



Title of Document:	HANDLING MANUAL	Issue No. CHM-1-2027	Rev. 6
Customer:		Issue date: December 26, 2001	
Title subject:	FHJ Connector (Embossed-Taping Product)	Revision date: October 3, 2019	

This manual describes important and required points of handling about FHJ Connector (Embossed-Taping Product).

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

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1. Model Number and Part Name

(1) Model number

	Part name	Model No.
FHJ connector	Embossed-taping product	※※FHJ-SM1-※ ₁ -TB (※ ₂)
	Loose piece product	※※FHJ-SM1-※ ₁ (※ ₂)

Note₁: Number of circuits is indicated in ※※
e.g.) 08FHJ-SM1: 8-circuit, 18FHJ-SM1: 18-circuit

Note₂: Plating specification of contact is indicated in “※₁”.
Blank: Tin-plated
G#: Gold-plated (#: Plating thickness in alphabet character)

Note₃: FHJ connector is supplied on embossed-tape (4,000 pcs./reel).

Note₄: (※₂) stands for lead-free product. “(LF)(SN)” shall be displayed.

(2) Part name

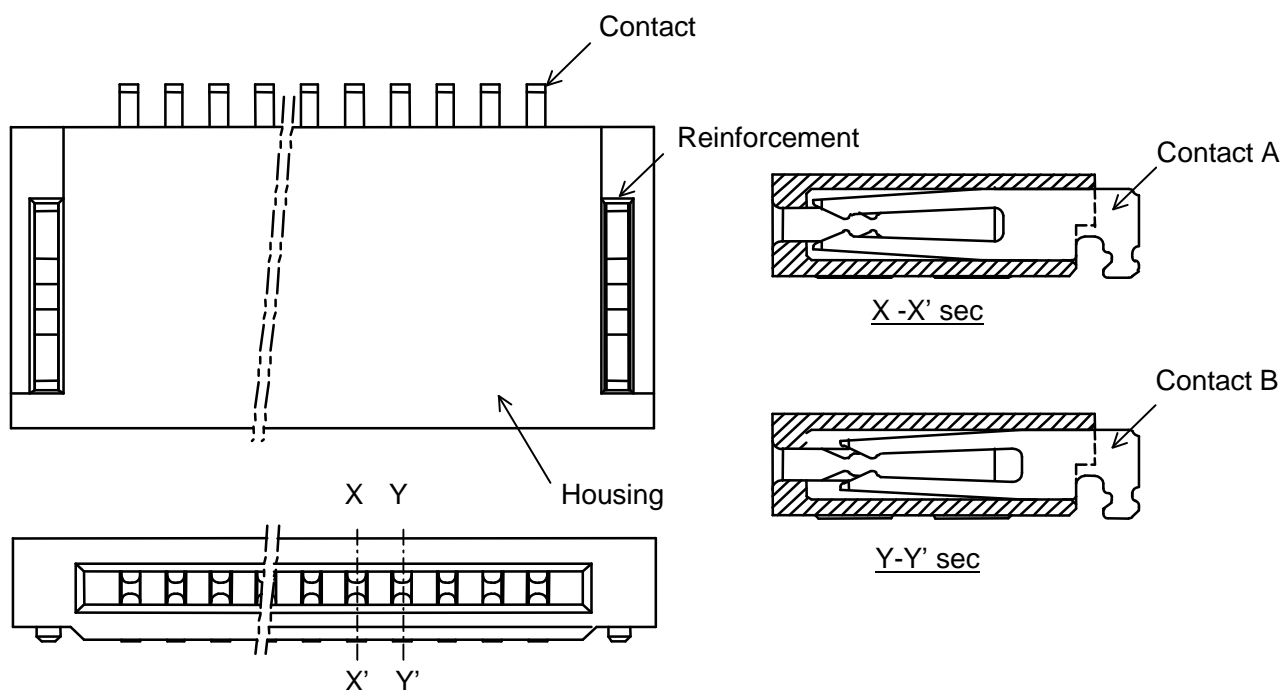


Fig.1: Each part name (Connector)

2. Applicable FPC

Item	Rated value	
Applicable FPC	Lead:	Tin-plated, Tin alloy-plated, gold-plated
	Lead pitch:	0.5 ± 0.03 mm
	Lead width:	0.35 ± 0.04 mm
	Mating part thickness:	0.3 ± 0.05 mm

Note₅: Dimensions of FPC greatly affect to the contacting reliability with connector.

Conform the dimensions of FPC with those of applicable ones described in Fig.2.

Especially, narrow pitch connector has a high possibility to come off from contact point due to warpage, deformation, slant insertion, insufficient insertion and so on of FPC.

In order to reduce these risks, manage that the important dimensions such as conductor width, length, pitch, FPC total width, position misalignment between conductor and FPC width etc. shall be satisfied with the given tolerances, considering the variations of those dimensions.

