

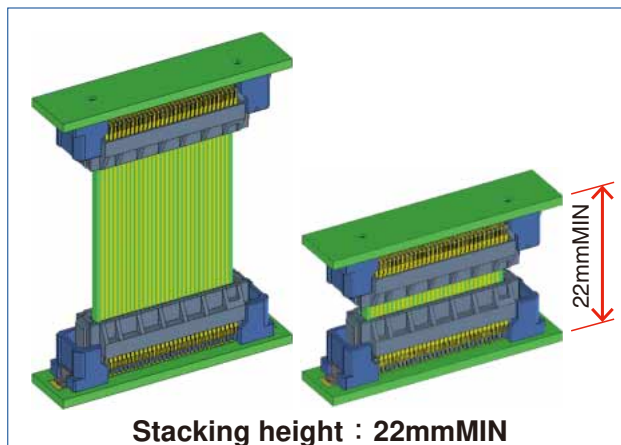
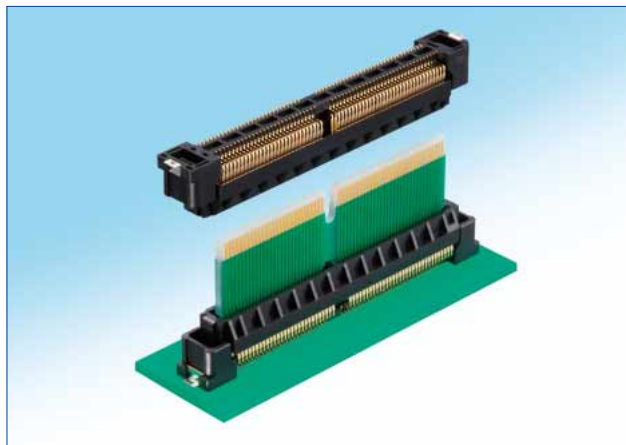


**EN:** This Datasheet/Document is presented by the manufacturer.

Please visit our website for pricing and availability at [www.hestore.hu](http://www.hestore.hu).

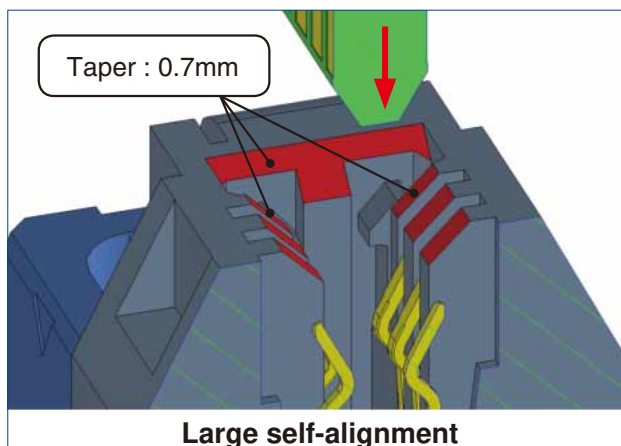
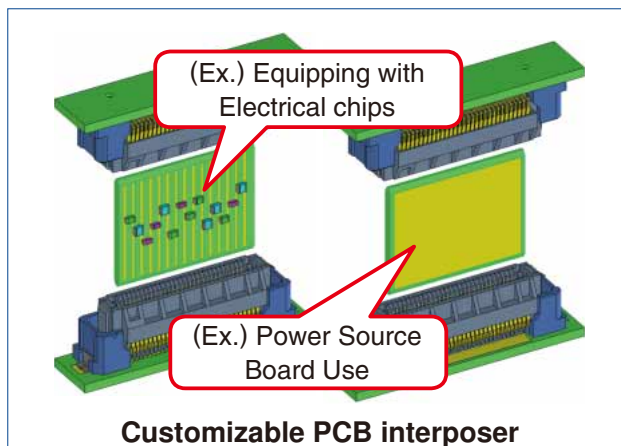
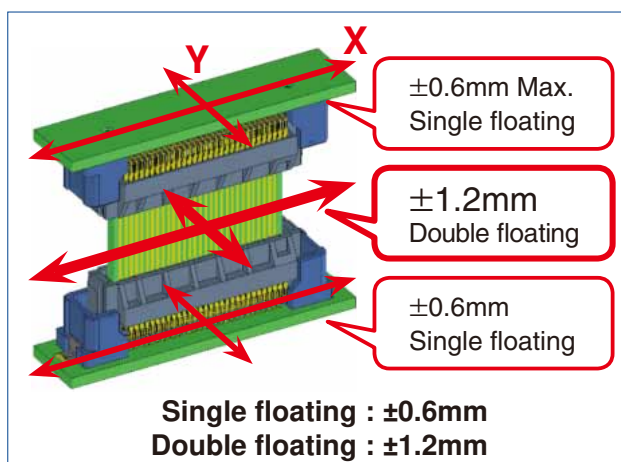
# 0.8mm Pitch Floating Card Edge Connector

FX27 Series



## ■Features

1. **Contact pitch : 0.8mm**
2. **Stacking Height : 22mm Min.**  
Adjustable height by selecting different PCB interposer heights.
3. **Pin Varieties : 40/60/80/100/120**
4. **Floating Range : 0.6mm Max. in X and Y directions**  
Floating range by using two FX27 connectors is  $\pm 1.2\text{mm}$  max.
5. **High-speed Transmission : 2.5Gbps (PCIe-Gen.1)**
6. **Customizable interposer PCB**
7. **Current capacity : 0.5A/pin**
8. **Pick & Place Mounting (suction tape attached as standard)**
9. **Large guide post for excellent mating performance**  
Easy mating operation due to large self-alignment range.



## Product Specifications

|         |                         |                                                                                                   |
|---------|-------------------------|---------------------------------------------------------------------------------------------------|
| Ratings | Rated Current : 0.5A    | Operating Temperature : -55 to 105°C (Note 1)                                                     |
|         |                         | Storage temperature : -10 to 60°C (Note 2)                                                        |
|         | Rated Voltage : 100V AC | Operating/storage humidity range : 85% or less relative humidity (No dew condensation is allowed) |

| Items                    | Specifications                                                              | Conditions                                                                                                                   |
|--------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 1. Contact resistance    | 30mΩ Max. (Note 3)                                                          | Measured at 100mA                                                                                                            |
| 2. Insulation Resistance | 1,000MΩ or more                                                             | Measured at 250V DC                                                                                                          |
| 3. Withstanding Voltage  | No flashover or breakdown                                                   | Energized at 300V AC for 1 minute                                                                                            |
| 4. Mating durability     | Contact Resistance 40mΩ Max. (Note 3)                                       | 100 Insertion/Extraction cycles                                                                                              |
| 5. Vibration proof       | No electrical discontinuity of 1μ or more.                                  | Frequency 10-55Hz, half amplitude 0.75mm, 10 cycles in each of the 3-axis directions each for 5 minutes per cycle            |
| 6. Shock resistance      | No electrical discontinuity of 1μ or more.                                  | Acceleration of 490m/s <sup>2</sup> ; duration 11ms, sine half-wave, 3 cycles in each of the 3 axes each in both directions. |
| 7. Moisture resistance   | Contact Resistance 40mΩ max. (Note 3)<br>Insulation Resistance 1,000MΩ max. | Left for 96 hours at 40°C and a humidity of 90 to 95%                                                                        |
| 8. Temperature cycle     | Contact Resistance 40mΩ max. (Note 3)<br>Insulation Resistance 1,000MΩ max. | Temperature -55 → 85°C<br>Time 30 → 30min. for 5 cycles                                                                      |

Note 1 : Includes the temperature rise caused by current flow.

