



Title of Document:	HANDLING MANUAL	Issue No. CHM-1-185	Rev. 3
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Title subject:	JMD connector	Revision date: May 8, 2020	

This manual describes important and required points of handling about JMD connector (embossed-taping product).

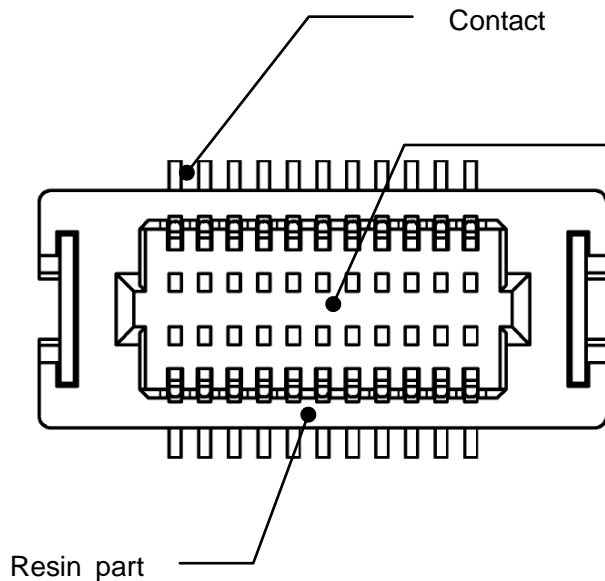
Be sure to read this manual thoroughly before using this connector.

C O N T E N T S

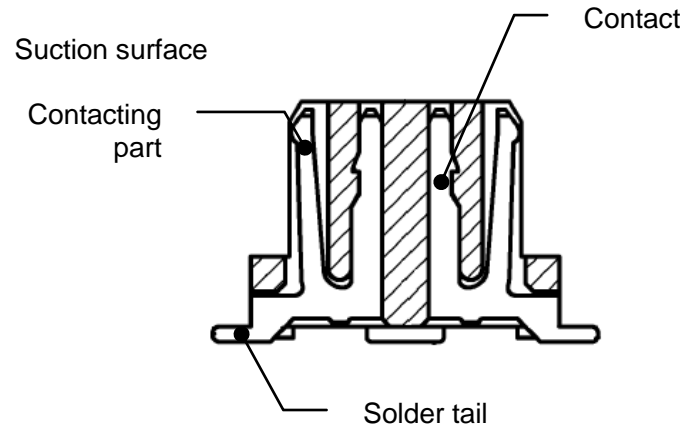
	Page
1. Part Name	2
2. Model Number	3
3. Storage	4
3-1 Connector storage.....	4
3-2 Storage of the processed connectors	4
4. PC Board Pattern Layout	4
5. Handling Precautions	5
5-1 Mating operation.....	5
5-2 Unmating operation	7
5-3 Handling of connector after mating	9
5-4 Precautions for soldering operation	11
5-5 Precautions for using FPC	12

Prepared by: <i>K. Takehira</i>	Checked by: -	Reviewed by: <i>S. Ota</i>	Approved by: <i>H. Tomimoto</i>
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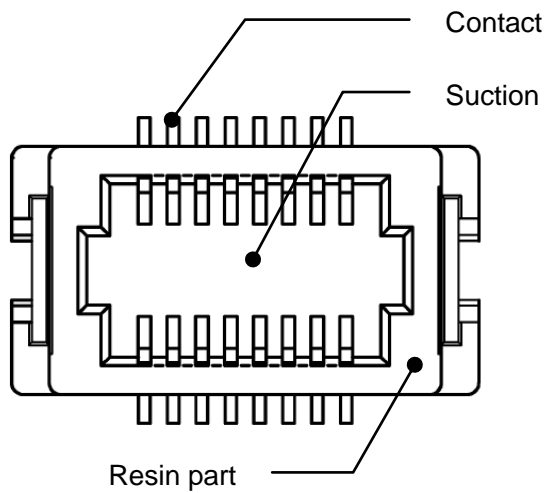
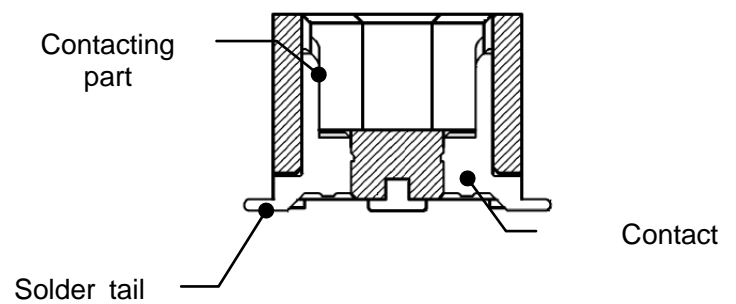
1. Part Name

