 27.94 |
| FX4C3-40S-1.27DSA  | 574-0133-1 | 40                 | 34.57 | 24.13 | 31.18 | —     |
| FX4C3-40S-1.27DSAL | 574-0183-0 |                    |       |       |       | 33.02 |
| FX4C3-52S-1.27DSA  | 574-0134-4 | 52                 | 42.19 | 31.75 | 38.8  | —     |
| FX4C3-52S-1.27DSAL | 574-0184-2 |                    |       |       |       | 40.64 |
| FX4C3-60S-1.27DSA  | 574-0135-7 | 60                 | 47.27 | 36.83 | 43.88 | —     |
| FX4C3-60S-1.27DSAL | 574-0185-5 |                    |       |       |       | 45.72 |
| FX4C3-68S-1.27DSA  | 574-0136-0 | 68                 | 52.35 | 41.91 | 48.96 | —     |
| FX4C3-68S-1.27DSAL | 574-0186-8 |                    |       |       |       | 50.8  |
| FX4C3-80S-1.27DSA  | 574-0137-2 | 80                 | 59.97 | 49.53 | 56.58 | —     |
| FX4C3-80S-1.27DSAL | 574-0187-0 |                    |       |       |       | 58.42 |

## ■Header (SMT Type)-Stacking Height: Standard+0.5mm type



## ◆PCB mounting pattern



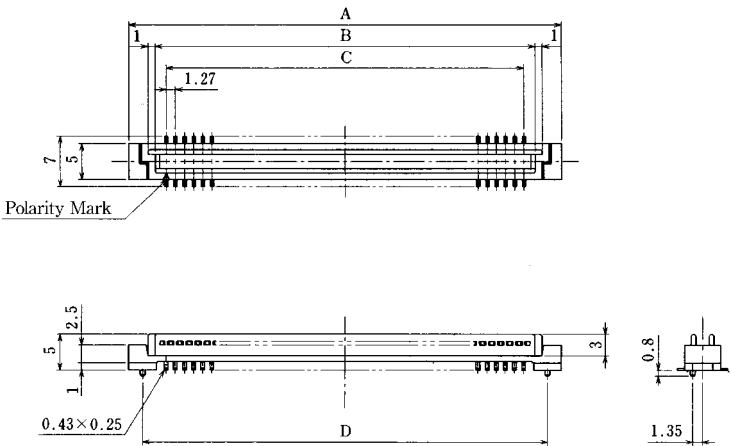
n= number of contacts

- |                    |                    |
|--------------------|--------------------|
| Ⓐ a1               | Ⓔ b1               |
| Ⓑ a2               | Ⓕ b2               |
| Ⓒ $a\frac{n}{2}-1$ | Ⓖ $b\frac{n}{2}-1$ |
| Ⓓ $a\frac{n}{2}$   | Ⓗ $b\frac{n}{2}$   |