Note 2 : The term storage refers to the long-term storage condition of unused products prior to mounting on PCB.

Note 3 : Contact resistance for 1 connector. Does not include the conductor resistance of the PCB interposer when mated.

## Materials / Finish

| Part       | Materials       | Finish/Remarks                                              | Standard |
|------------|-----------------|-------------------------------------------------------------|----------|
| Insulator  | Polyamide resin | Black                                                       | UL94V-0  |
| Contact    | Copper alloy    | Contact part : gold plating<br>Mounting part : gold plating | —        |
| Solder tab | Brass           | Reflow tin plating                                          | —        |

Product Number Structure

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

Straight receptacle

FX27 - 120 S - 0.8 SV

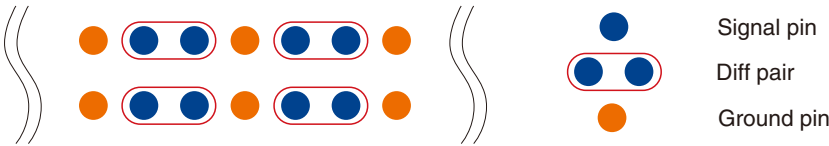
①      ②      ③      ④      ⑤

|                  |                     |
|------------------|---------------------|
| ① Series Name    | : FX27              |
| ② No. of pos.    |                     |
| ③ Connector type | S : Receptacle type |
| ④ Contact pitch  | : 0.8mm             |
| ⑤ Product type   | SV : Straight type  |

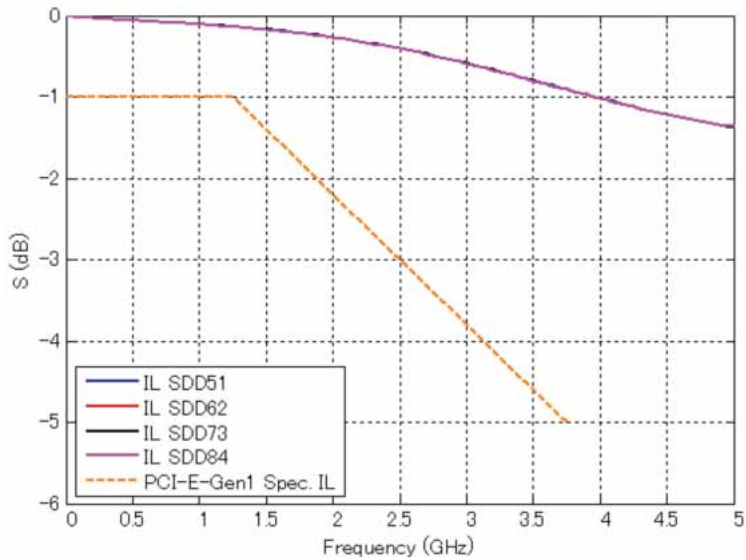
High-speed transmission property

Pin assignment

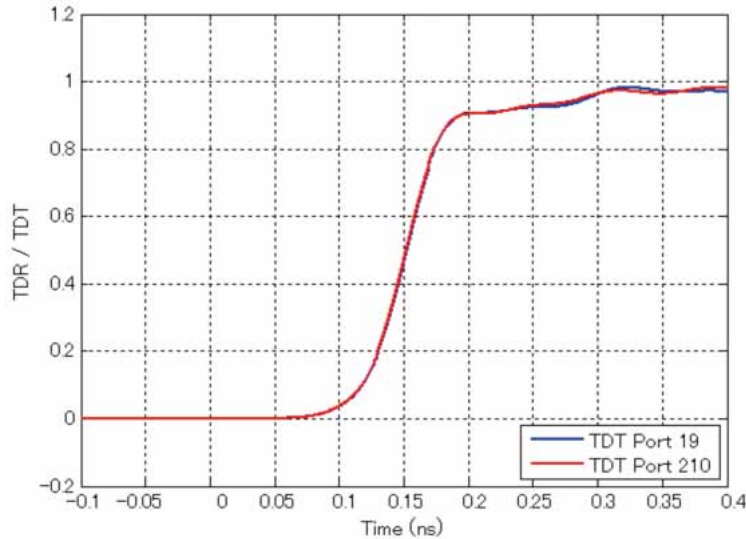
The following pin arrangement is recommended to match the 100Ω differential impedance and to contain cross-talk.



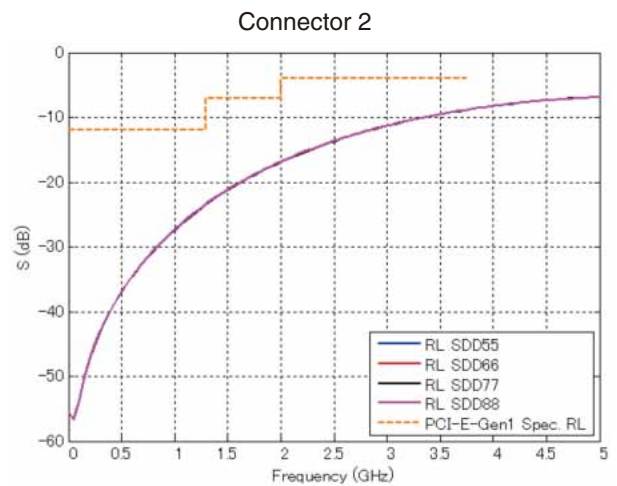
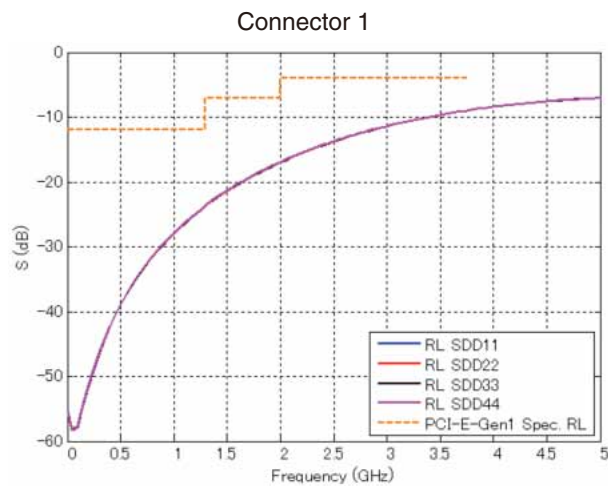
Insertion Loss