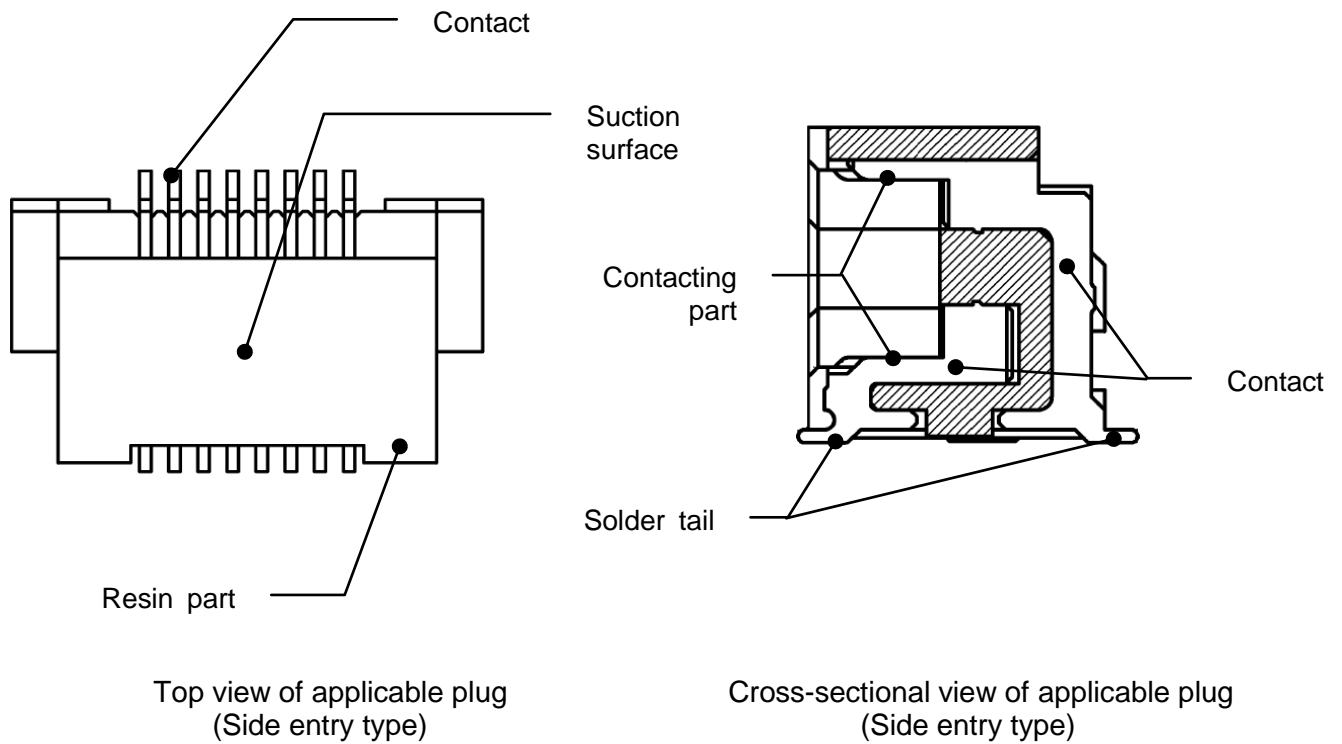


Top view of receptacle



Cross-sectional view of receptacle

Top view of applicable plug
(Top entry type)Cross-sectional view of applicable plug
(Top entry type)



2. Model Number

Part name			Model No.
Receptacle		Loose piece product	(* ₁)R-JMDSS-G-1 (S)(LF)(SN)
		Embossed-taping product	(* ₁)R-JMDSS-G-1-TF (S)(LF)(SN)
Plug	Top entry type	Loose piece product	(* ₁)P(* ₂)-JMDSS-G-1 (LF)(SN)
		Embossed-taping product	(* ₁)P(* ₂)-JMDSS-G-1-TF (LF)(SN)
	Side entry type	Loose piece product	(* ₁)PS-JMDSS-G-1 (LF)(SN)
		Embossed-taping product	(* ₁)PS-JMDSS-G-1-TF (LF)(SN)

Note 1: Number of circuits in figure is indicated in (*₁).

Note 2: Stacking height of top entry type plug is indicated in (*₂).