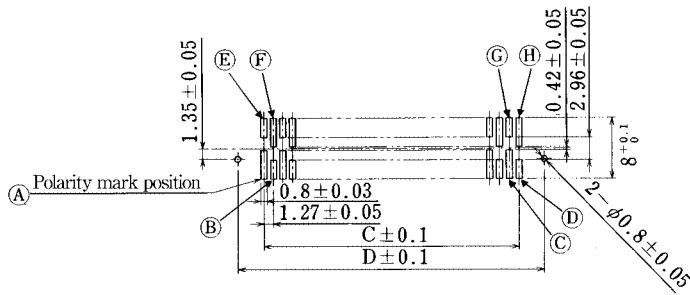
Unit: mm

| Part Number      | CL No.     | Number of Contacts | A     | B     | C     | D     | Positioning Boss |
|------------------|------------|--------------------|-------|-------|-------|-------|------------------|
| FX4AH-20P-1.27SV | 574-0401-9 | 20                 | 21.87 | 14.58 | 11.43 | —     | No               |
| FX4BH-20P-1.27SV | 574-0201-0 |                    |       |       |       | 18.07 | Yes              |
| FX4AH-32P-1.27SV | 574-0402-1 | 32                 | 29.49 | 22.2  | 19.05 | —     | No               |
| FX4BH-32P-1.27SV | 574-0202-2 |                    |       |       |       | 25.69 | Yes              |
| FX4AH-40P-1.27SV | 574-0403-4 | 40                 | 34.57 | 27.28 | 24.13 | —     | No               |
| FX4BH-40P-1.27SV | 574-0203-5 |                    |       |       |       | 30.77 | Yes              |
| FX4AH-52P-1.27SV | 574-0404-7 | 52                 | 42.19 | 34.9  | 31.75 | —     | No               |
| FX4BH-52P-1.27SV | 574-0204-8 |                    |       |       |       | 38.39 | Yes              |
| FX4AH-60P-1.27SV | 574-0405-0 | 60                 | 47.27 | 39.98 | 36.83 | —     | No               |
| FX4BH-60P-1.27SV | 574-0205-0 |                    |       |       |       | 43.47 | Yes              |
| FX4AH-68P-1.27SV | 574-0406-2 | 68                 | 52.35 | 45.06 | 41.91 | —     | No               |
| FX4BH-68P-1.27SV | 574-0206-3 |                    |       |       |       | 48.55 | Yes              |
| FX4AH-80P-1.27SV | 574-0407-5 | 80                 | 59.97 | 52.68 | 49.53 | —     | No               |
| FX4BH-80P-1.27SV | 574-0207-6 |                    |       |       |       | 56.17 | Yes              |

■Header (SMT Type)-Stacking Height: Standard+1mm type



◆PCB mounting pattern

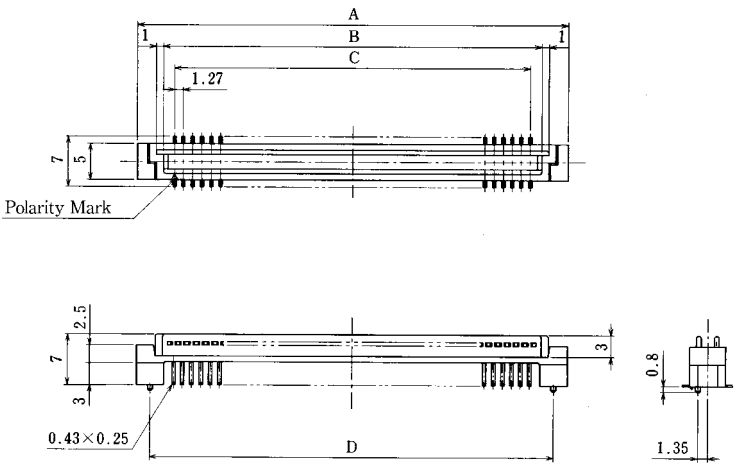


n= number of contacts

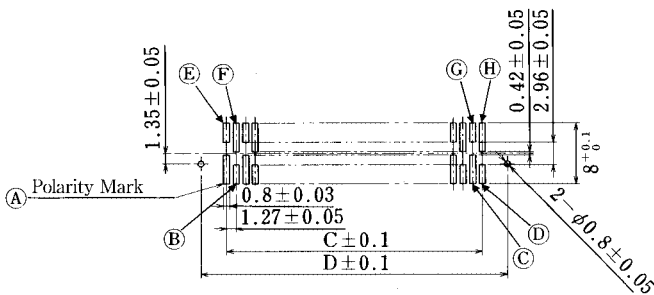
- Ⓐ a1
- Ⓑ a2
- Ⓒ  $a\frac{n}{2}-1$
- Ⓓ  $a\frac{n}{2}$
- Ⓔ b1
- Ⓕ b2
- Ⓖ  $b\frac{n}{2}-1$
- Ⓗ  $b\frac{n}{2}$

