

NOVASTACK® 35-HDP WITH CAP 2-IN-1

Part No. 21001-042E-01

Instruction Manual

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Rev.	ECN	Date	Prepared by	Checked by	Approved by

This manual provides instructions and precautions for safely using our connector, NOVASTACK 35-HDP WITH CAP 2 IN 1.

It covers the procedures for inserting and removing the connector.

The product you receive includes one vacuum cap that holds one plug and one receptacle side by side.

Mount the connectors on the PCB as they are. Remove the cap before connecting two units.

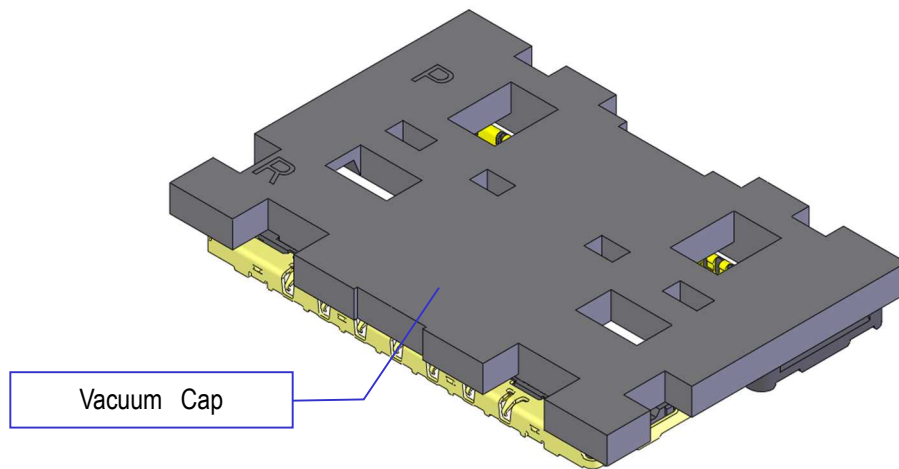
## 1. Connector Name, Part numbers, and Part names

### 1-1. Connector

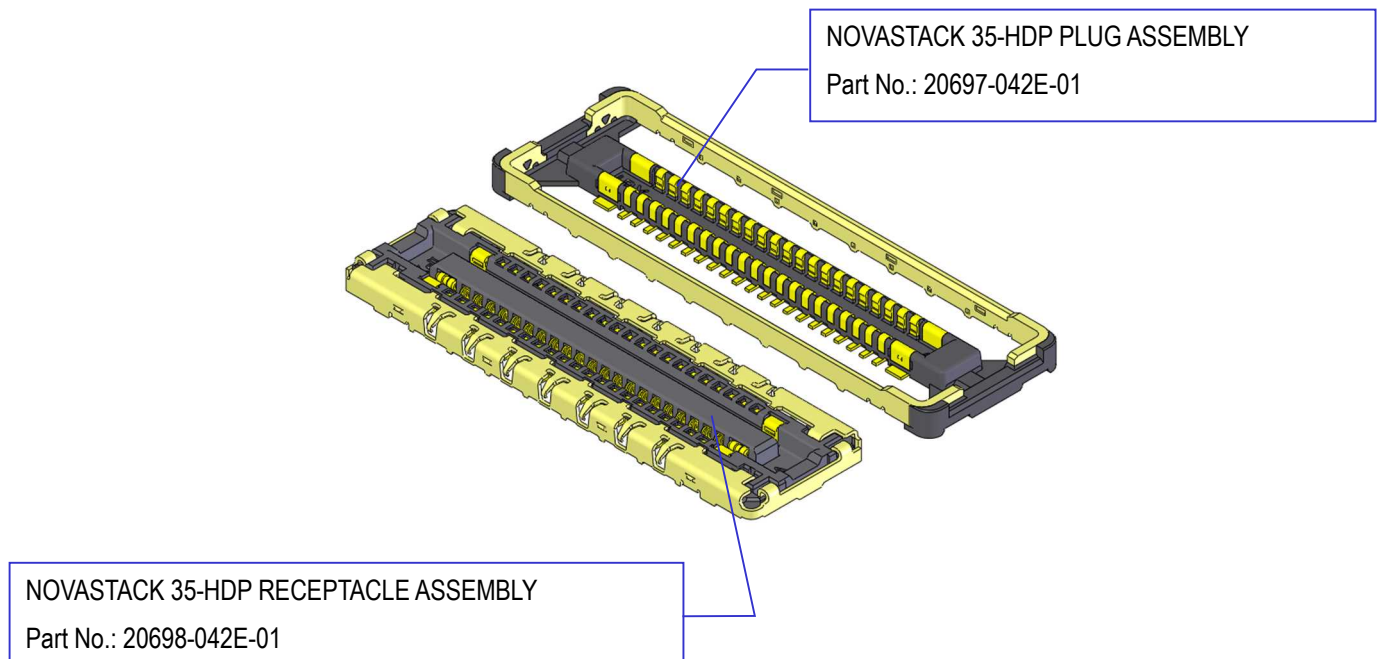
Product Name: NOVASTACK 35-HDP WITH CAP 2-IN-1

