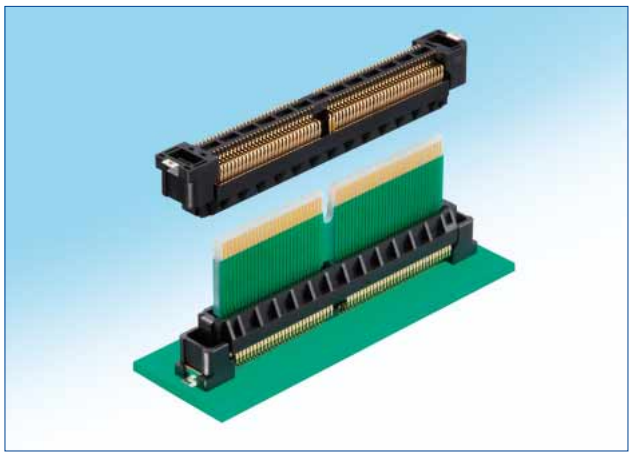
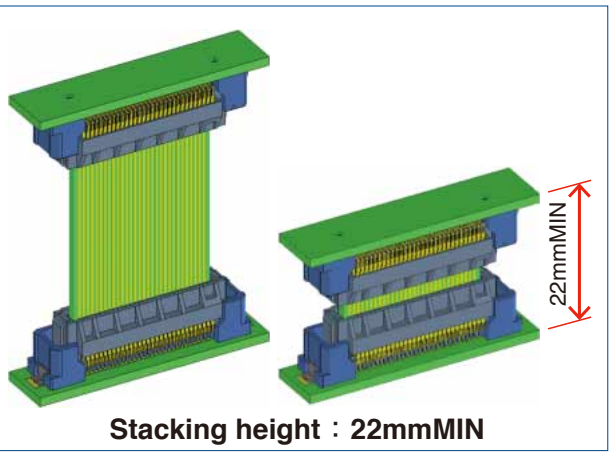
FunctionMAX

0.8mm Pitch Floating Card Edge Connector

FX27 Series





Stacking height：22mmMIN

■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 ±1.2mm max.

5. High-speed Transmission : 2.5Gbps (PCIe-Gen.1)

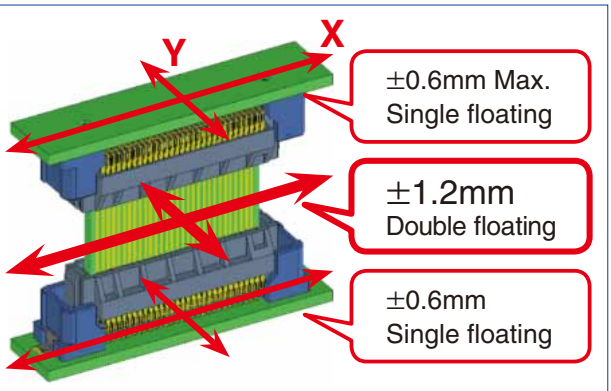
6. Customizable interposer PCB

7. Current capacity : 0.5A/pin

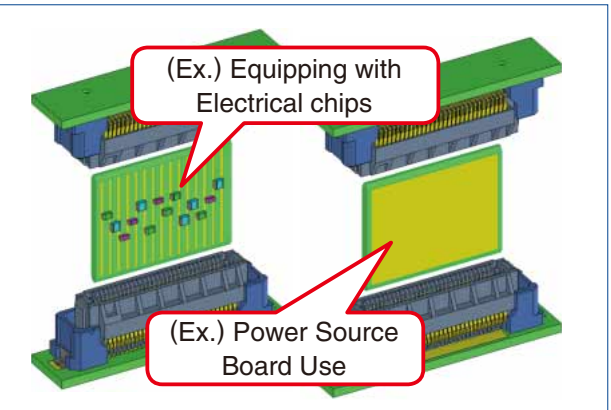
8. Pick & Place Mounting (suction tape attached as standard)

9. Large guide post for excellent mating performance

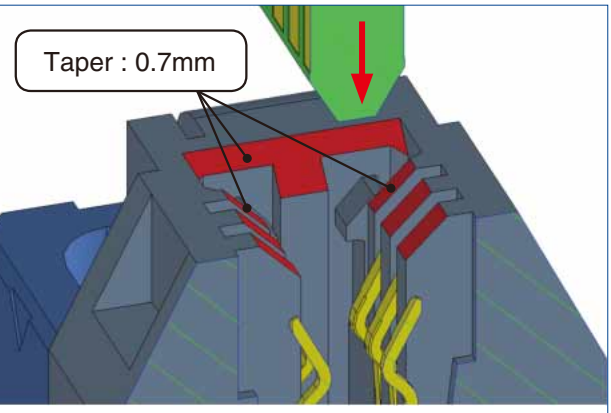
Easy mating operation due to large self-alignment range.



Single floating : ±0.6mm
Double floating : ±1.2mm



Customizable PCB interposer



Large self-alignment

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■Product Specifications

Ratings	Rated Current : 0.5A	Operating Temperature : -55 to 105℃ (Note 1)
		Storage temperature : -10 to 60℃ (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^2 ; 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) Insulation Resistance 1,000MΩ max.	Left for 96 hours at 40℃ and a humidity of 90 to 95%
8. Temperature cycle	Contact Resistance 40mΩ max.(Note 3) Insulation Resistance 1,000MΩ max.	Temperature -55 → 85℃ 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 Mounting part : gold plating	–
Solder tab	Brass	Reflow tin plating	–

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■Product Number Structure

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

●Straight receptacle

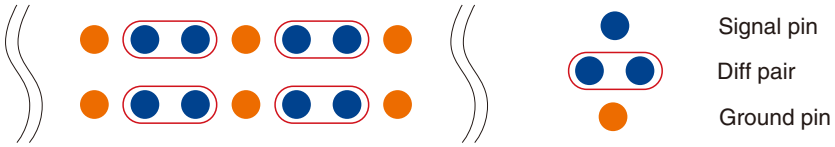
FX27 - 120 S - 0.8 SV
❶ ❷ ❸ ❹ ❺

❶Series Name	: FX27
❷No. of pos.	
❸Connector type	S : Receptacle type
❹Contact pitch	: 0.8mm
❺Product type	SV : Straight type