Note₆: Confirm the applicability of the connector with the FPC used, before use.

FPC, which applicability is not confirmed, might not be able to guarantee the performance.

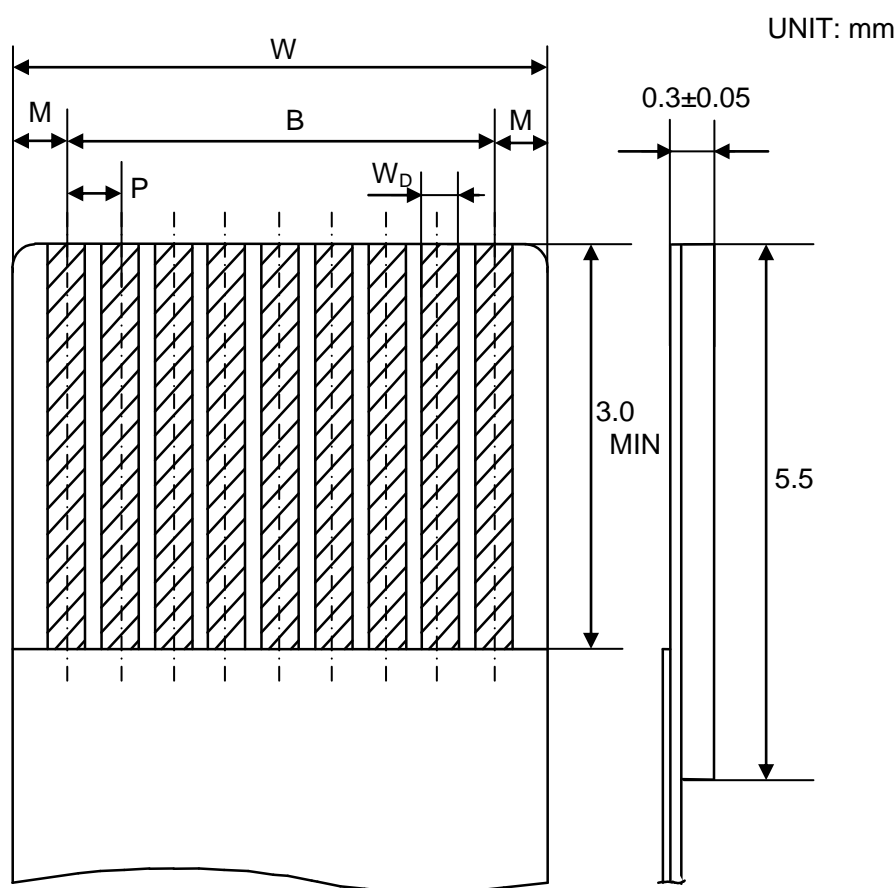


Fig.2: Applicable FPC

	FPC
M	0.5 ± 0.1
P	0.5 ± 0.03
B	$0.5 (N-1) \pm 0.03$
W	$0.5 (N+1) \pm 0.05$
W_D	0.35 ± 0.04

N = No. of circuits

3. PC Board Pattern Layout

The following PC board pattern layout is recommended.