Part No.: 21001-042E-01

<Vacuum Cap Assembled for Shipment>

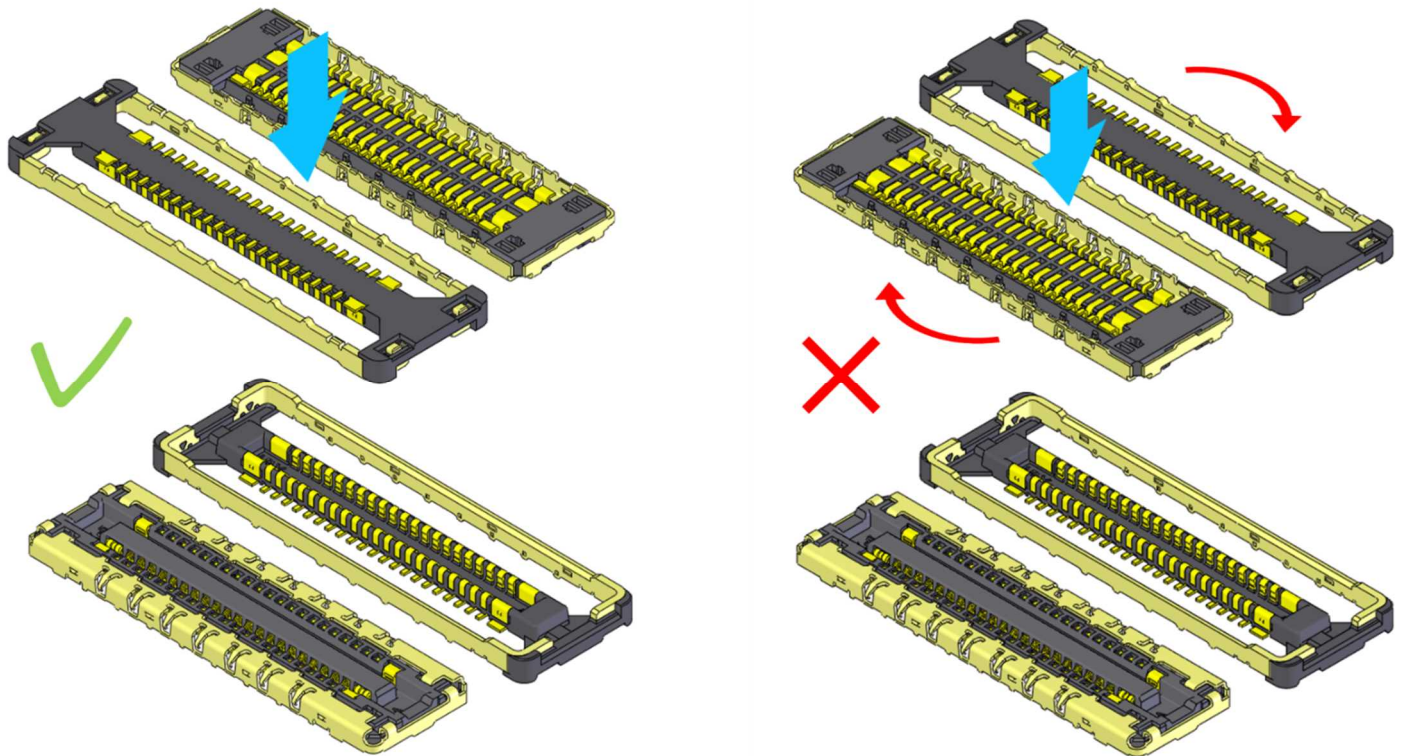


< Vacuum Cap Unassembled >



## 1-2. Connector Mating Orientation

To prevent mismating, the connectors are designed to mate in only one direction. Please ensure that you align the plug with receptacle in the correct orientation so that they face each other before attempting to mate them