■High-speed transmission property

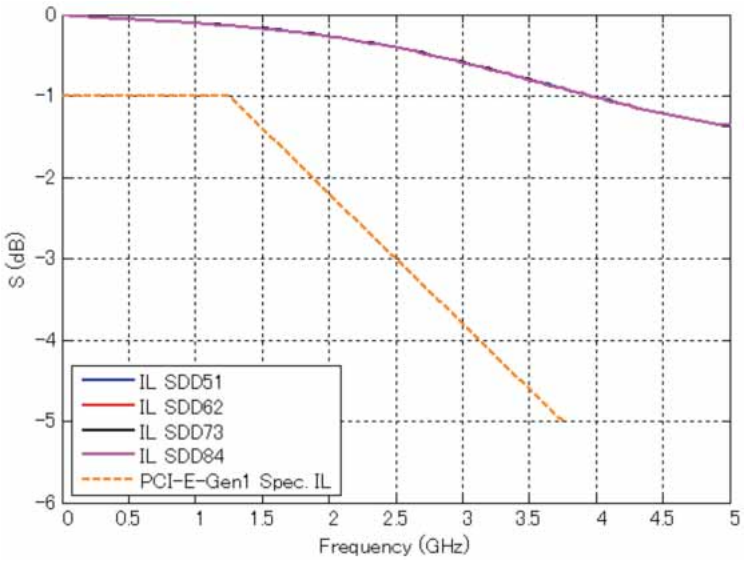
●Pin assignment

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

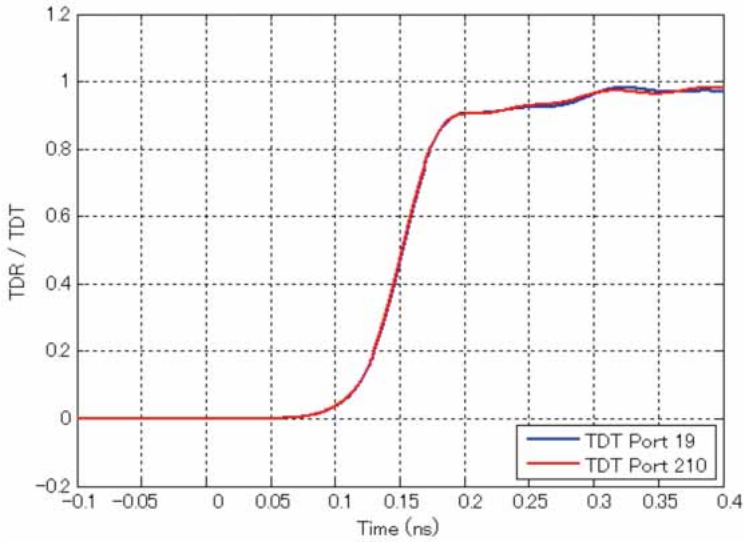


Signal pin
Diff pair
Ground pin

●Insertion Loss



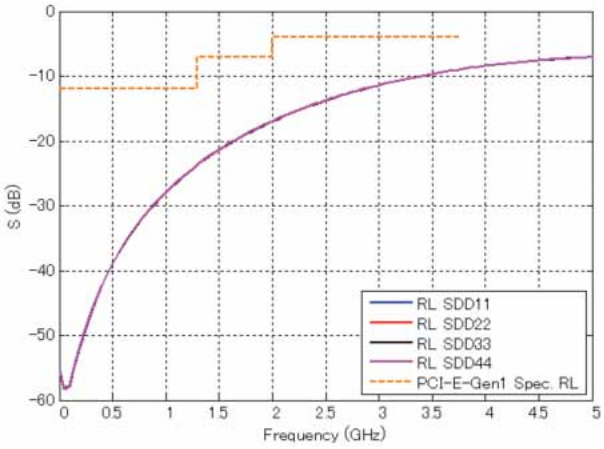
●Intra-pair skew



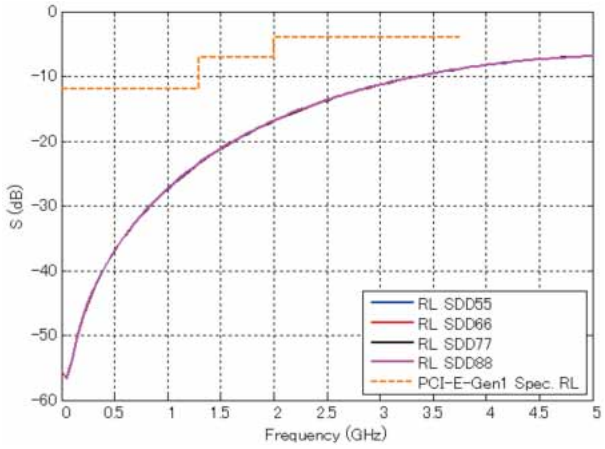
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●Return loss

Connector 1

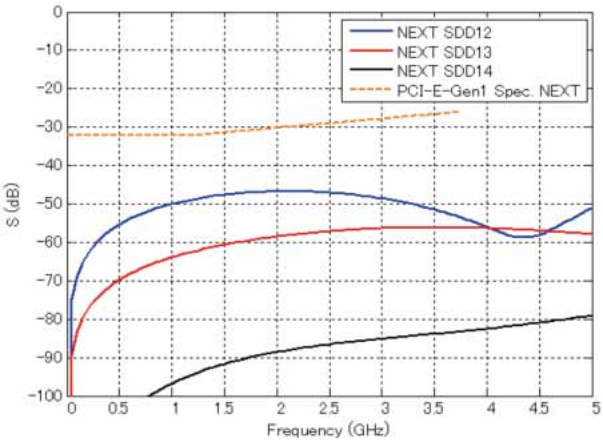


Connector 2

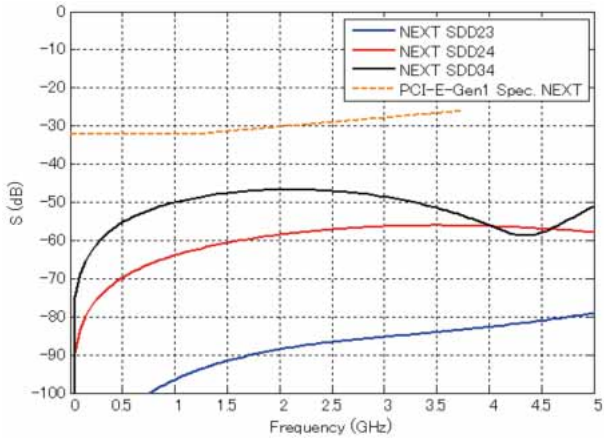


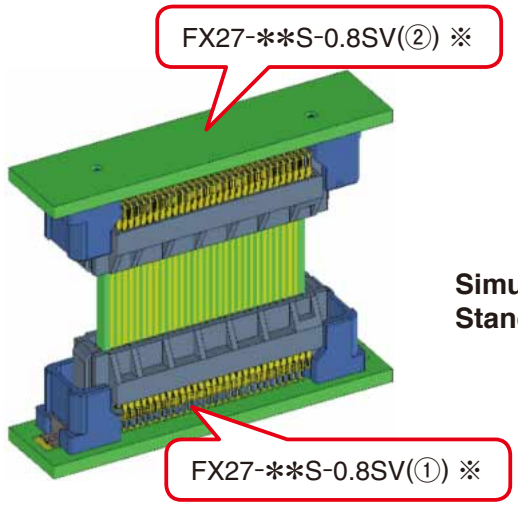
●Near End Cross-Talk (NEXT)