| Unit: mm         |            |                    |       |       |       |       |                  |
|------------------|------------|--------------------|-------|-------|-------|-------|------------------|
| Part Number      | CL No.     | Number of Contacts | A     | B     | C     | D     | Positioning Boss |
| FX4A1-20P-1.27SV | 574-0411-2 | 20                 | 21.87 | 14.58 | 11.43 | —     | No               |
| FX4B1-20P-1.27SV | 574-0211-3 |                    |       |       |       | 18.07 | Yes              |
| FX4A1-32P-1.27SV | 574-0412-5 | 32                 | 29.49 | 22.2  | 19.05 | —     | No               |
| FX4B1-32P-1.27SV | 574-0212-6 |                    |       |       |       | 25.69 | Yes              |
| FX4A1-40P-1.27SV | 574-0413-8 | 40                 | 34.57 | 27.28 | 24.13 | —     | No               |
| FX4B1-40P-1.27SV | 574-0213-9 |                    |       |       |       | 30.77 | Yes              |
| FX4A1-52P-1.27SV | 574-0414-0 | 52                 | 42.19 | 34.9  | 31.75 | —     | No               |
| FX4B1-52P-1.27SV | 574-0214-1 |                    |       |       |       | 38.39 | Yes              |
| FX4A1-60P-1.27SV | 574-0415-3 | 60                 | 47.27 | 39.98 | 36.83 | —     | No               |
| FX4B1-60P-1.27SV | 574-0215-4 |                    |       |       |       | 43.47 | Yes              |
| FX4A1-68P-1.27SV | 574-0416-6 | 68                 | 52.35 | 45.06 | 41.91 | —     | No               |
| FX4B1-68P-1.27SV | 574-0216-7 |                    |       |       |       | 48.55 | Yes              |
| FX4A1-80P-1.27SV | 574-0417-9 | 80                 | 59.97 | 52.68 | 49.53 | —     | No               |
| FX4B1-80P-1.27SV | 574-0217-0 |                    |       |       |       | 56.17 | Yes              |

■Header (SMT Type)-Stacking Height: Standard+3mm type



◆PCB mounting pattern



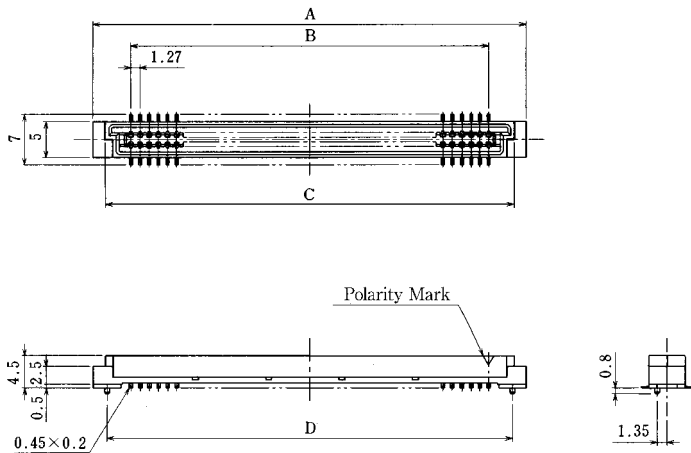
n= number of contacts

- (A) a1 (E) b1  
(B) a2 (F) b2  
(C)  $a\frac{n}{2}-1$  (G)  $b\frac{n}{2}-1$   
(D)  $a\frac{n}{2}$  (H)  $b\frac{n}{2}$