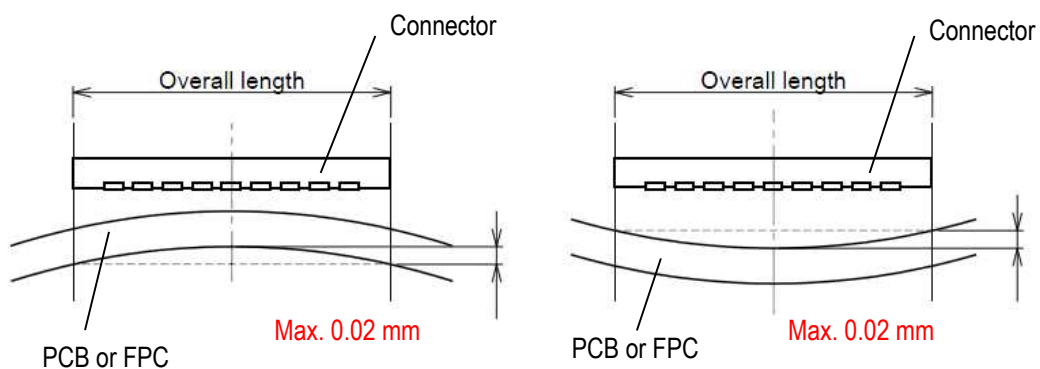


## 2. Mounting

2-1. The recommended footprint pattern dimensions are shown in the product drawing.

### 2-2. Warpage of PCB or FPC

Please ensure that the warpage of the PCB or FPC is kept at 0.02 mm or less for the overall length of the connector.

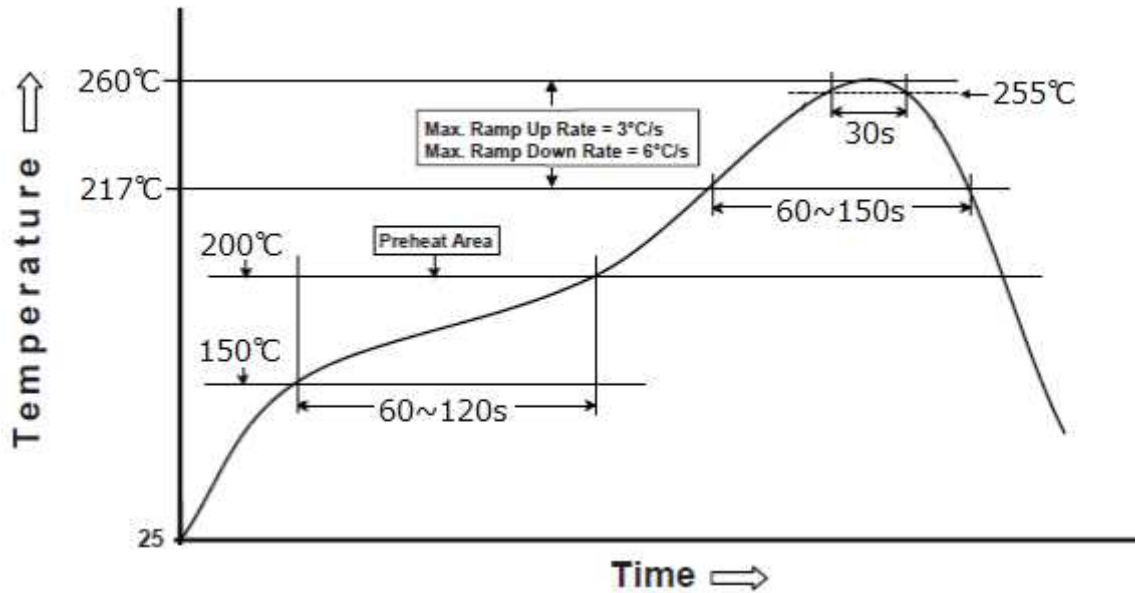


## 2-3. Reflow Temperature Profile

The thermal reflow temperature profile is shown in Graph 1.