Connector 1



Connector 2



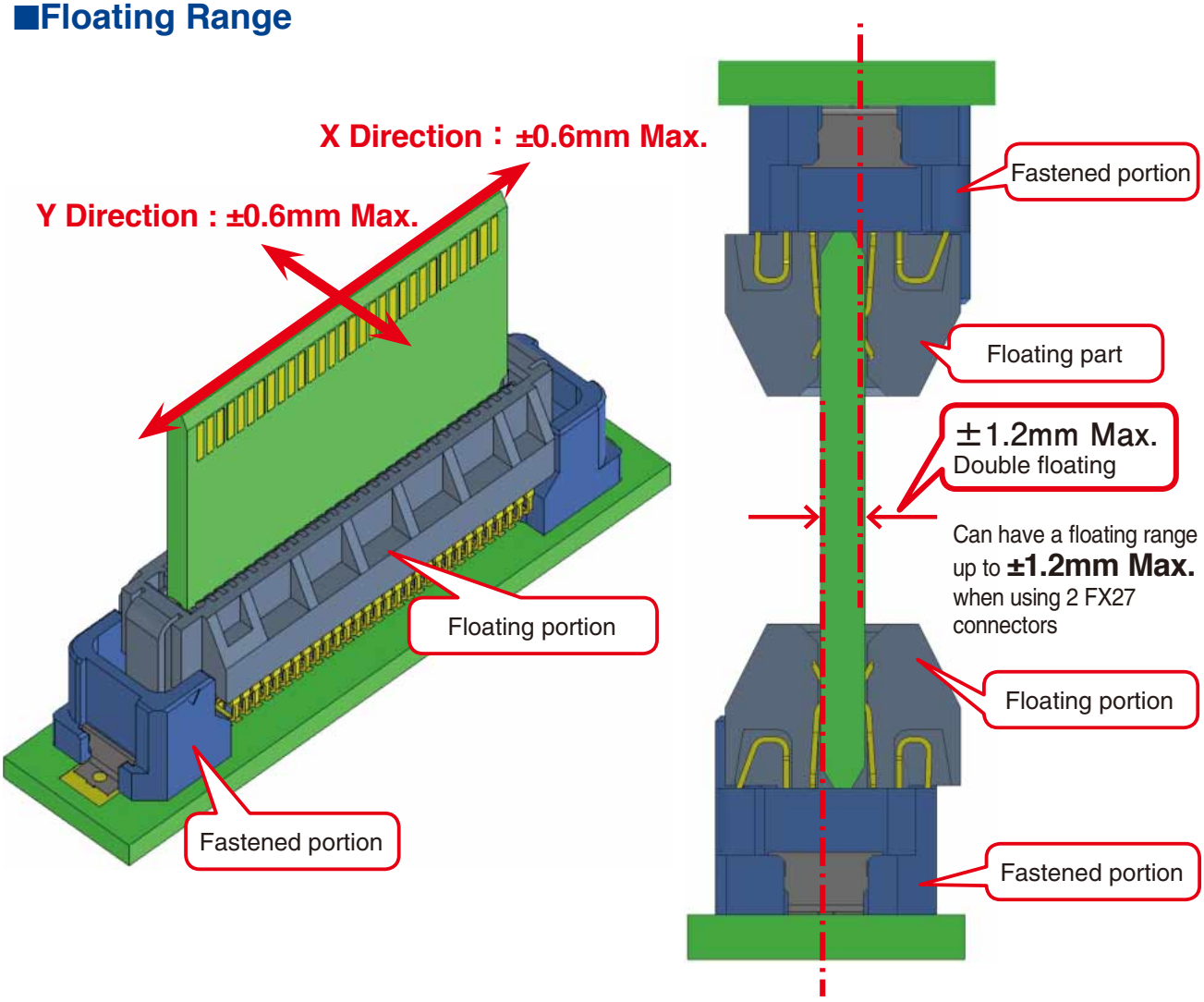


Simulation Tool : HFSS Ver.2016.1.0
Standard Impedance : 100Ω

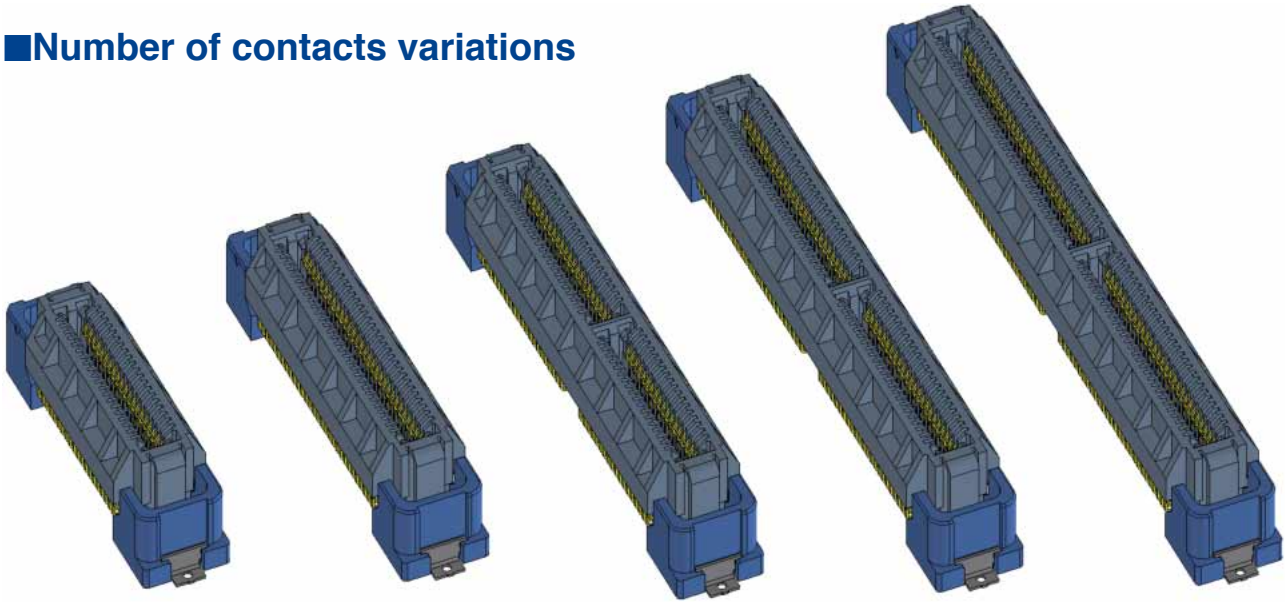
∗Simulation performed using the same FX27 connector for connector 1 and connector 2

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■Floating Range



■Number of contacts variations

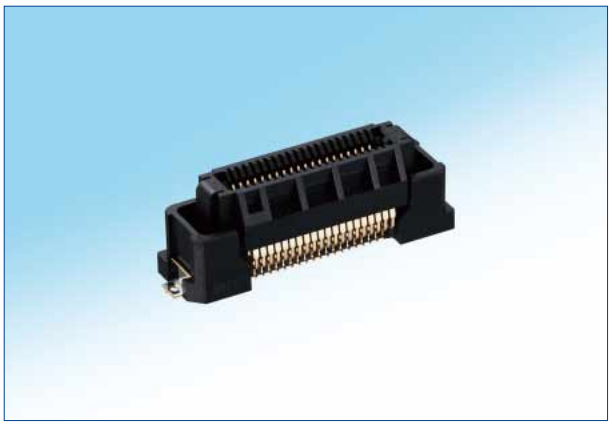


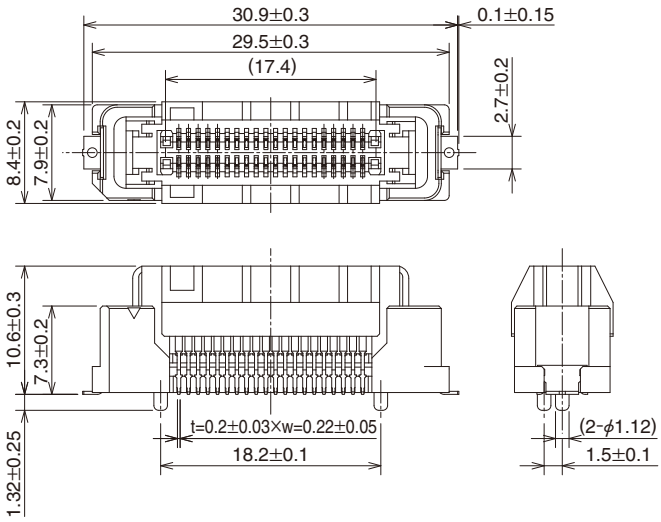
40pos. 60pos. 80pos. 100pos. 120pos.