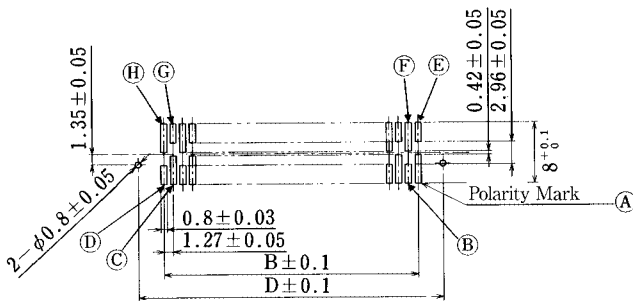
Unit: mm

| Part Number      | CL No.     | Number of Contacts | A     | B     | C     | D     | Positioning Boss |
|------------------|------------|--------------------|-------|-------|-------|-------|------------------|
| FX4A3-20P-1.27SV | 574-0431-0 | 20                 | 21.87 | 14.58 | 11.43 | —     | No               |
| FX4B3-20P-1.27SV | 574-0231-0 |                    |       |       |       | 18.07 | Yes              |
| FX4A3-32P-1.27SV | 574-0432-2 | 32                 | 29.49 | 22.2  | 19.05 | —     | No               |
| FX4B3-32P-1.27SV | 574-0232-3 |                    |       |       |       | 25.69 | Yes              |
| FX4A3-40P-1.27SV | 574-0433-5 | 40                 | 34.57 | 27.28 | 24.13 | —     | No               |
| FX4B3-40P-1.27SV | 574-0233-6 |                    |       |       |       | 30.77 | Yes              |
| FX4A3-52P-1.27SV | 574-0434-8 | 52                 | 42.19 | 34.9  | 31.75 | —     | No               |
| FX4B3-52P-1.27SV | 574-0234-9 |                    |       |       |       | 38.39 | Yes              |
| FX4A3-60P-1.27SV | 574-0435-0 | 60                 | 47.27 | 39.98 | 36.83 | —     | No               |
| FX4B3-60P-1.27SV | 574-0235-1 |                    |       |       |       | 43.47 | Yes              |
| FX4A3-68P-1.27SV | 574-0436-3 | 68                 | 52.35 | 45.06 | 41.91 | —     | No               |
| FX4B3-68P-1.27SV | 574-0236-4 |                    |       |       |       | 48.55 | Yes              |
| FX4A3-80P-1.27SV | 574-0437-6 | 80                 | 59.97 | 52.68 | 49.53 | —     | No               |
| FX4B3-80P-1.27SV | 574-0237-7 |                    |       |       |       | 56.17 | Yes              |

■Receptacle (SMT Type)-Stacking Height: Standard+0.5mm type



◆PCB mounting pattern



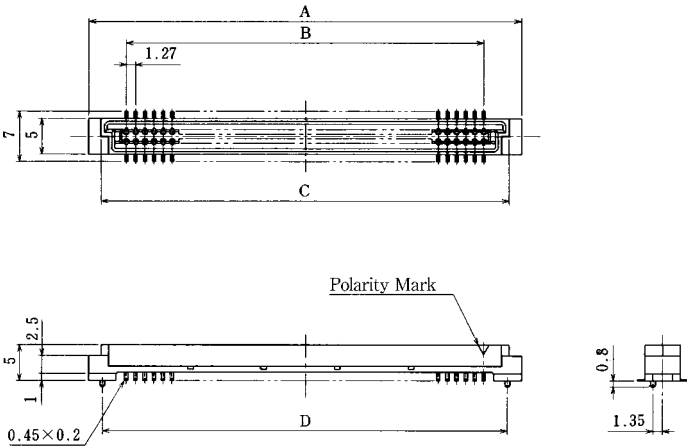
n= number of contacts

- |                    |                    |
|--------------------|--------------------|
| Ⓐ a1               | Ⓔ b1               |
| Ⓑ a2               | Ⓕ b2               |
| Ⓒ $a\frac{n}{2}-1$ | Ⓖ $b\frac{n}{2}-1$ |
| Ⓓ $a\frac{n}{2}$   | Ⓗ $b\frac{n}{2}$   |