Note 3: Identification marking "(LF)(SN)" of suffix stands for purified lead-free product.
(LF)(SN) shall be displayed on product label.

3. Storage

3-1 Connector storage

Recommended storage condition: Temperature: 5 – 35 °C, Relative humidity 60 % or less
(Under packaging like the state of JST shipment)

Keep off direct sunlight, places exposing to such corrosive gas as industrial gas (generate from a stove and whatnot) and ammonia gas (generate from a toilet and whatnot), dusty place and condensation.

Note that the resin molding part may break due to transportation and handling, such as processing and mating, under dry or low temperature condition.

After unpacking, return products in the original package to store.

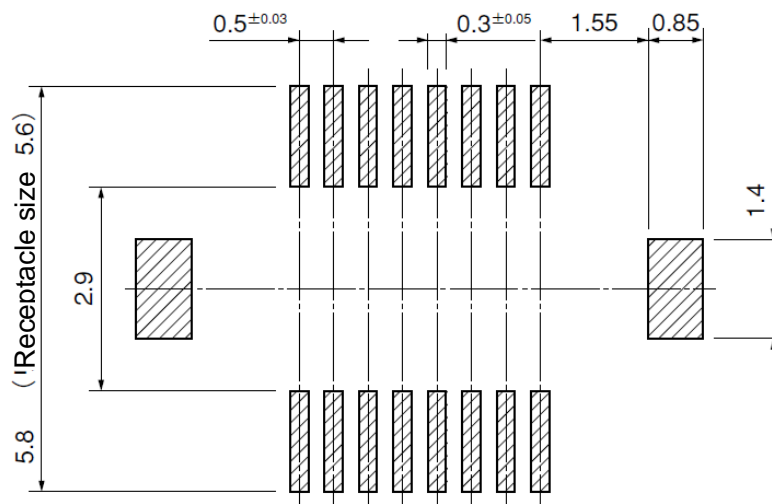
3-2 Storage of the processed connectors

Not leaving the processed connectors to stand in a place exposed to high humidity and direct sunshine, and not placing them directly on the ground, keep them in a clean storage room.

4. PC Board Pattern Layout

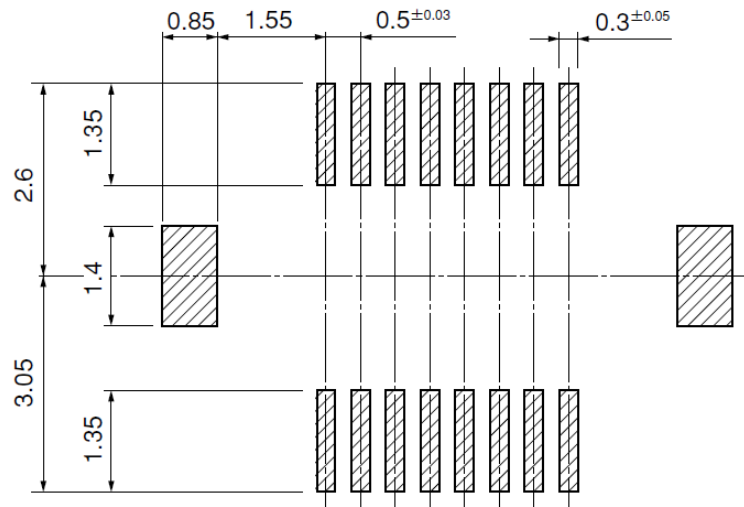
The following PC board pattern layout is recommended.

- Receptacle side
Plug side (Top entry type plug)



Reference PC board pattern layout (Viewed from component side)

- Plug side (Side entry type plug)



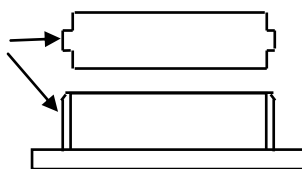
Reference PC board pattern layout (Viewed from component side)

5. Handling Precautions

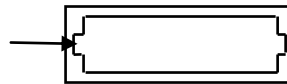
5-1 Mating operation

Align housing guide at both ends of housing, and press in both sides of plug housing straight with even force. Plug and receptacle shall be mated with in 5 degrees.