(The temperature mentioned refers to the surface temperature of the printed circuit board near the connector terminal.)

Please refer to our product drawings for the recommended reflow temperature profile.

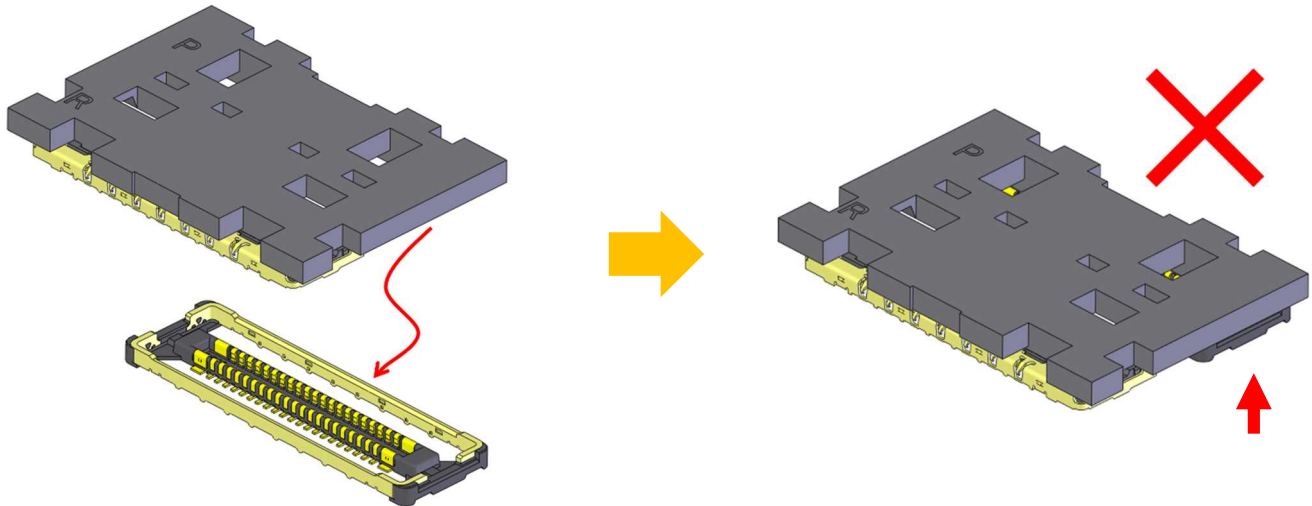


Graph 1 The Thermal Reflow Temperature Profile

### 3. Handling Precautions

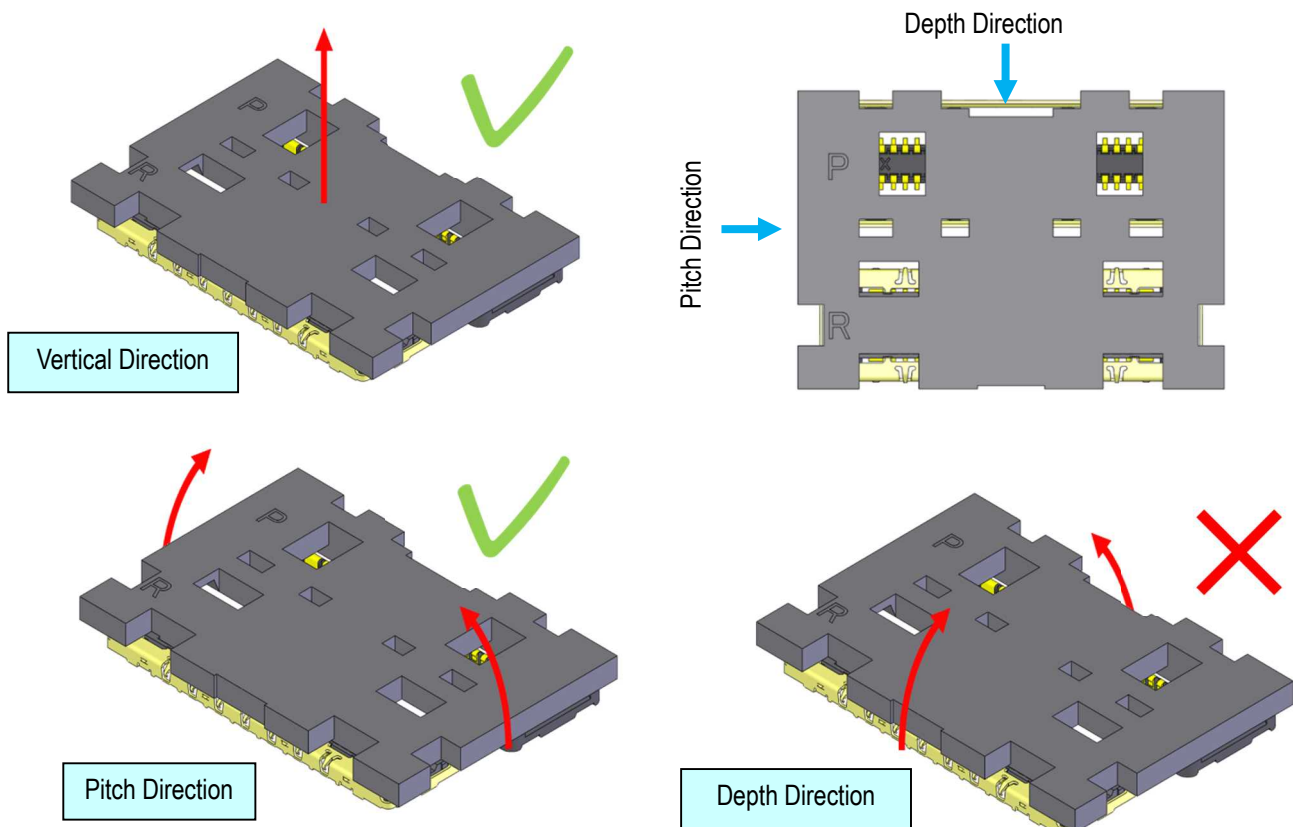
#### 3-1. Precautions Before Installation

If, for any reason, the plug or receptacle becomes partially detached or dislodged from the cap due to external force, please avoid reinserting them into the cap. Doing so may cause misalignment and potentially damage the connector. For products that appear to be partially detached or dislodged from the cap, we recommend not using them and disposing of them properly.



#### 3-2. Precautions After Installation

1. When removing the vacuum cap, always pull it straight up in a vertical direction. If you need to remove it at an angle, do so from the pitch direction. Avoid pulling it out from the depth direction, as this could potentially cause damage to the connector and vacuum cap.