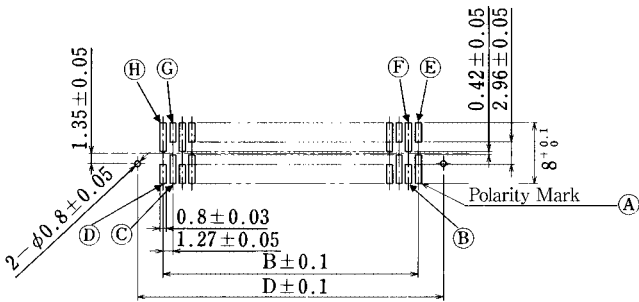
Unit: mm

| Part Number      | CL No.     | Number of Contacts | A     | B     | C     | D     | Positioning Boss |
|------------------|------------|--------------------|-------|-------|-------|-------|------------------|
| FX4AH-20S-1.27SV | 574-0501-3 | 20                 | 21.87 | 11.43 | 18.48 | —     | No               |
| FX4BH-20S-1.27SV | 574-0301-4 |                    |       |       |       | 18.07 | Yes              |
| FX4AH-32S-1.27SV | 574-0502-6 | 32                 | 29.49 | 19.05 | 26.1  | —     | No               |
| FX4BH-32S-1.27SV | 574-0302-7 |                    |       |       |       | 25.69 | Yes              |
| FX4AH-40S-1.27SV | 574-0503-9 | 40                 | 34.57 | 24.13 | 31.18 | —     | No               |
| FX4BH-40S-1.27SV | 574-0303-0 |                    |       |       |       | 30.77 | Yes              |
| FX4AH-52S-1.27SV | 574-0504-1 | 52                 | 42.19 | 31.75 | 38.8  | —     | No               |
| FX4BH-52S-1.27SV | 574-0304-2 |                    |       |       |       | 38.39 | Yes              |
| FX4AH-60S-1.27SV | 574-0505-4 | 60                 | 47.27 | 36.83 | 43.88 | —     | No               |
| FX4BH-60S-1.27SV | 574-0305-5 |                    |       |       |       | 43.47 | Yes              |
| FX4AH-68S-1.27SV | 574-0506-7 | 68                 | 52.35 | 41.91 | 48.96 | —     | No               |
| FX4BH-68S-1.27SV | 574-0306-8 |                    |       |       |       | 48.55 | Yes              |
| FX4AH-80S-1.27SV | 574-0507-0 | 80                 | 59.97 | 49.53 | 56.58 | —     | No               |
| FX4BH-80S-1.27SV | 574-0307-0 |                    |       |       |       | 56.17 | Yes              |

■Receptacle (SMT Type)-Stacking Height: Standard+1mm type



◆PCB mounting pattern

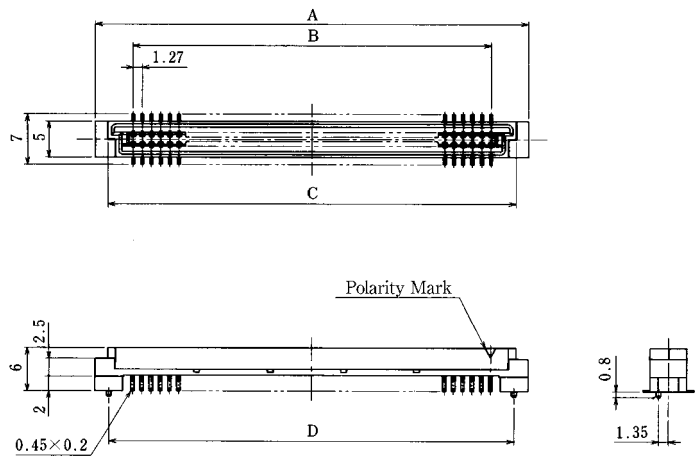


- n= number of contacts
- |                      |                      |
|----------------------|----------------------|
| (A) a1               | (E) b1               |
| (B) a2               | (F) b2               |
| (C) $a\frac{n}{2}-1$ | (G) $b\frac{n}{2}-1$ |
| (D) $a\frac{n}{2}$   | (H) $b\frac{n}{2}$   |