- Position of housing guide

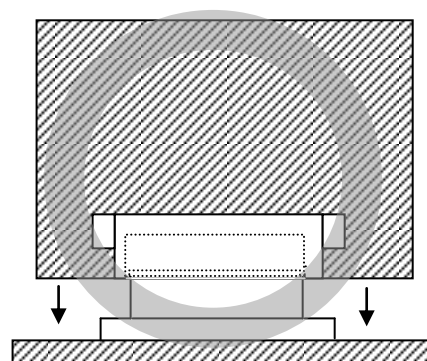
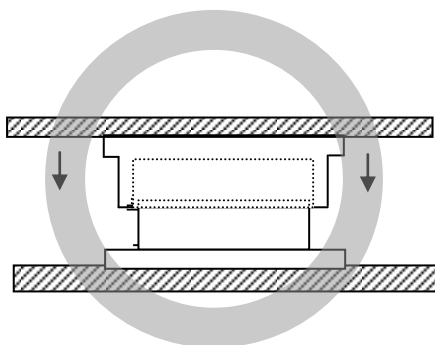
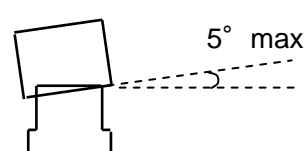
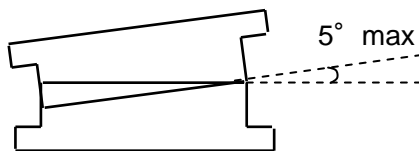


Receptacle



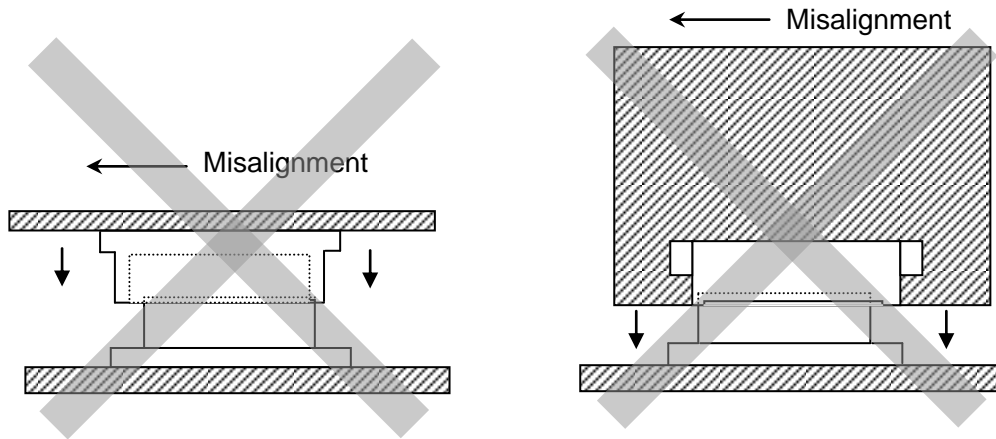
Plug

- Angle of receptacle and plug housing.

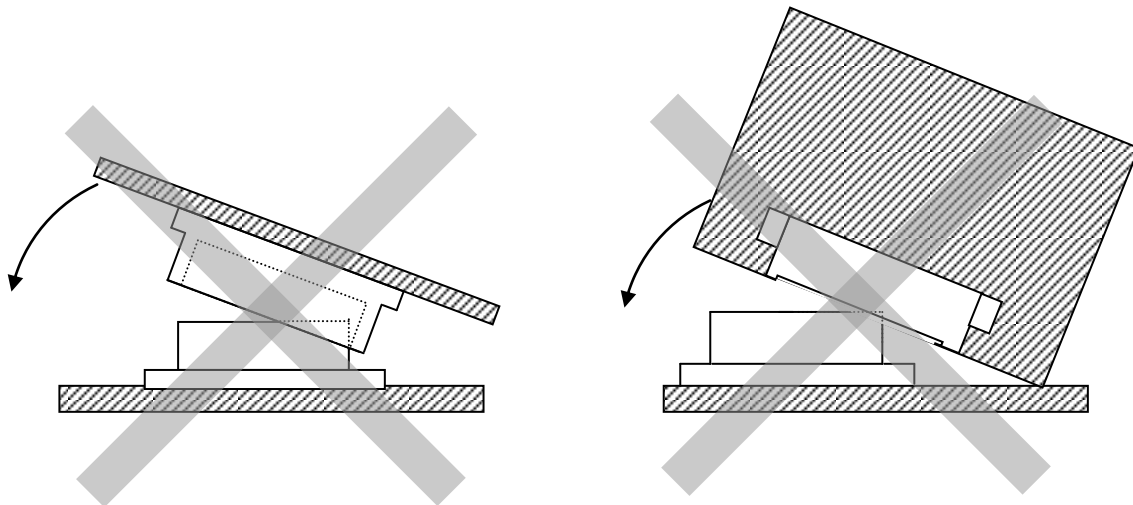


Prohibition matter in mating operation

- Do not mate plug with receptacle without aligning each guide.
(Such handling may lead to deformation of contact and scrape and crack of housing.)