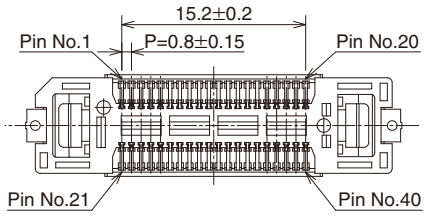
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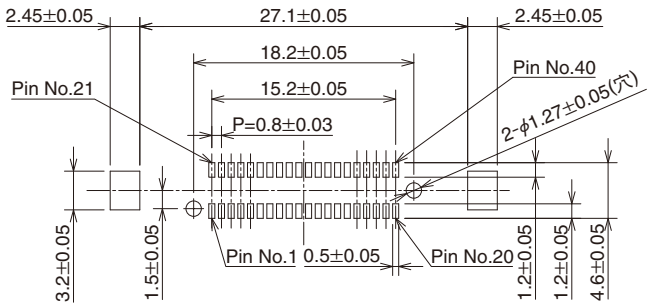
■Product Dimensions

●Straight Receptacle



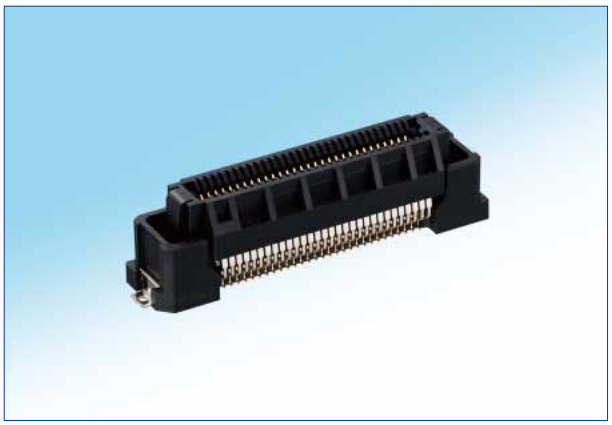


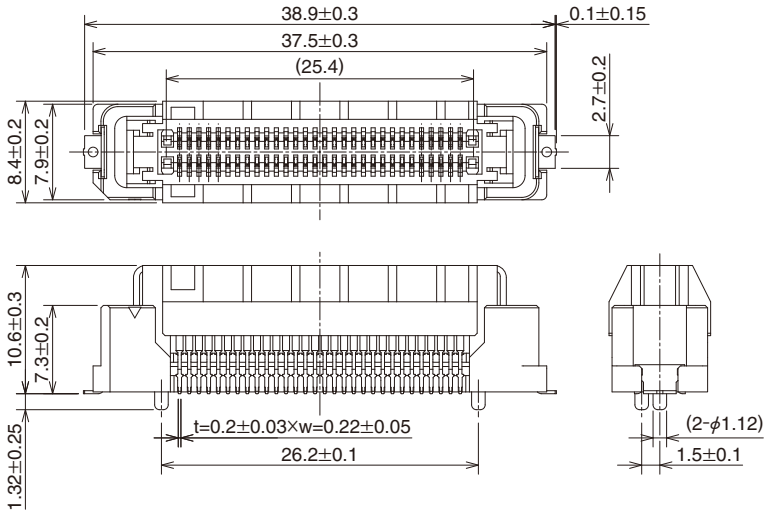


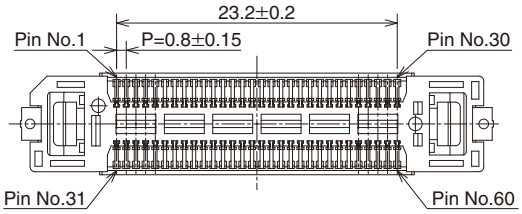


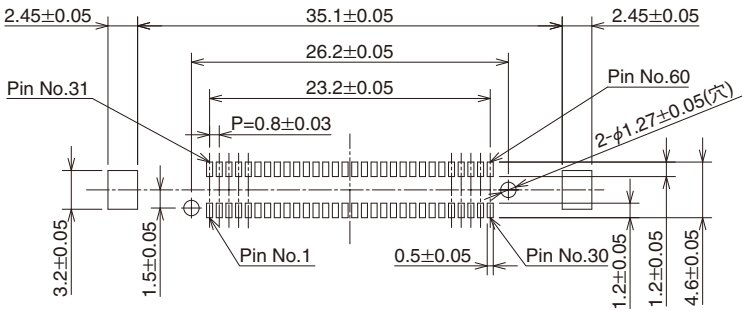
Part No.	HRS No.	No. of contacts	Packaging Quantity
FX27-40S-0.8SV	577-1002-0 00	40	300/RL

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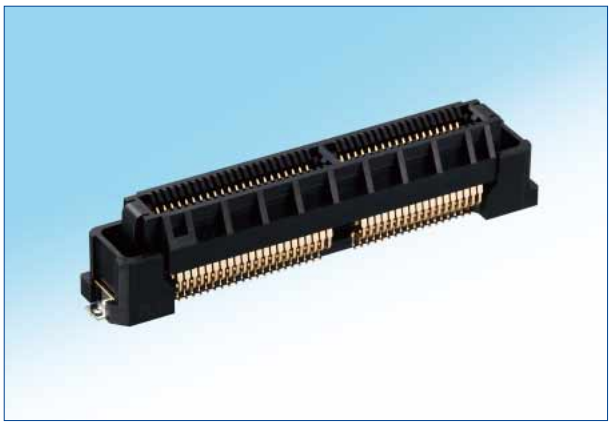