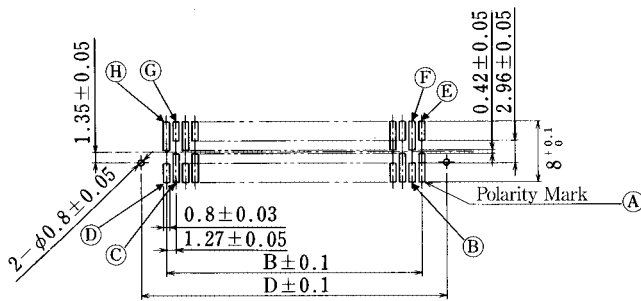
Unit: mm

| Part Number      | CL No.     | Number of Contacts | A     | B     | C     | D     | Positioning Boss |
|------------------|------------|--------------------|-------|-------|-------|-------|------------------|
| FX4A1-20S-1.27SV | 574-0511-7 | 20                 | 21.87 | 11.43 | 18.48 | —     | No               |
| FX4B1-20S-1.27SV | 574-0311-8 |                    |       |       |       | 18.07 | Yes              |
| FX4A1-32S-1.27SV | 574-0512-0 | 32                 | 29.49 | 19.05 | 26.1  | —     | No               |
| FX4B1-32S-1.27SV | 574-0312-0 |                    |       |       |       | 25.69 | Yes              |
| FX4A1-40S-1.27SV | 574-0513-2 | 40                 | 34.57 | 24.13 | 31.18 | —     | No               |
| FX4B1-40S-1.27SV | 574-0313-3 |                    |       |       |       | 30.77 | Yes              |
| FX4A1-52S-1.27SV | 574-0514-5 | 52                 | 42.19 | 31.75 | 38.8  | —     | No               |
| FX4B1-52S-1.27SV | 574-0314-6 |                    |       |       |       | 38.39 | Yes              |
| FX4A1-60S-1.27SV | 574-0515-8 | 60                 | 47.27 | 36.83 | 43.88 | —     | No               |
| FX4B1-60S-1.27SV | 574-0315-9 |                    |       |       |       | 43.47 | Yes              |
| FX4A1-68S-1.27SV | 574-0516-0 | 68                 | 52.35 | 41.91 | 48.96 | —     | No               |
| FX4B1-68S-1.27SV | 574-0316-1 |                    |       |       |       | 48.55 | Yes              |
| FX4A1-80S-1.27SV | 574-0517-3 | 80                 | 59.97 | 49.53 | 56.58 | —     | No               |
| FX4B1-80S-1.27SV | 574-0317-4 |                    |       |       |       | 56.17 | Yes              |