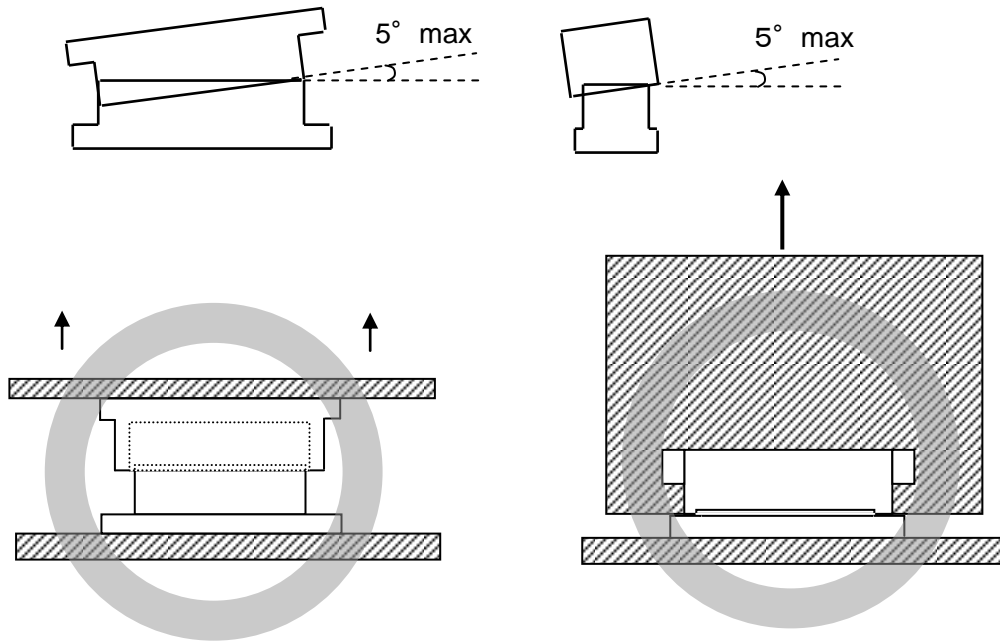
- Do not mate plug with receptacle by rotating plug from a slanting state after mating only one side of connector as shown in figure below.
(Such handling may lead to deformation of contact and scrape and crack of housing.)



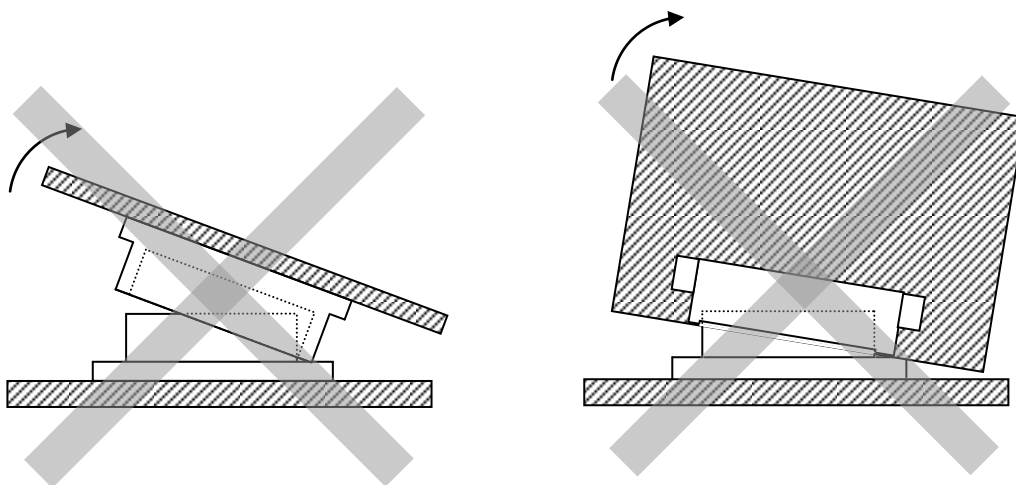
5-2 Unmating operation

Hold PC board, and pull it out straight in perpendicular direction. Plug and receptacle shall be unmated within 5 degrees.