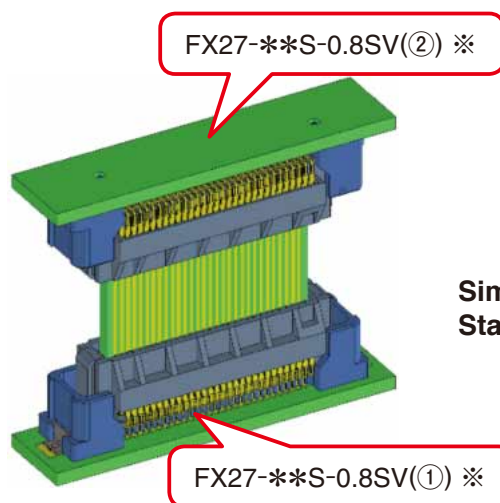
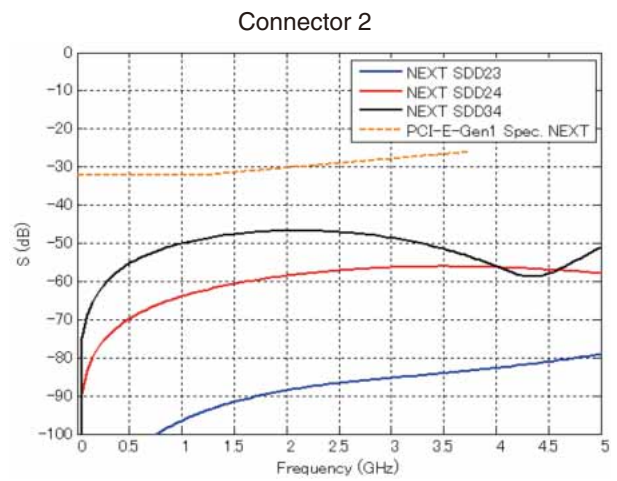
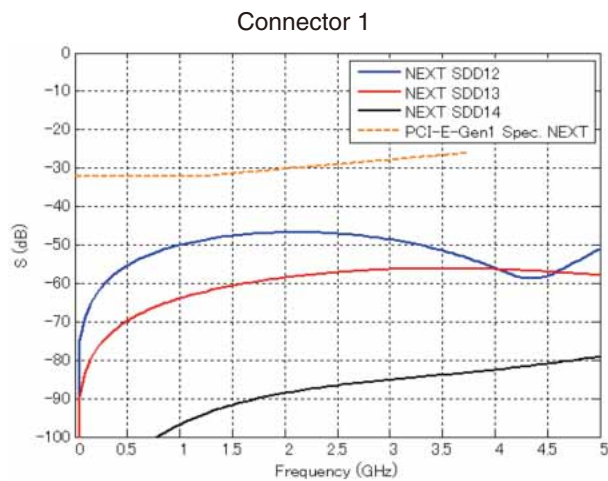
Intra-pair skew



## Return loss



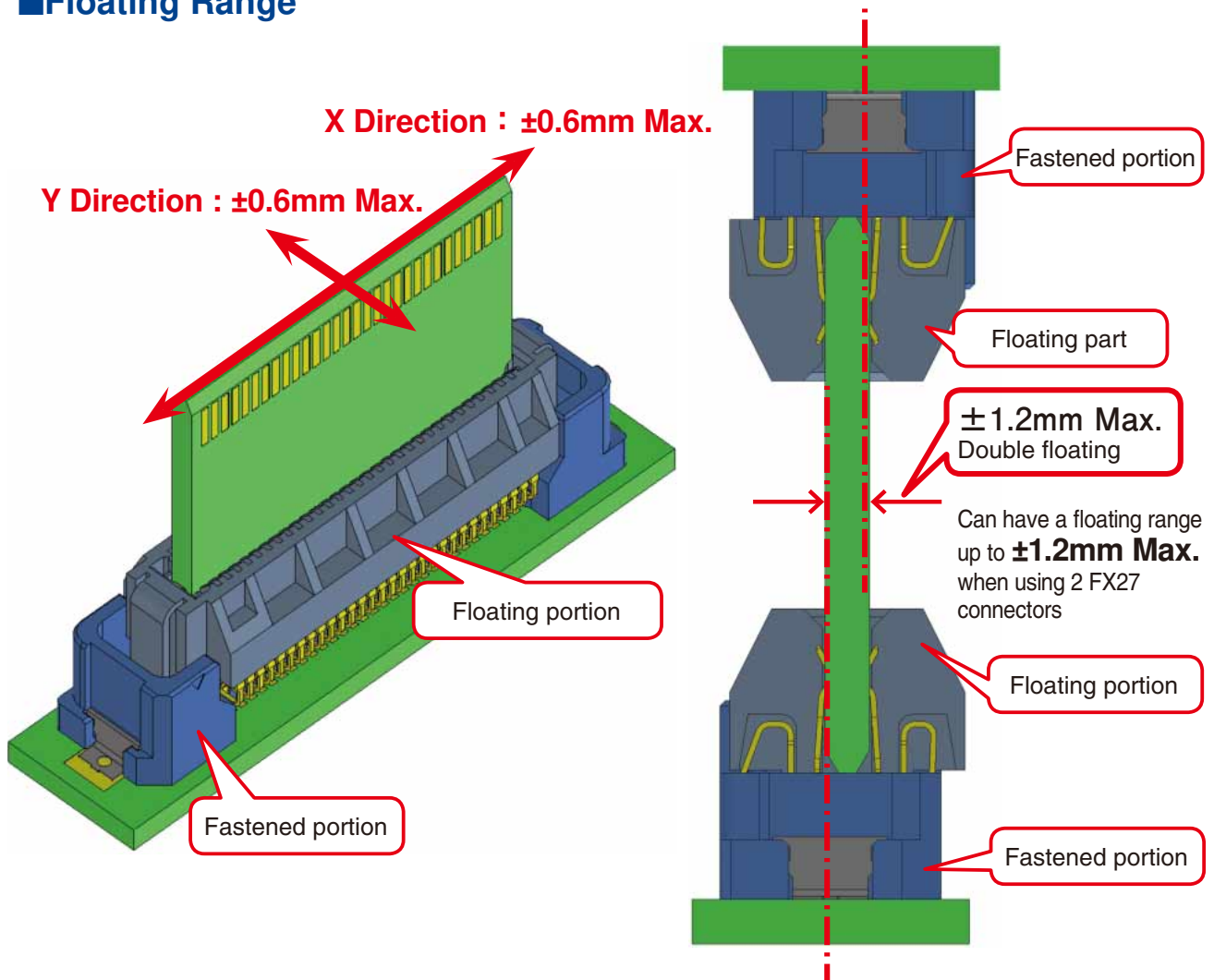
## Near End Cross-Talk (NEXT)