■Receptacle (SMT Type)-Stacking Height: Standard+2mm type



◆PCB mounting pattern

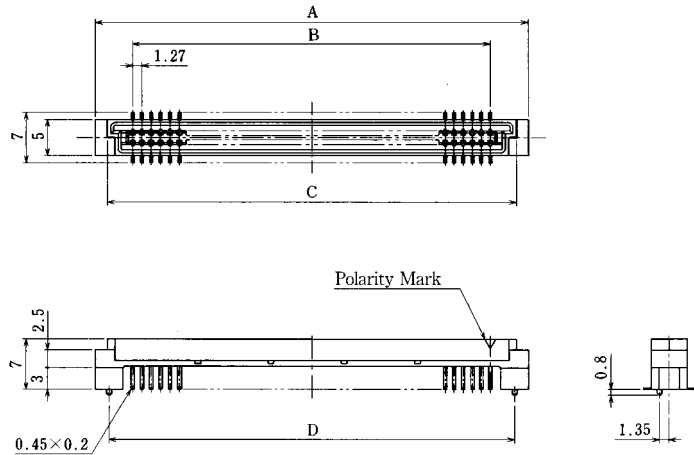


n= number of contacts

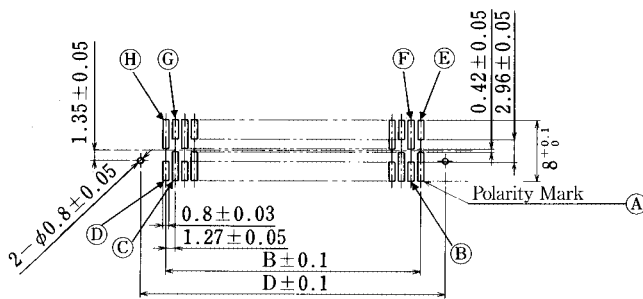
- Ⓐ a1
- Ⓑ a2
- Ⓒ  $a\frac{n}{2}-1$
- Ⓓ  $a\frac{n}{2}$
- Ⓔ b1
- Ⓕ b2
- Ⓖ  $b\frac{n}{2}-1$
- Ⓗ  $b\frac{n}{2}$

| Unit: mm         |            |                    |       |       |       |       |                  |
|------------------|------------|--------------------|-------|-------|-------|-------|------------------|
| Part Number      | CL No.     | Number of Contacts | A     | B     | C     | D     | Positioning Boss |
| FX4A2-20S-1.27SV | 574-0521-0 | 20                 | 21.87 | 11.43 | 18.48 | —     | No               |
| FX4B2-20S-1.27SV | 574-0321-1 |                    |       |       |       | 18.07 | Yes              |
| FX4A2-32S-1.27SV | 574-0522-3 | 32                 | 29.49 | 19.05 | 26.1  | —     | No               |
| FX4B2-32S-1.27SV | 574-0322-4 |                    |       |       |       | 25.69 | Yes              |
| FX4A2-40S-1.27SV | 574-0523-6 | 40                 | 34.57 | 24.13 | 31.18 | —     | No               |
| FX4B2-40S-1.27SV | 574-0323-7 |                    |       |       |       | 30.77 | Yes              |
| FX4A2-52S-1.27SV | 574-0524-9 | 52                 | 42.19 | 31.75 | 38.8  | —     | No               |
| FX4B2-52S-1.27SV | 574-0324-0 |                    |       |       |       | 38.39 | Yes              |
| FX4A2-60S-1.27SV | 574-0525-1 | 60                 | 47.27 | 36.83 | 43.88 | —     | No               |
| FX4B2-60S-1.27SV | 574-0325-2 |                    |       |       |       | 43.47 | Yes              |
| FX4A2-68S-1.27SV | 574-0526-4 | 68                 | 52.35 | 41.91 | 48.96 | —     | No               |
| FX4B2-68S-1.27SV | 574-0326-5 |                    |       |       |       | 48.55 | Yes              |
| FX4A2-80S-1.27SV | 574-0527-7 | 80                 | 59.97 | 49.53 | 56.58 | —     | No               |
| FX4B2-80S-1.27SV | 574-0327-8 |                    |       |       |       | 56.17 | Yes              |

■Receptacle (SMT Type)-Stacking Height: Standard+3mm type



◆PCB mounting pattern



n= number of contacts

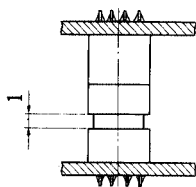
- |                    |                    |
|--------------------|--------------------|
| Ⓐ a1               | Ⓔ b1               |
| Ⓑ a2               | Ⓕ b2               |
| Ⓒ $a\frac{n}{2}-1$ | Ⓖ $b\frac{n}{2}-1$ |
| Ⓓ $a\frac{n}{2}$   | Ⓗ $b\frac{n}{2}$   |