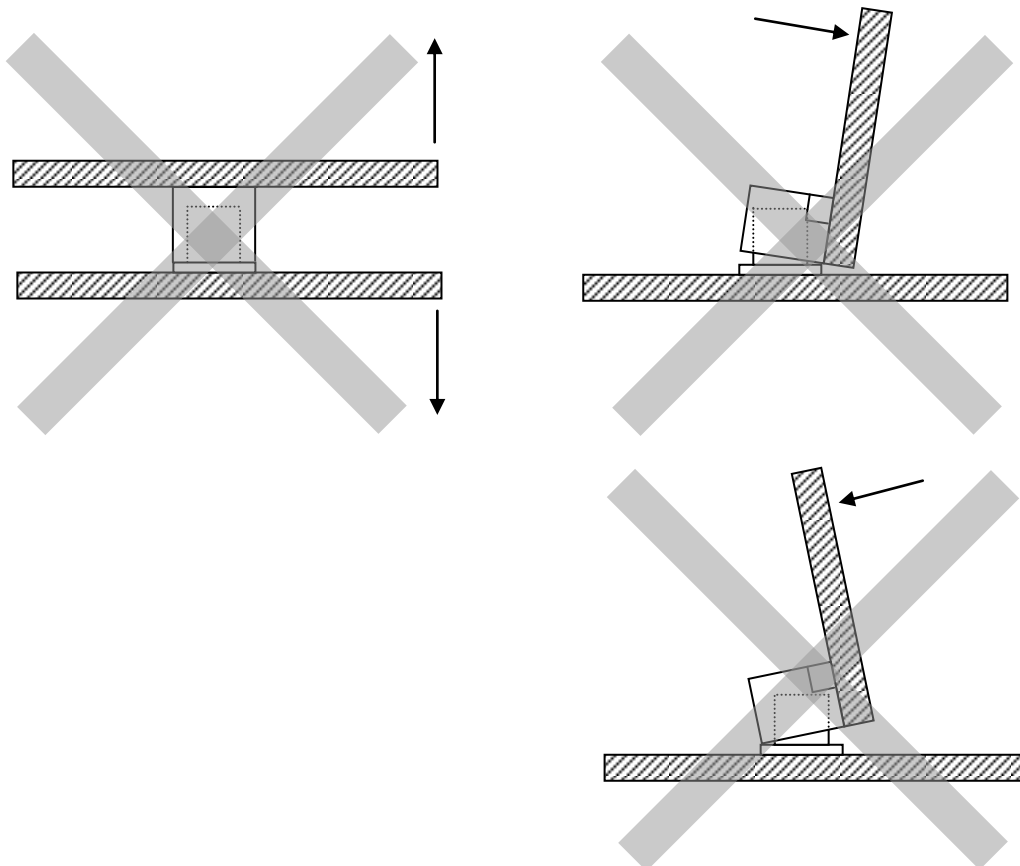
- Angle of receptacle and plug housing

Prohibition matter in unmating operation

- Do not unmate plug from receptacle with having one end of PC board at plug side and rotating as shown in figure below.
(Such handling may lead to deformation of contact and scrape and crack of housing.)



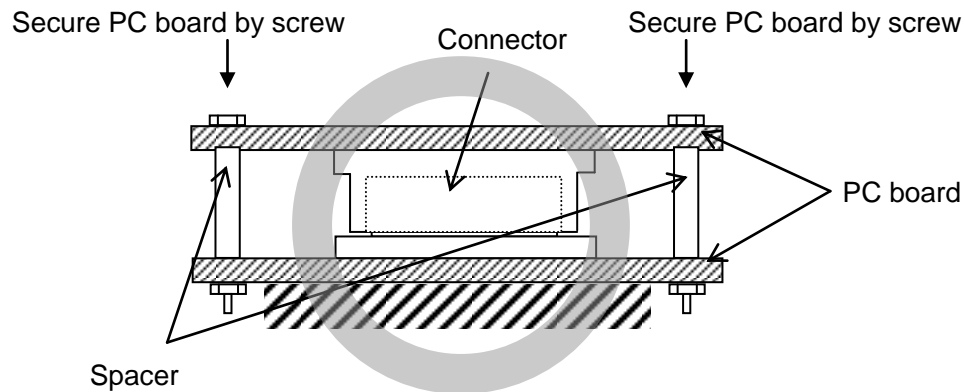
- Do not unmate plug from receptacle while warping PC board by applying force in the direction of the arrow.
(Such handling may lead to deformation of contact and scrape and crack of housing.)