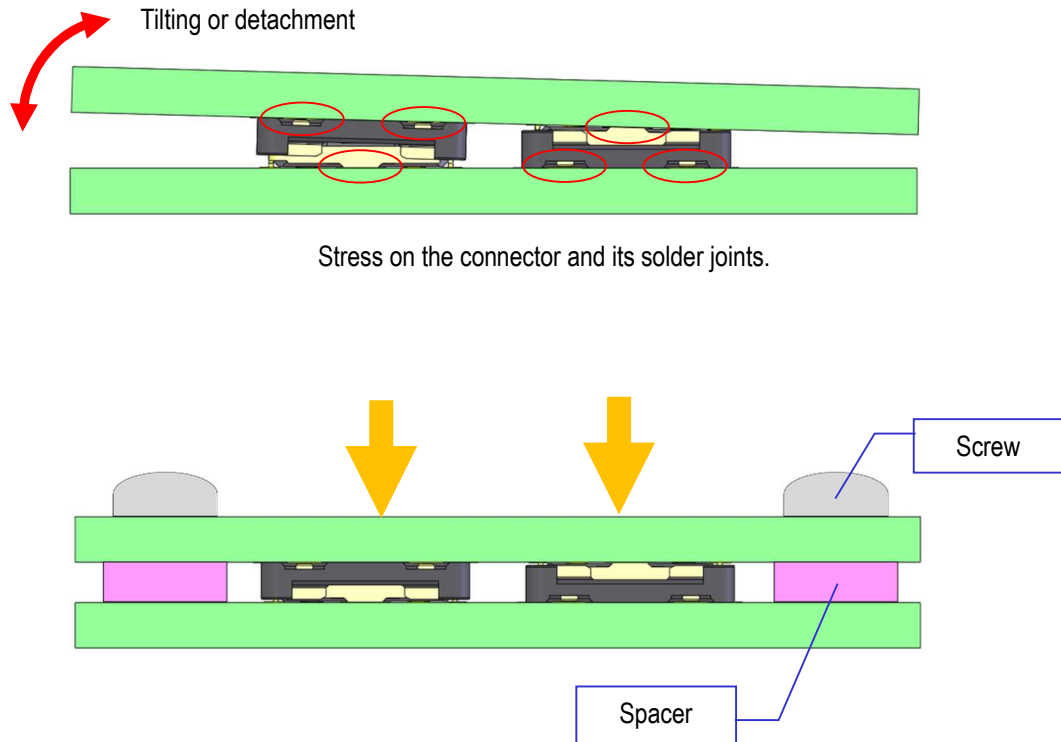
2. Dispose of any removed vacuum caps and refrain from reusing them.



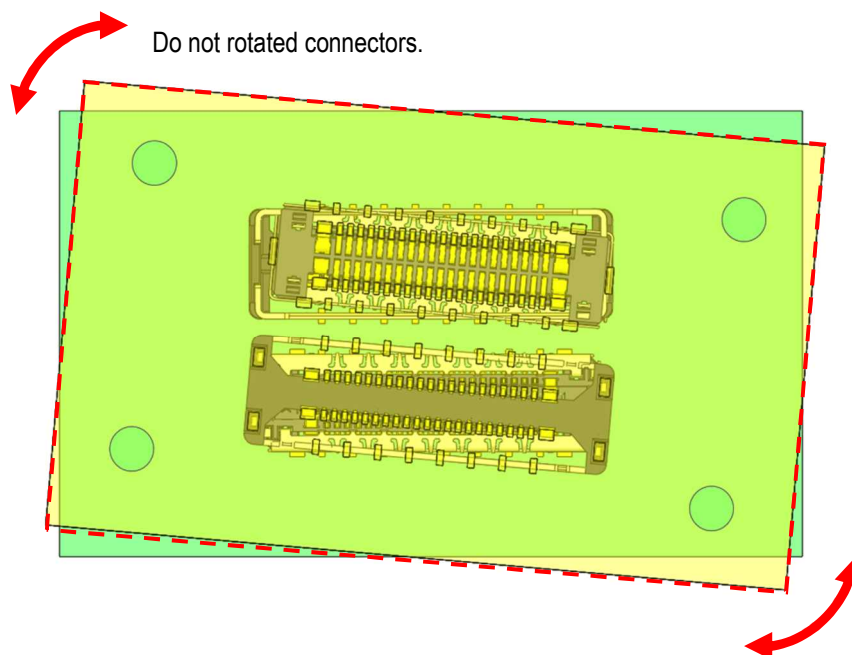


## 3-4 Precautions for PCB-to-PCB connection:

1. Depending on the size and shape of the PCBs being connected, there is a possibility of direct stress on the connector and its solder joints, which could result in damage, tilting, or detachment during vibration or impact. To avoid such issues and ensure a secure connection, it is recommended to use spacers or other methods to firmly fix the two PCBs together.