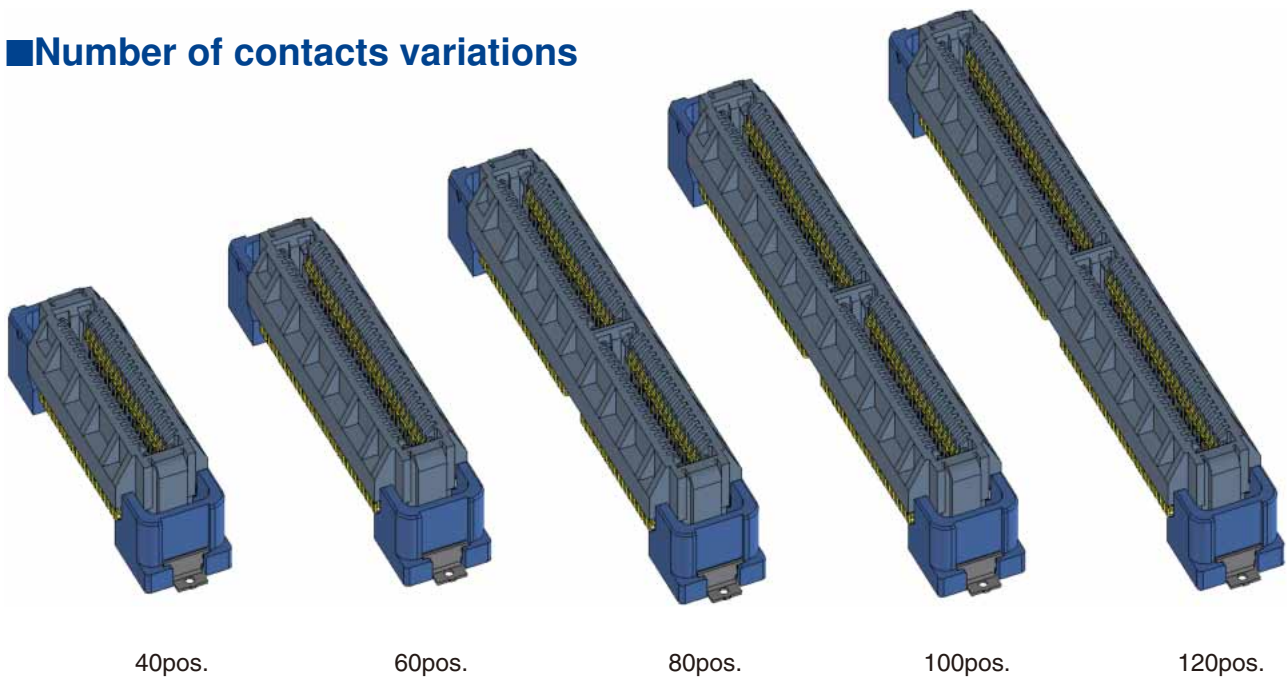
Simulation Tool : HFSS Ver.2016.1.0  
Standard Impedance : 100Ω

\*Simulation performed using the same FX27 connector for connector 1 and connector 2