5-3 Handling of connector after mating

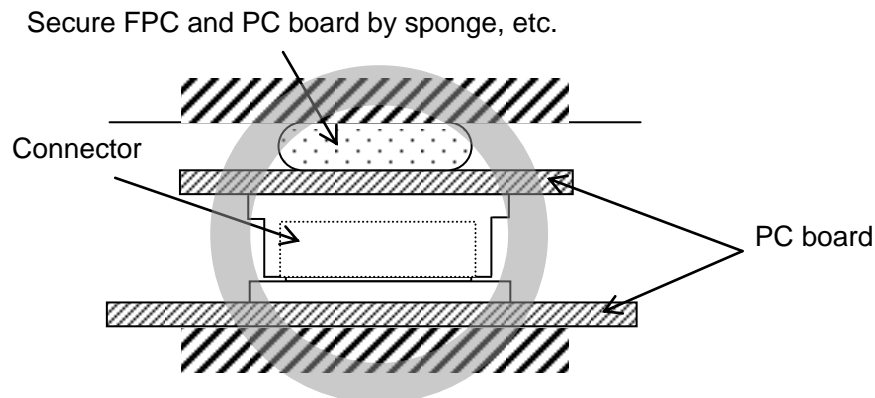
- ① When both connectors are mounted on rigid PC board, fix the PC board so that connector does not come off PC board due to vibration and shock.
- ② Do not apply external force to connector due to deviation of position between PC boards after screwing or fixing PC boards, because a critical defect as solder crack, etc. may occur.

e.g.: Top entry type



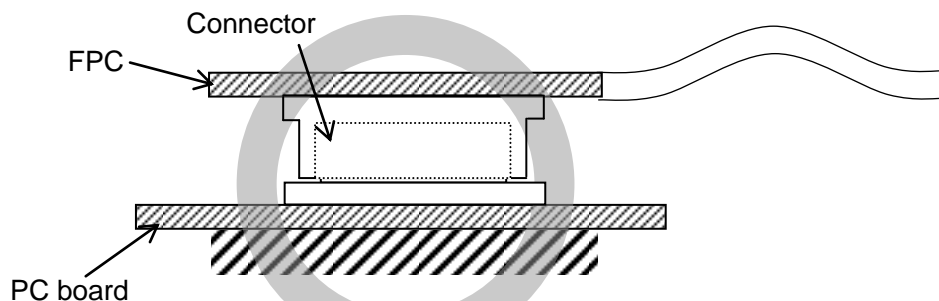
- ③ When above PC board fixing method is difficult due to mounting on FPC, etc., fix FPC and PC board by pressing to the mating direction as below.

e.g.: Top entry type

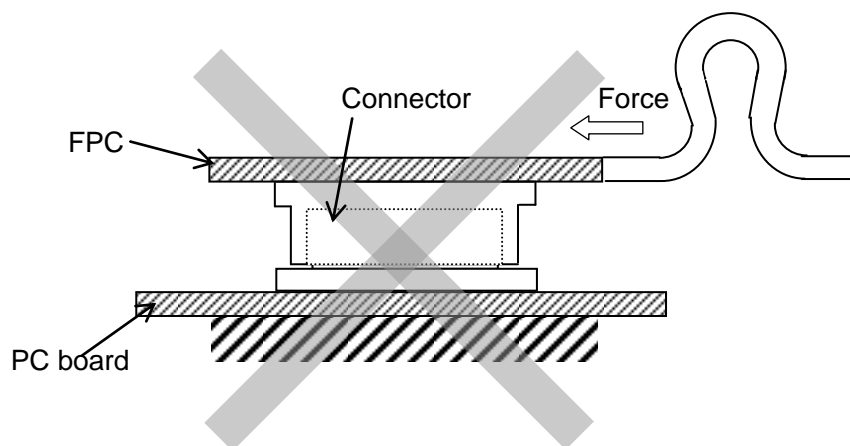


- ④ When FPC with connector is used, provide sufficient FPC length for handling, because external force which is caused by bending of FPC or pulling FPC is loaded to connector.