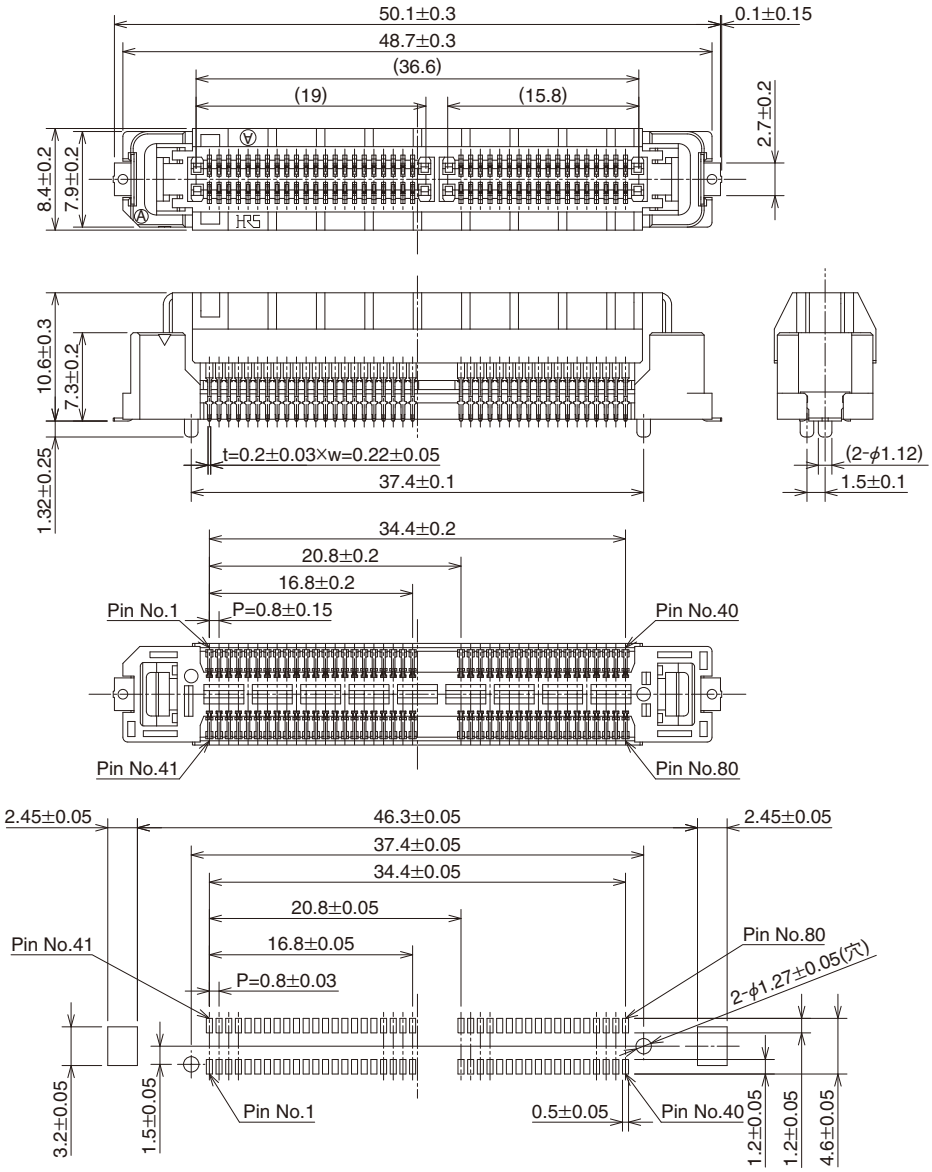




Part No.	HRS No.	No. of contacts	Packaging Quantity
FX27-60S-0.8SV	577-1003-0 00	60	300/RL

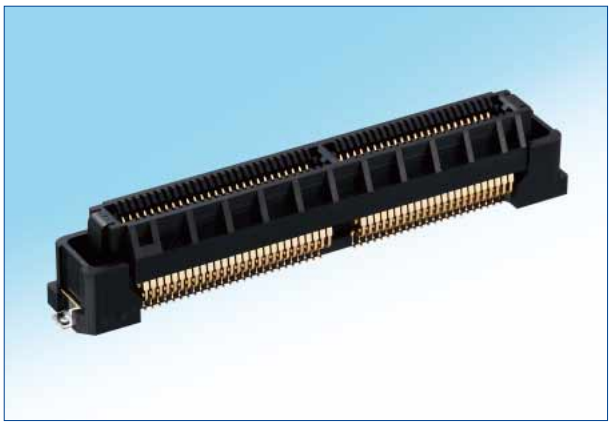
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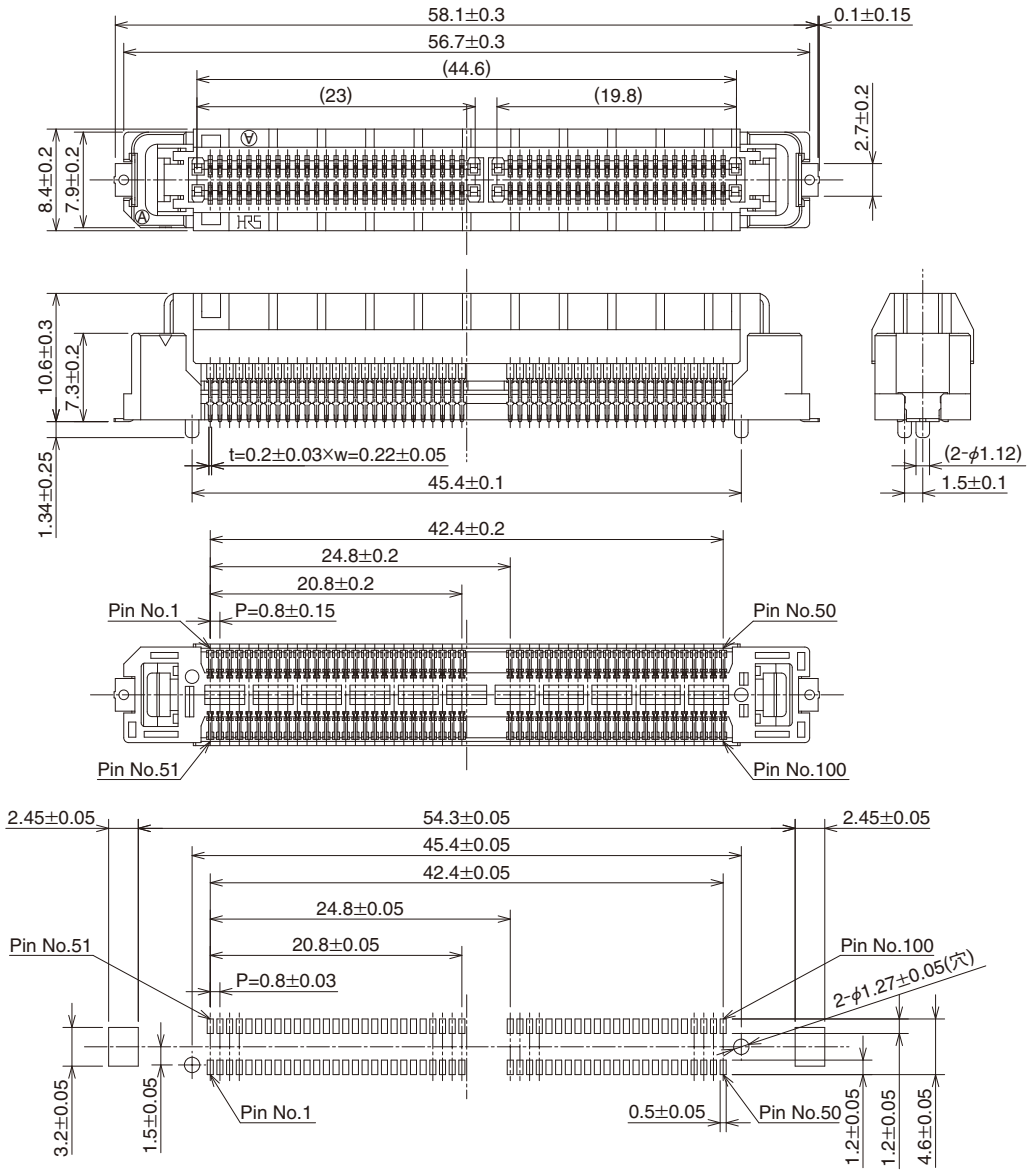




Part No.	HRS No.	No. of contacts	Packaging Quantity
FX27-80S-0.8SV	577-1004-0 00	80	300/RL