## Floating Range

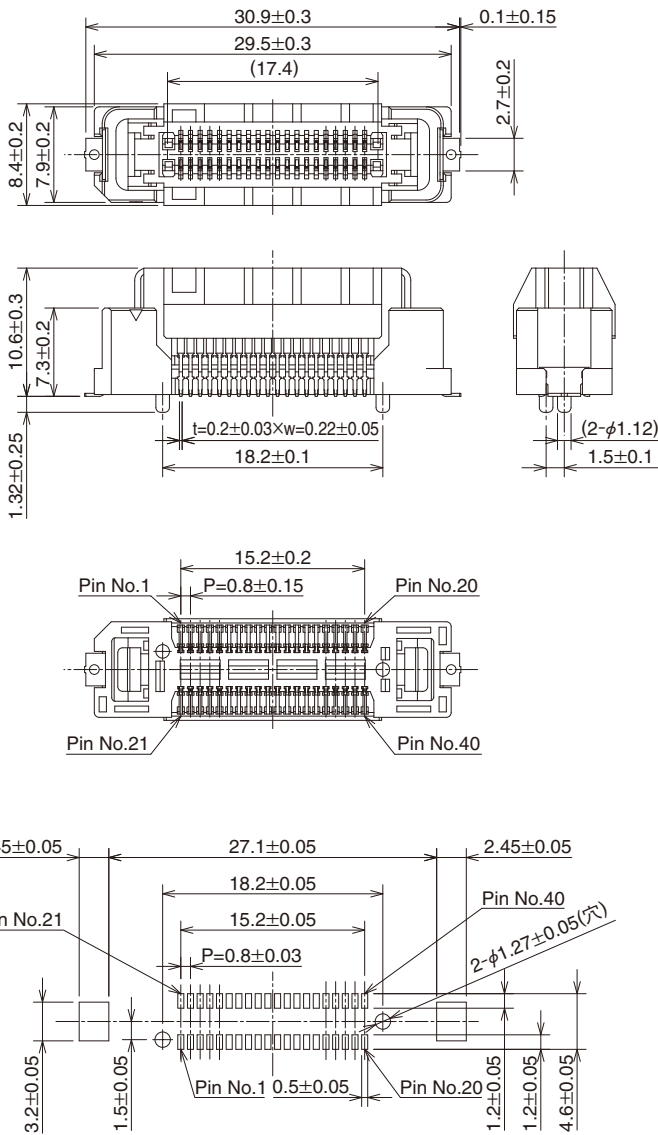


## Number of contacts variations

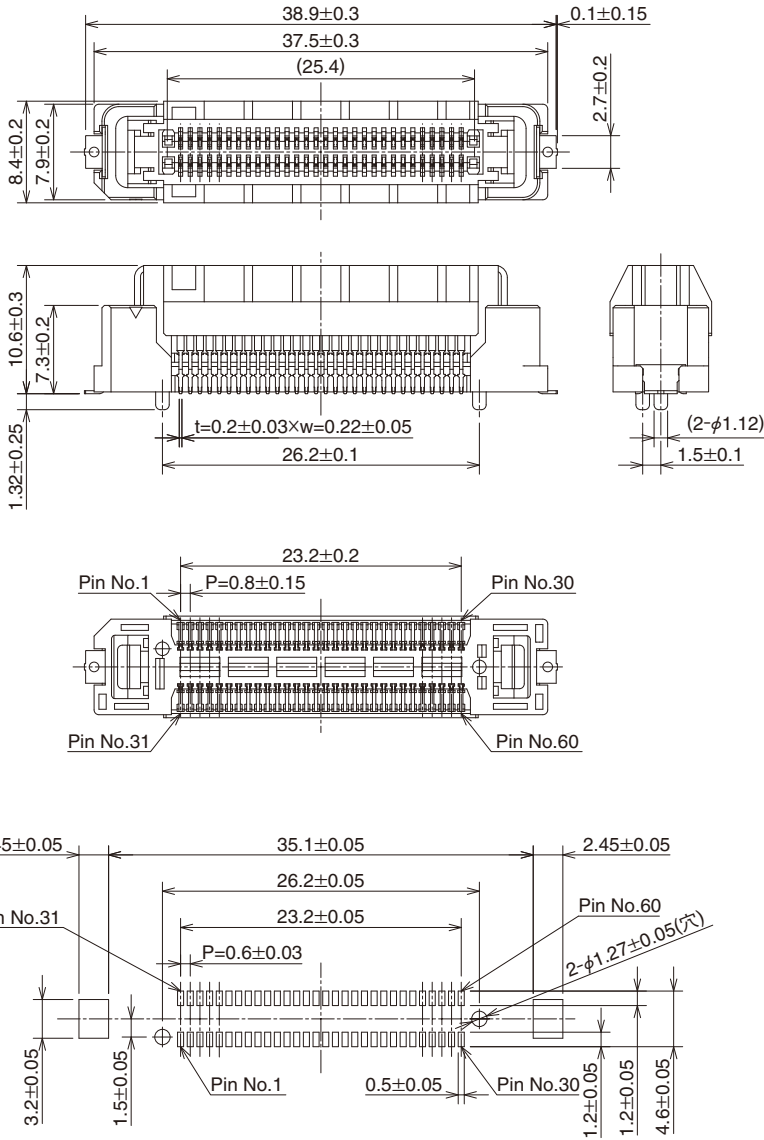


Product Dimensions

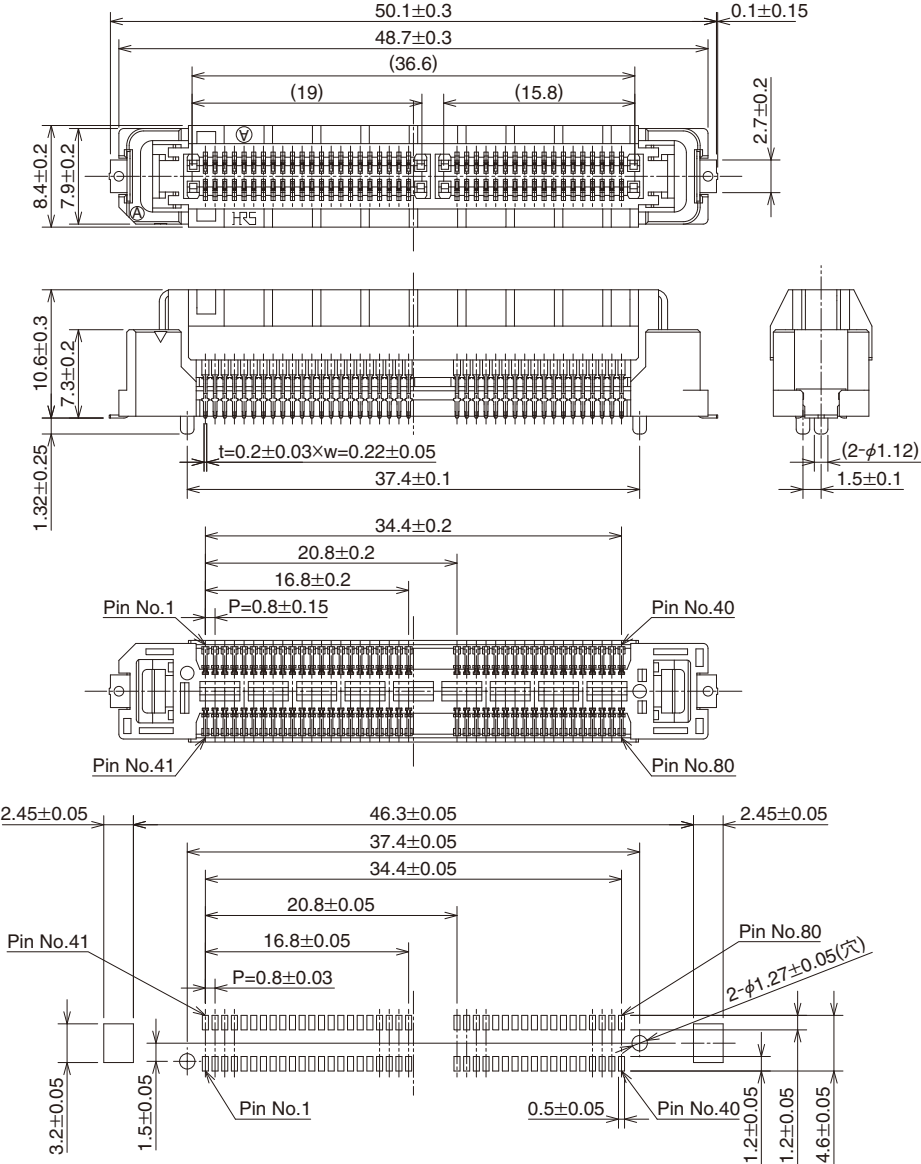
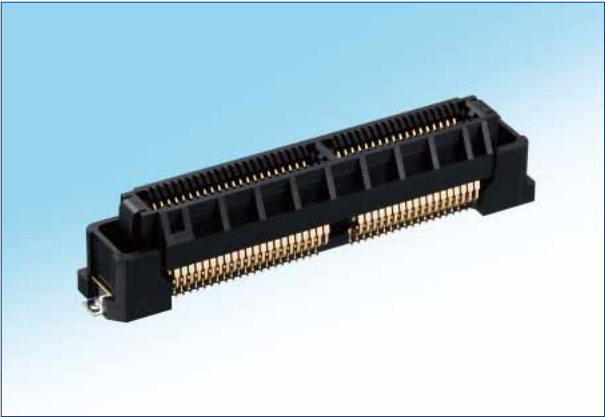
Straight Receptacle



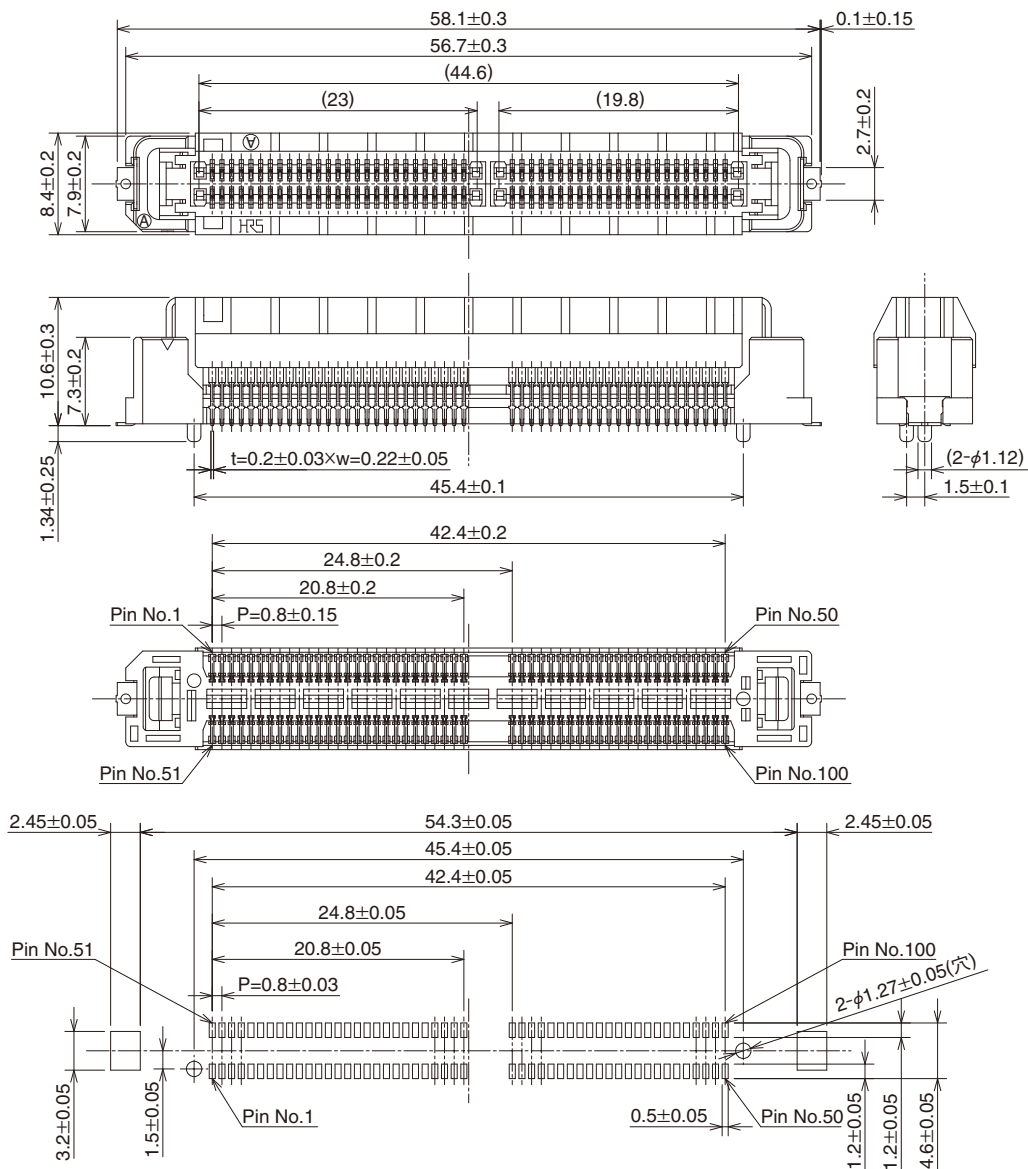
| Part No.       | HRS No.       | No. of contacts | Packaging Quantity |
|----------------|---------------|-----------------|--------------------|
| FX27-40S-0.8SV | 577-1002-0 00 | 40              | 300/RL             |