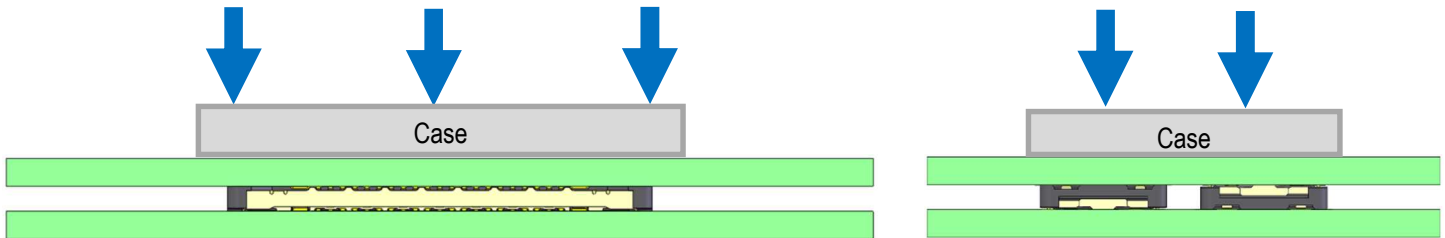
2. When using screws to secure the PCBs, be careful not to rotate the connectors. Fixing the connectors in a misaligned position may cause damage. Ensure they are properly aligned before tightening the screws to avoid any potential issues.



## 3-5. Connector Retention Force

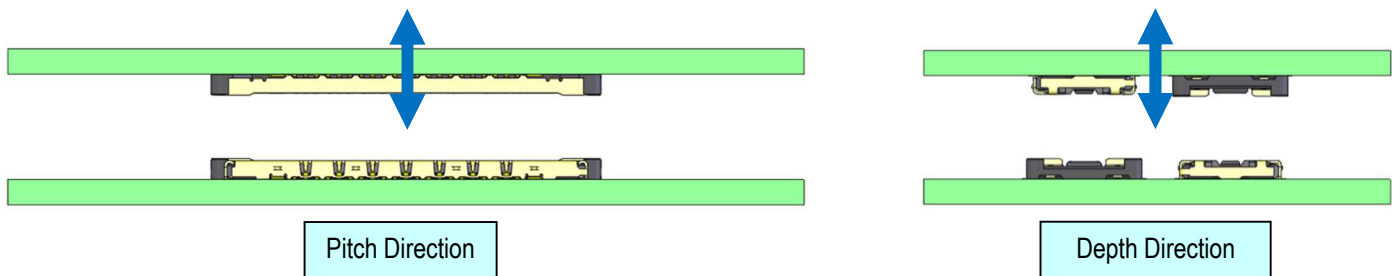
When applying a retention force to prevent the connector from disengaging in its mated state (by pressing with the case), please ensure that the entire top surface of the connector is uniformly pressed under the following condition:

(Retention force: Number of contacts  $\times$  1.0N or less)



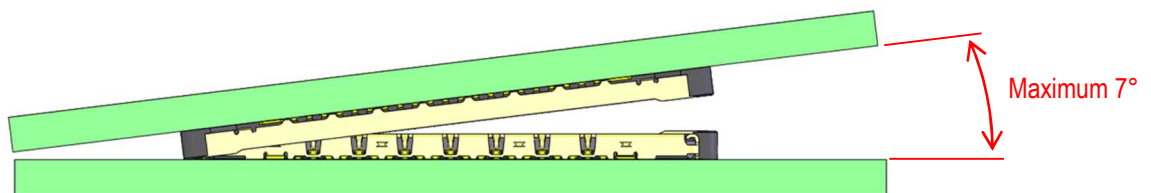
## 4 Mating and Unmating Method

When mating or unmating the connectors, please do so horizontally. Do not apply excessive force or rotate the connectors, as it may cause damage. Please refrain from doing so.



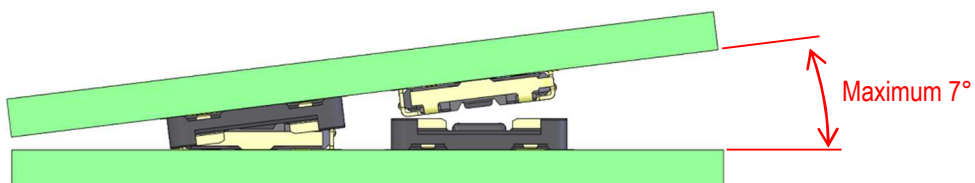
## Note 1

Please use an insertion angle of  $7^\circ$  or less in the pitch direction when starting to insert the connector. Inserting at an angle greater than  $7^\circ$  may cause the connector to deform or get damaged.