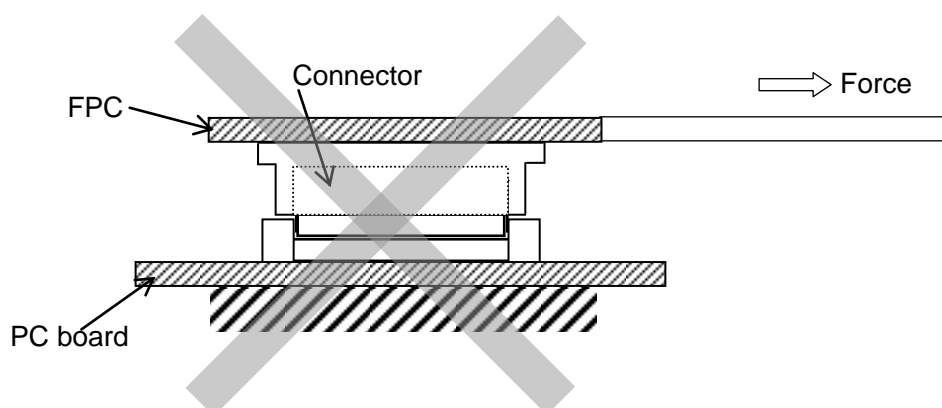
FPC length is sufficient, so that force is not loaded to connector.



Bending part of FPC is so close to connector that lateral load is loaded to connector.



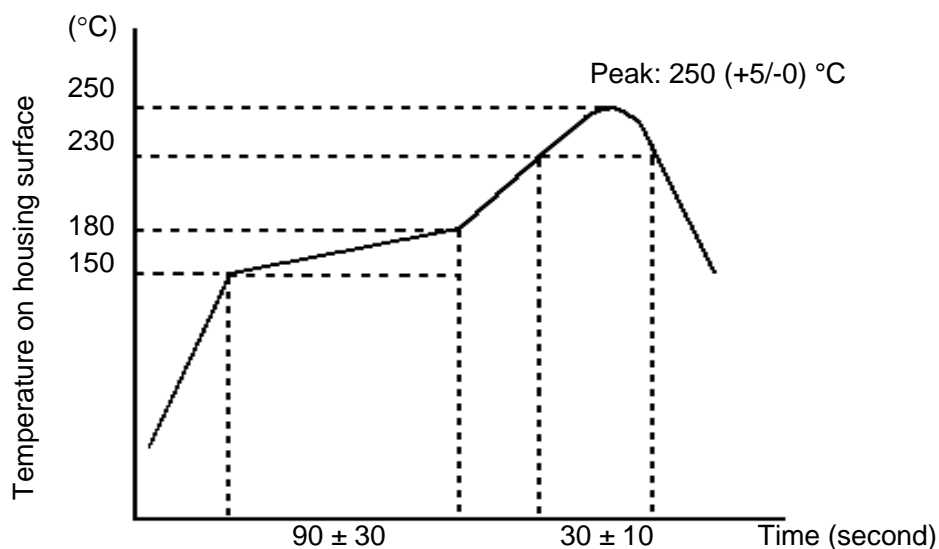
Pulling force is applied to connector due to insufficient FPC length



5-4 Precautions for soldering operation

① Reflow soldering method Reflow temperature profile

We recommend soldering at the lower temperature than the temperature profile shown below. The recommended reflow temperature differs depending on the solder paste, so please check carefully before use.



Temperature profile of reflow soldering

When bridge trouble appears in process of reflow soldering and repair is conducted by hand, use a soldering iron with temperature of 350°C at the tip and do it quickly within 3 seconds so that the contact pin is pushed by soldering iron tip and external load is not applied to it. If done, dismount and change connector.

Do not reuse dismantled connector.

② Solder paste

As JMD connector is a fine pitch connector, blanking part of metal mask is very small, so soldering by using solder paste for fine pitch is recommended.

③ Reflow soldering type

Reflow soldering by hot air reflow soldering is recommended.

④ Specification of metal mask (amount of solder)

Metal mask of following blanking part ratio and thickness is recommended:

- Blanking part ratio: It shall be 100% against recommended PC board pattern layout as mentioned in item-4.
- Thickness: 120 μm

If the amount of solder increases, bridge trouble, solder rising, flux rising, etc. may occur, and if it is reduced, such condition may lead to deterioration of connector performance such as defective soldering, solder crack and so on.

JST	Title subject: JMD Connector	No. CHM-1-185
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5-5 Precautions for using FPC

When either JMC connector plug or receptacle is mounted on FPC, use it under the following conditions, otherwise, defective condition such as coming off solder or pattern of FPC during unmating connector may occur.

- ① Be sure to use FPC, attaching reinforcing plate to the back part of connector mounting part. The outer dimensions of reinforcing plate should be larger than that of mounted connector.
- ② As material of reinforcing plate, be sure to use the plate which can secure sufficient strength and flat surface and its thickness shall be 0.3 mm min.