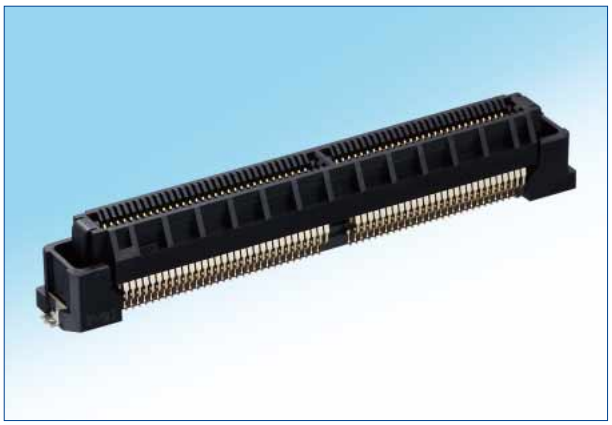
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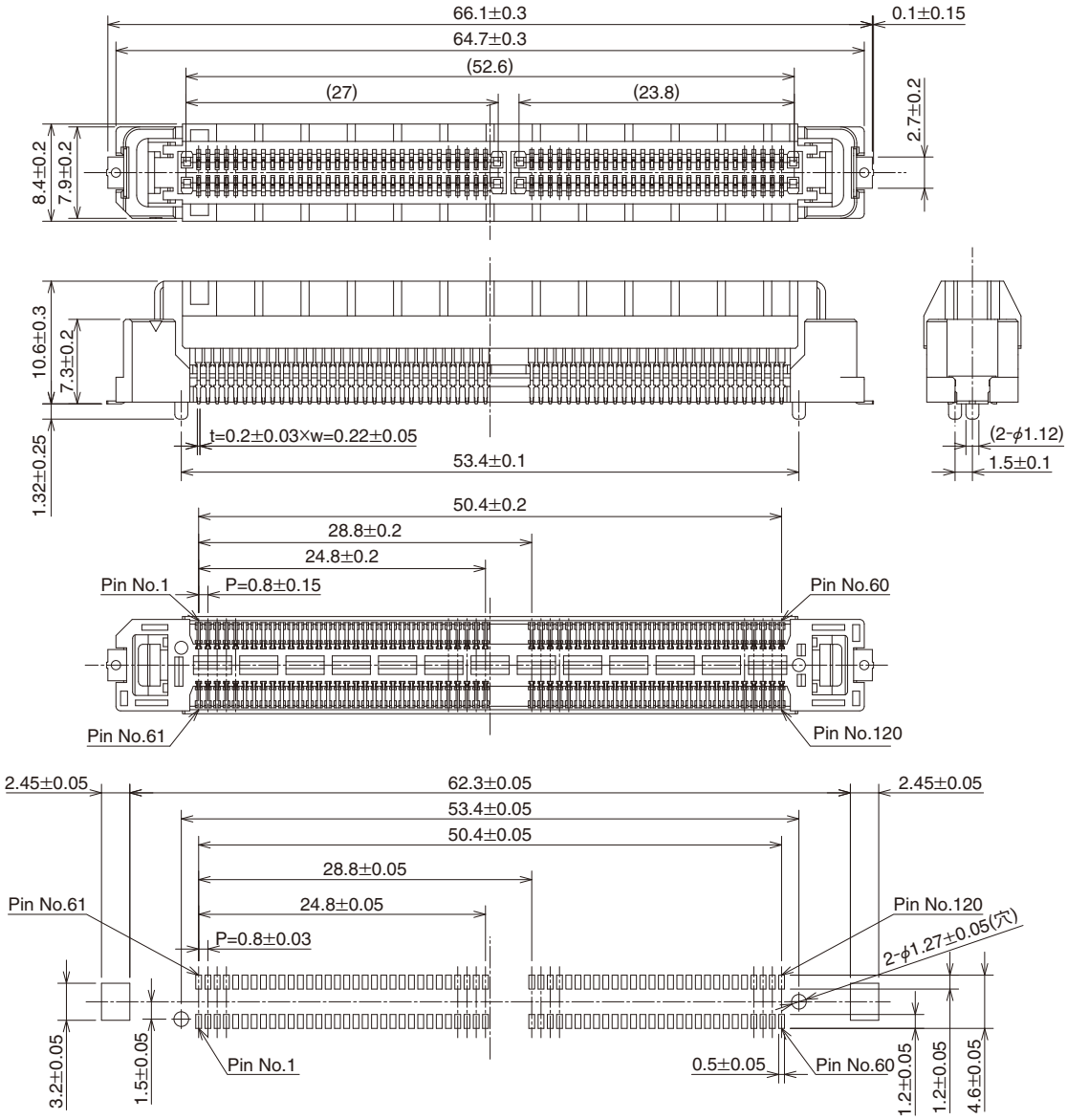




Part No.	HRS No.	No. of contacts	Packaging Quantity
FX27-100S-0.8SV	577-1005-0 00	100	150/RL

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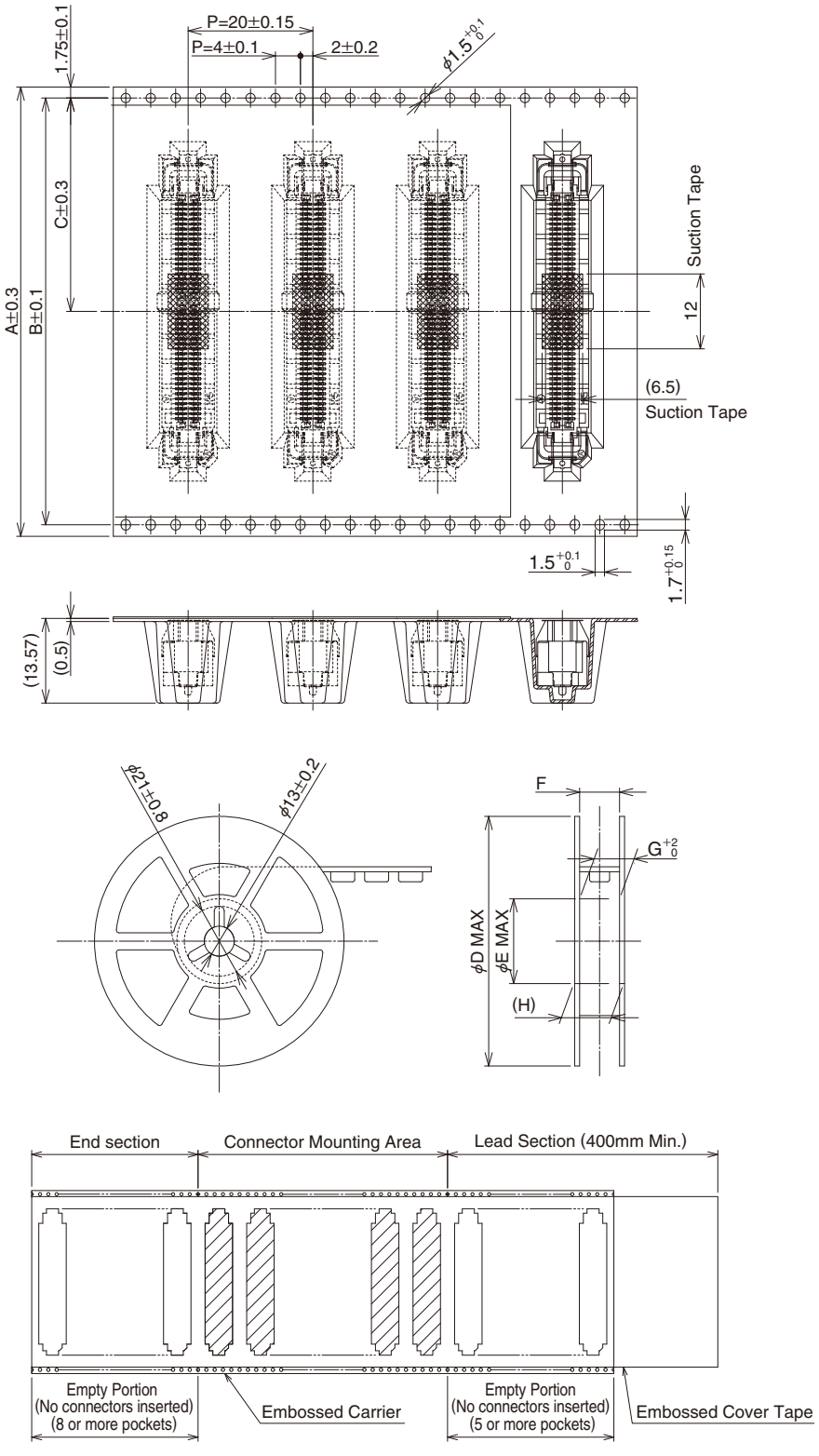