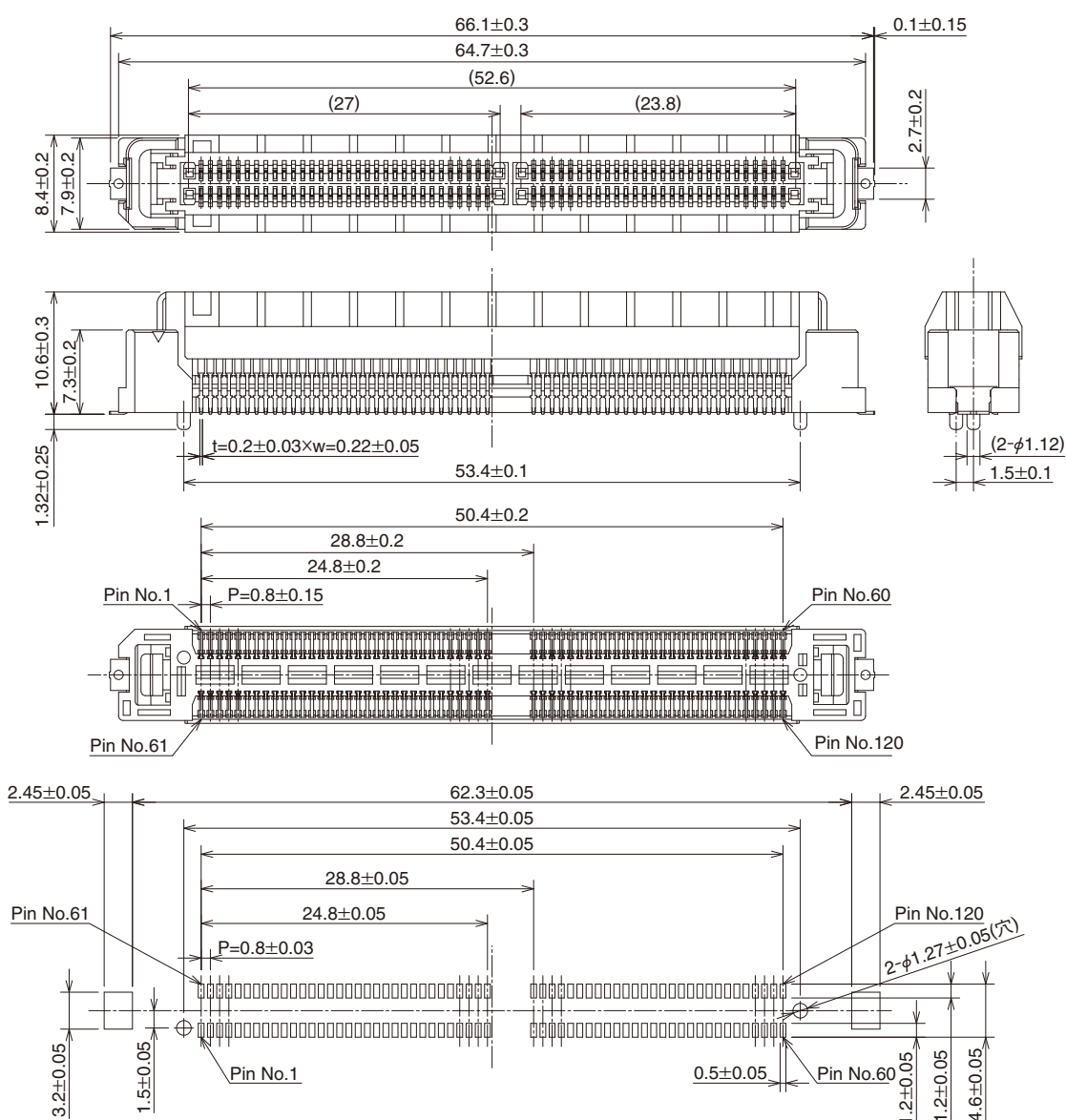
| Part No.       | HRS No.       | No. of contacts | Packaging Quantity |
|----------------|---------------|-----------------|--------------------|
| FX27-60S-0.8SV | 577-1003-0 00 | 60              | 300/RL             |



| Part No.       | HRS No.       | No. of contacts | Packaging Quantity |
|----------------|---------------|-----------------|--------------------|
| FX27-80S-0.8SV | 577-1004-0 00 | 80              | 300/RL             |



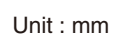
**HRS** 9



10 HRS

---


11

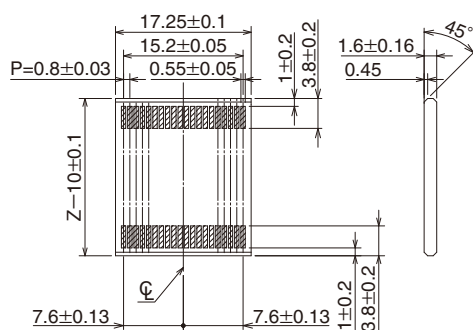


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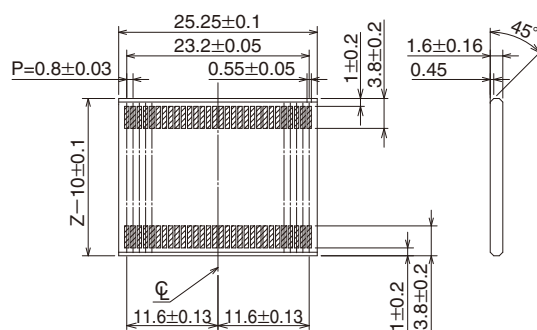