Unit: mm

| Part Number      | CL No.     | Number of Contacts | A     | B     | C     | D     | Positioning Boss |
|------------------|------------|--------------------|-------|-------|-------|-------|------------------|
| FX4A3-20S-1.27SV | 574-0531-4 | 20                 | 21.87 | 11.43 | 18.48 | —     | No               |
| FX4B3-20S-1.27SV | 574-0331-5 |                    |       |       |       | 18.07 | Yes              |
| FX4A3-32S-1.27SV | 574-0532-7 | 32                 | 29.49 | 19.05 | 26.1  | —     | No               |
| FX4B3-32S-1.27SV | 574-0332-8 |                    |       |       |       | 25.69 | Yes              |
| FX4A3-40S-1.27SV | 574-0533-0 | 40                 | 34.57 | 24.13 | 31.18 | —     | No               |
| FX4B3-40S-1.27SV | 574-0333-0 |                    |       |       |       | 30.77 | Yes              |
| FX4A3-52S-1.27SV | 574-0534-2 | 52                 | 42.19 | 31.75 | 38.8  | —     | No               |
| FX4B3-52S-1.27SV | 574-0334-3 |                    |       |       |       | 38.39 | Yes              |
| FX4A3-60S-1.27SV | 574-0535-5 | 60                 | 47.27 | 36.83 | 43.88 | —     | No               |
| FX4B3-60S-1.27SV | 574-0335-6 |                    |       |       |       | 43.47 | Yes              |
| FX4A3-68S-1.27SV | 574-0536-8 | 68                 | 52.35 | 41.91 | 48.96 | —     | No               |
| FX4B3-68S-1.27SV | 574-0336-9 |                    |       |       |       | 48.55 | Yes              |
| FX4A3-80S-1.27SV | 574-0537-0 | 80                 | 59.97 | 49.53 | 56.58 | —     | No               |
| FX4B3-80S-1.27SV | 574-0337-1 |                    |       |       |       | 56.17 | Yes              |

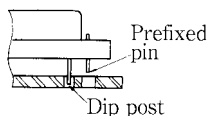
## ◆ Connector Precautions for Use

### 1. Tolerance Clearance on Mating Side



The effective connecting length of the product is set to 1.5mm. Please use the product to specify the clearance between the header and the receptacle in the connection process within 1mm.

### 2. Prefixed Process to Board (Dip Type)

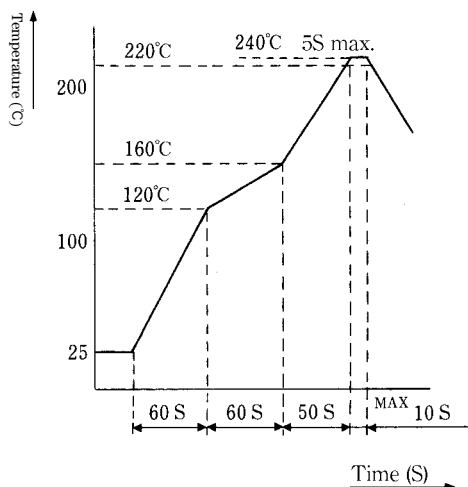


If the prefixed work is required for mounting on the board, please use the prefixed pin type. (Applicable board thickness  $t = 1.6 \pm 0.1$ )

**Cautions:** When the connector is installed in the board, the dip post is guided into the board through-hole in order to prevent the dip post breakage, and then insert the board in parallel to the connector so as to push in the prefixed pin.

### 3. Mounting Temperature Profile (Reference)

#### ● IR Reflow



#### Applicable Conditions

|               |                                                                     |
|---------------|---------------------------------------------------------------------|
| Reflow system | : IR reflow                                                         |
| Solder        | : Paste type 63 Sn/37 Pb<br>(Flux content 11 wt%)                   |
| Test board    | : Glass epoxy 110mm x 40mm x 0.8 mm<br>Metal mask thickness: 0.2 mm |

#### Recommended temperature profile.

The temperature may be slightly changed according to the solder paste type and amount.

In addition, the temperature profile as shown left will be variable in 5% less or more according to number of contacts, height or other factors.

**Note:**  
The heat-proof cover is also equipped on the header side.