Part No.	HRS No.	No. of contacts	Packaging Quantity
FX27-120S-0.8SV	577-1001-0 00	120	150/RL

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■Embossed Packaging Diagram



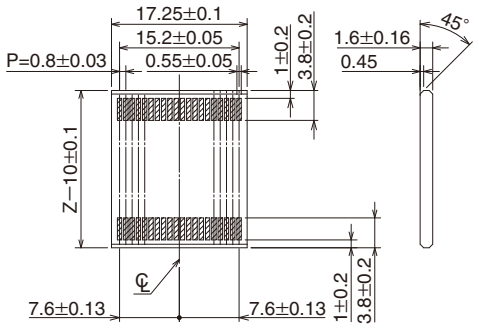
Unit : mm

Part No.	A	B	C	D	E	F	G	H
FX27-40S-0.8SV	56	52.4	26.2	382	102	55.9～59.4	56.4	62.4
FX27-60S-0.8SV	72	68.4	34.2	382	102	71.9～75.4	72.4	78.4
FX27-80S-0.8SV	72	68.4	34.2	382	102	71.9～75.4	72.4	78.4
FX27-100S-0.8SV	88	84.4	42.2	332	152	87.9～91.4	88.4	94.4
FX27-120S-0.8SV	88	84.4	42.2	332	152	87.9～91.4	88.4	94.4

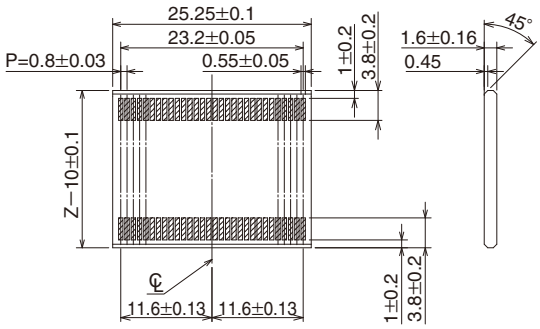
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■Recommended PCB Interposer Dimensions

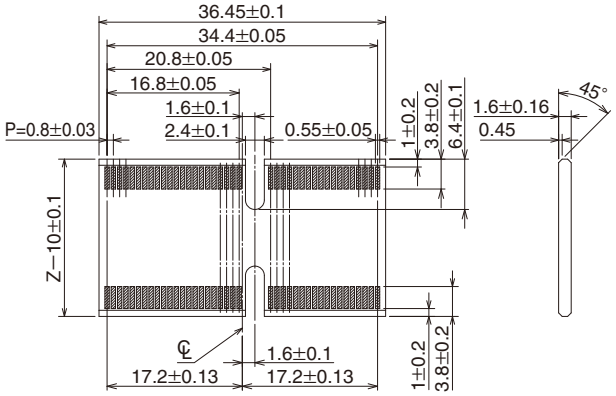
℄ CL indicates the center of 17.25 **40S**



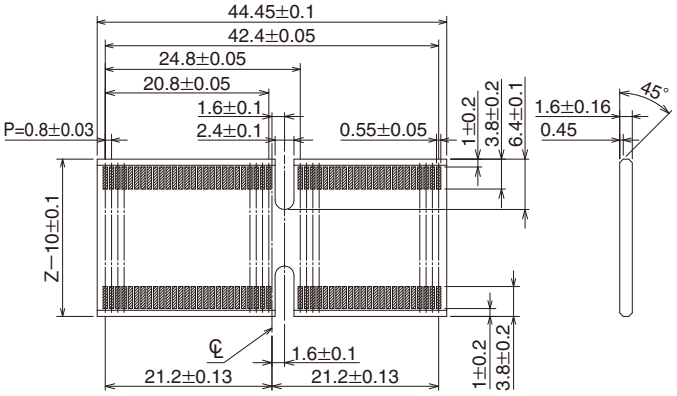
℄CL indicates the center of 25.25 **60S**



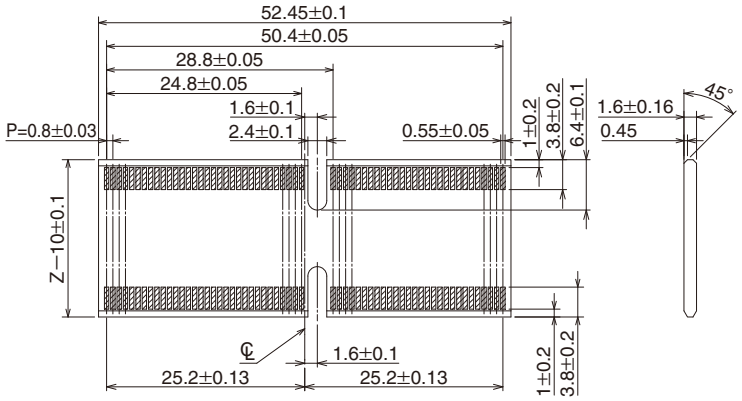
℄CL indicates the center of 36.45 **80S**

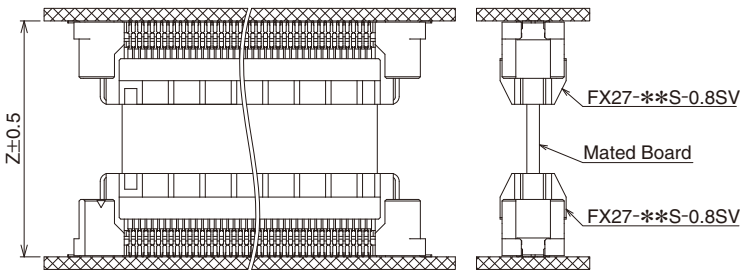


℄CL indicates the center of 44.45 **100S**



℄CLindicates the center of 52.45 **120S**

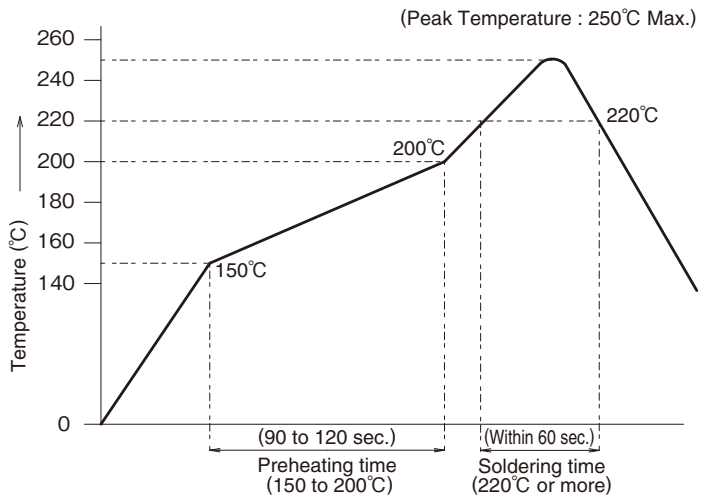




Customer supplied PCB interposer.