11

## Recommended PCB Interposer Dimensions

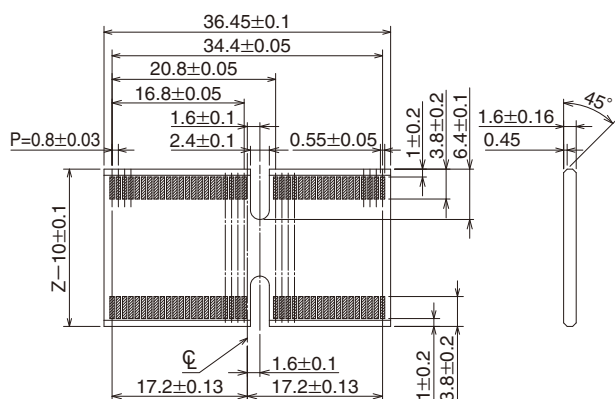
CL indicates the center of 17.25 **40S**



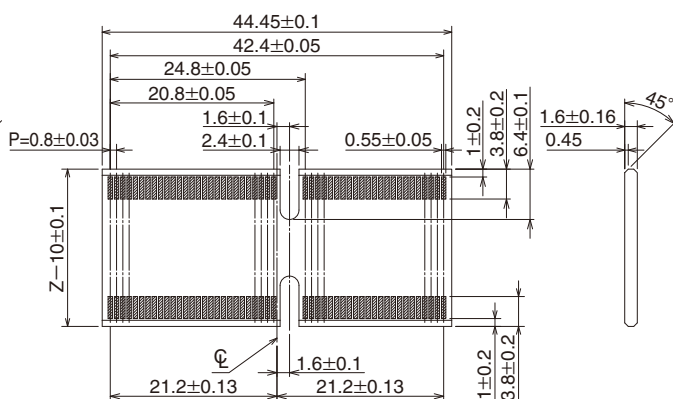
CL indicates the center of 25.25 **60S**



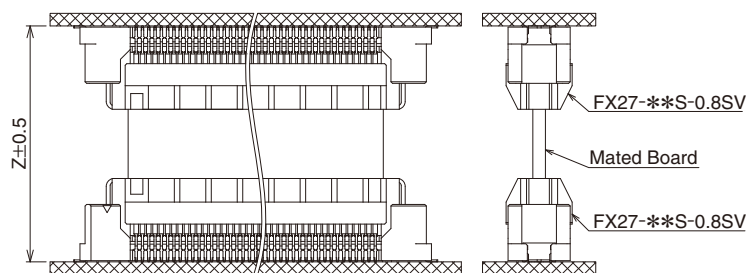
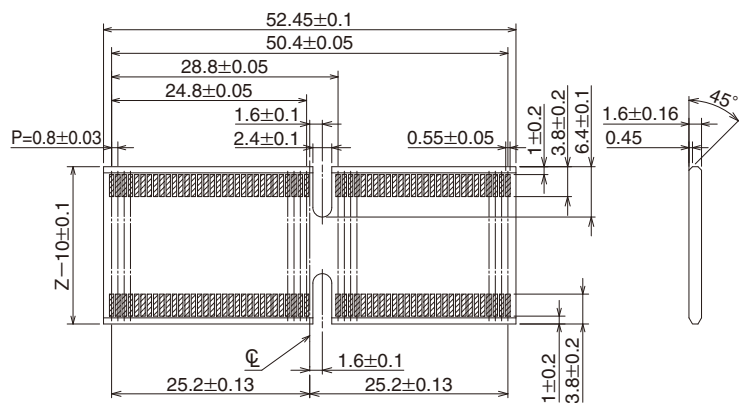
CL indicates the center of 36.45 **80S**



CL indicates the center of 44.45 **100S**

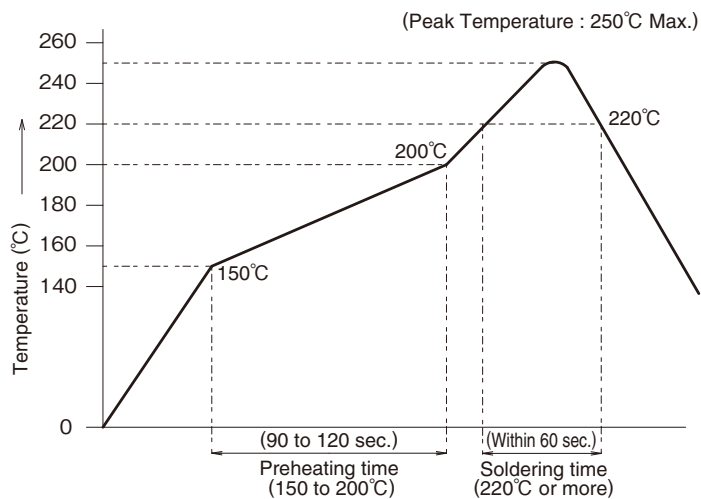


CL indicates the center of 52.45 **120S**



Customer supplied PCB interposer.

## ◆ Recommended Temperature Profile



### <Applicable conditions>

Test PCB Dimensions : 110×60×1.6mm  
 Material : Glass epoxy  
 Solder composition : Sn-3Ag-0.5Cu  
 Flux content : 11wt%  
 Metal mask thickness : 0.12mm, 0.15mm  
 Number of reflow times : 2 times max.

\*The temperature profile is a reference under the condition of the above settings : Temperature profile may change depending on the conditions such as solder paste types, manufacturers, PCB size, and other soldering materials. We confirmed there is no issue on the 2nd reverse mounting, but please use after thoroughly confirming the mounting state.

## ◆ Cleaning Conditions

### ● Cleaning with organic solvent

| Solvent                 | Normal Temperature Cleaning | Heated cleaning |
|-------------------------|-----------------------------|-----------------|
| IPA (Isopropyl alcohol) | ○                           | ○               |

### ● Cleaning with water

When water-type cleaning agents (terpene, alkaline saponification agents) are used, select cleaning agents based on the 'table of influence' on metals and resins issued by the cleaning agent manufacturer.

Caution : Do not leave with any water content left.

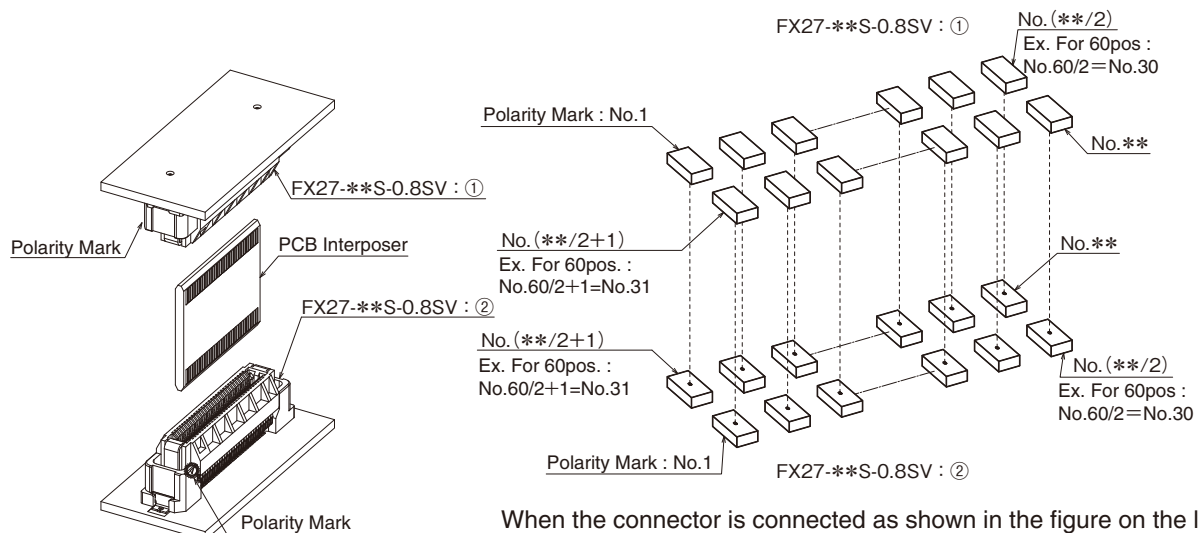
### ● Cleaning Precautions

When cleaning the parts with organic solvents and water-type agents, if flux or cleaning agents remain in the connector, it could cause the deterioration of electric performance.