## Note 2

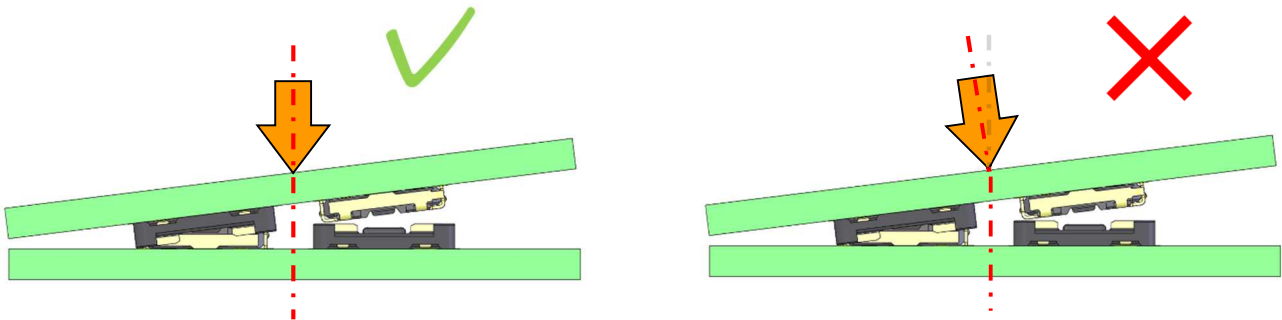
Please use an insertion angle of  $7^\circ$  or less in the depth direction when starting to insert the connector. Inserting at an angle greater than  $7^\circ$  may cause connector to deform or get damaged.





## Note 3

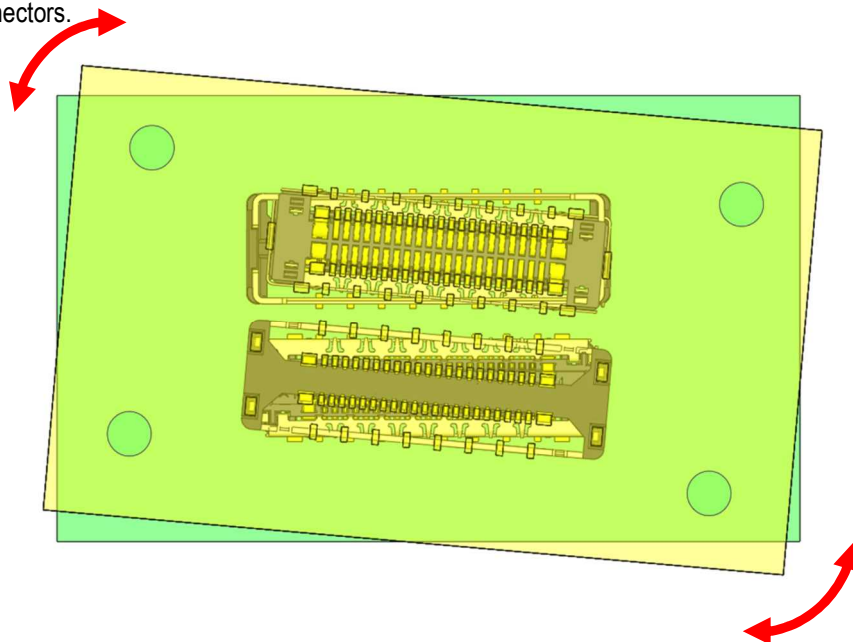
If the connector is inserted at an angle, gently push it straight down from the top, and the connector's guide function will help stabilize its position. Do not forcefully insert it from an oblique direction.



## Note 4

Do not insert or remove with rotational force applied.

Rotated connectors.



## Note 5

If necessary, remove one side (diagonal removal) of the connector only from the pitch direction.

Removing one side (diagonal removal) from the depth direction may cause damage to the connector.