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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

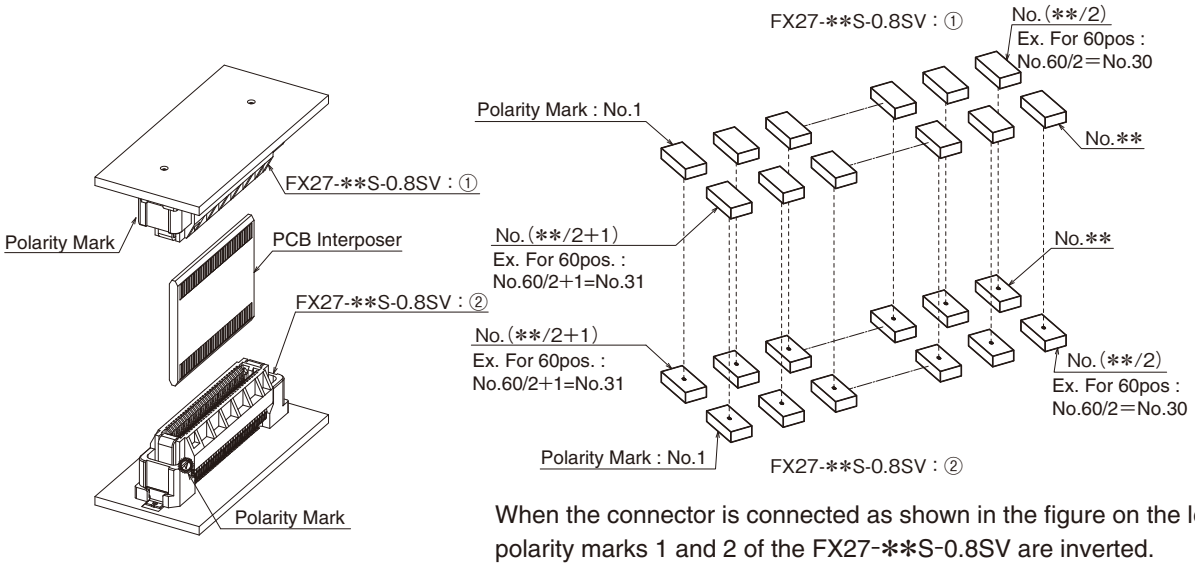
When water-type cleaning agents (terpene, alkaline saponification agents) are used, select cleaning agents based on the 'table of influence' on metals and resins issued by the cleaning agent manufacturer.
Caution : Do not leave with any water content left.

●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-∗∗S-0.8SV are inverted. Please pay attention to board circuit pin assignment.

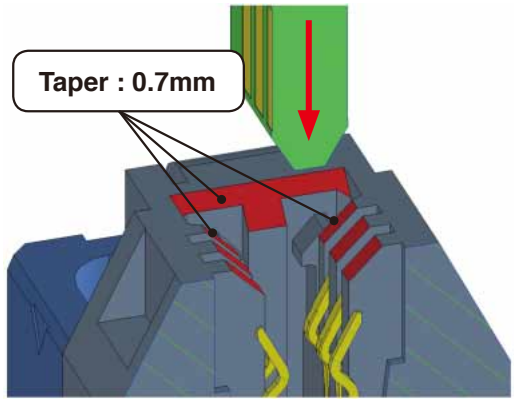
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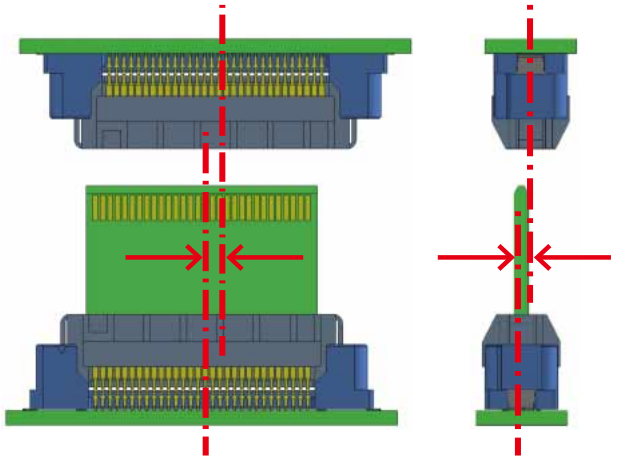
●Securing Boards

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 ±0.7mm in the X and Y directions.
Insert the connector straight in without applying excessive load during mating.





・It is recommended that the connector be inserted and removed straight without tilting the connector.

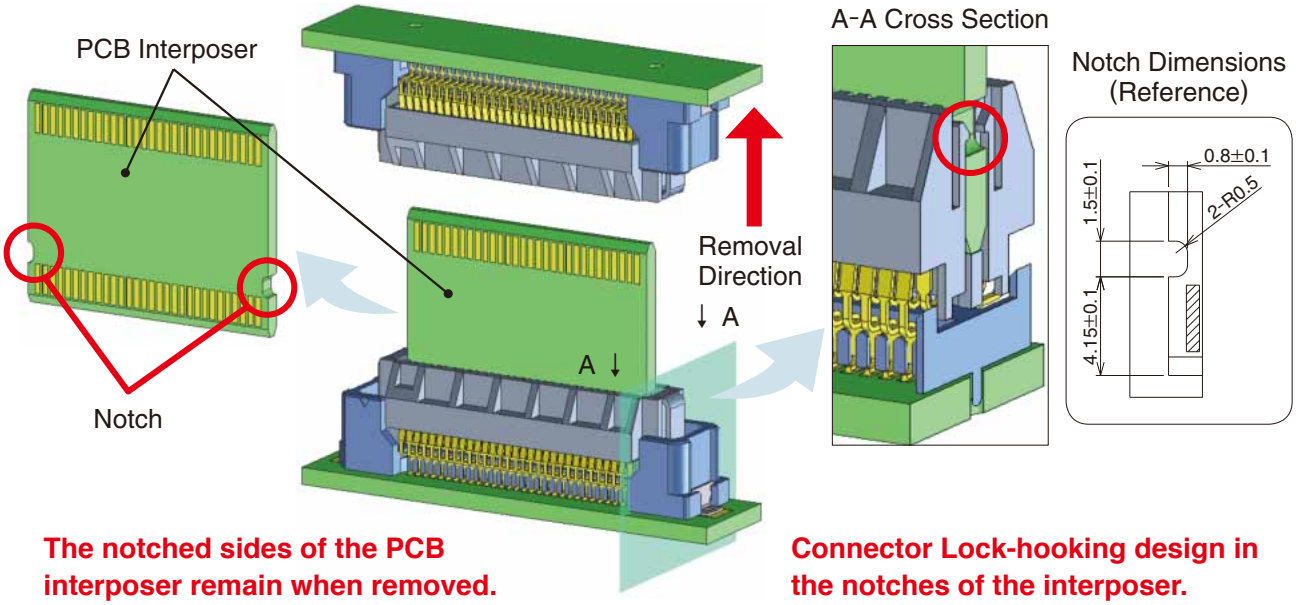
●Misalignment allowance in Mated Condition (Floating Amount)

Since this connector has a floating structure, the maximum allowable PCB misalignment amount is ±0.6mm 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 ±0.12mm 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



The notched sides of the PCB interposer remain when removed.

Connector Lock-hooking design in the notches of the interposer.

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The characteristics and the specifications contained herein are for reference purpose. Please refer to the latest customer drawings prior to use.
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