Please be sure to check if adequate cleaning has been completed.

## ◆ Usage Precautions

### ● Pin Assignment



When the connector is connected as shown in the figure on the left, polarity marks 1 and 2 of the FX27-\*\*-0.8SV are inverted. Please pay attention to board circuit pin assignment.

## ●Securing Boards

Using only connectors is not recommended. The board is designed to be secured with a spacer.

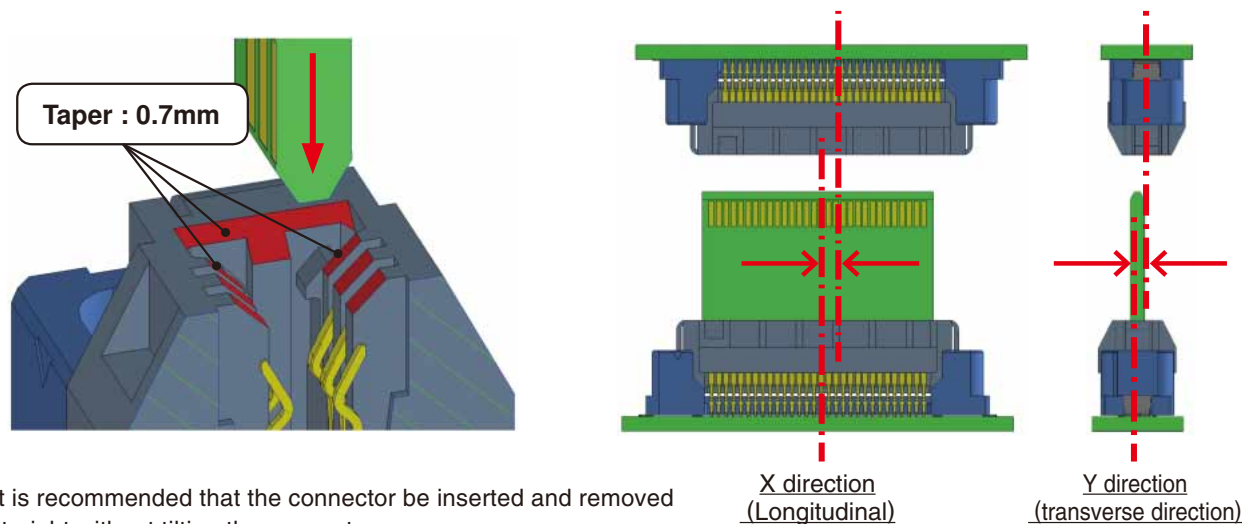
If the board is supported only by the connector, an excessive load may be applied to the connector which may result in damage or contact failure.

Take measures to secure the board other than using the connector.

## ●Mating Precautions

·The self-alignment range is  $\pm 0.7\text{mm}$  in the X and Y directions.

Insert the connector straight in without applying excessive load during mating.



## ●Misalignment allowance in Mated Condition (Floating Amount)

Since this connector has a floating structure, the maximum allowable PCB misalignment amount is  $\pm 0.6\text{mm}$  in the X and Y directions when mated.

When two FX27 connectors are used for stacking connections, they have a double floating capability, allowing for a maximum PCB misalignment of  $\pm 0.12\text{mm}$  in the X and Y directions.

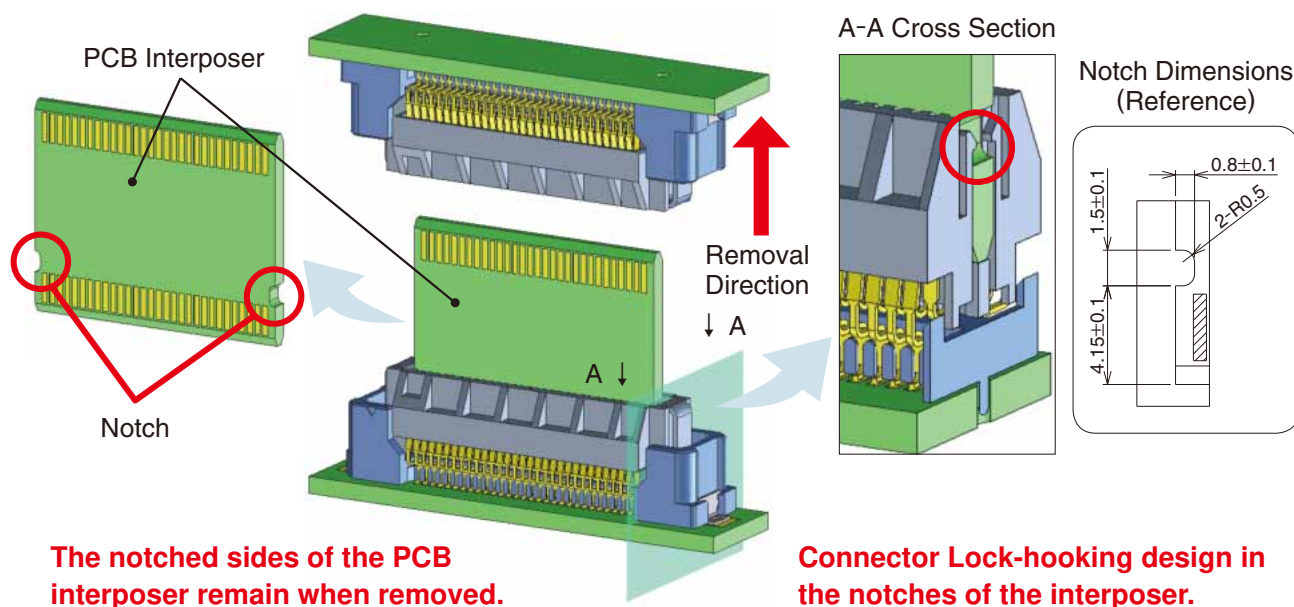
However, this product cannot be used to absorb misalignment when there are constant changes due to vibration, etc. Be sure to secure the boards after mating.

The floating operation can be repeated 100 times max. based on the connector durability (insertion/extraction times).

## ◆Supplementary

### ●Friction Lock during Initial Insertion/Extraction

Ex. FX27-60S-0.8SV



## MEMO :

Blank area for memo with horizontal dashed lines.

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