Recommendable coating thickness for soldering: 100 to 150 μm

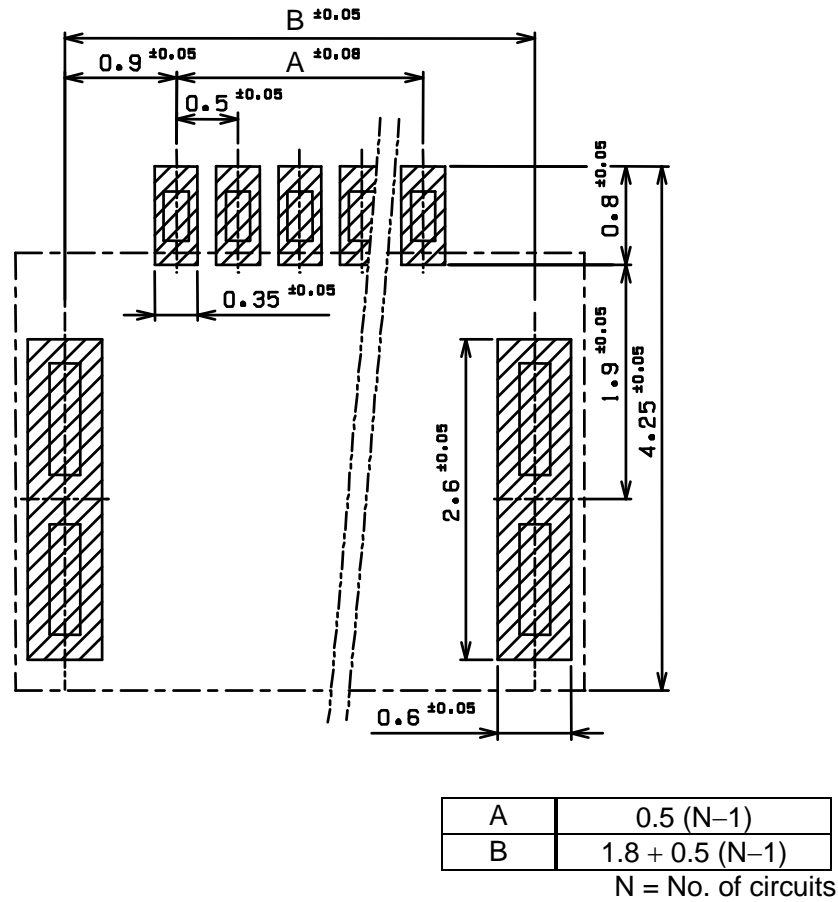
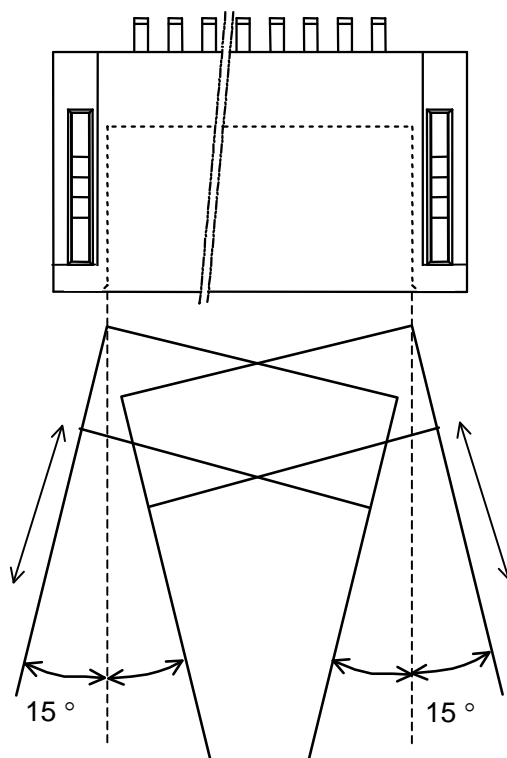
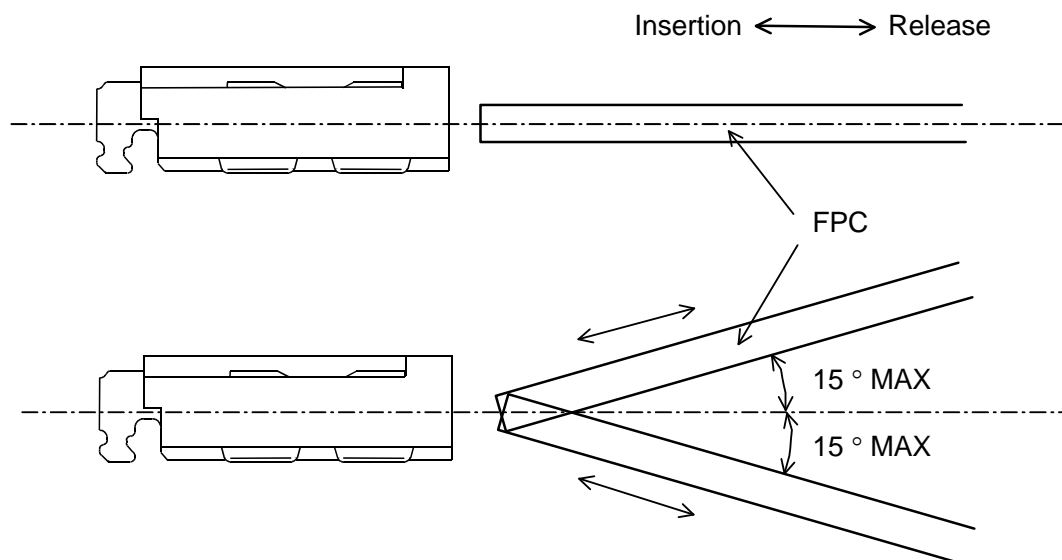


Fig.3: PC board pattern layout

4. Handling Precautions

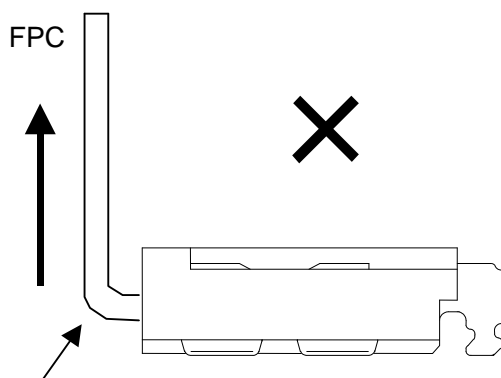
4.1 Inserting and releasing FPC

Inserting and releasing operations with FHJ connector and FPC shall be conducted on the same axis. When the operation on same axis is difficult, conduct smooth operation within 15 degrees to each direction as below.



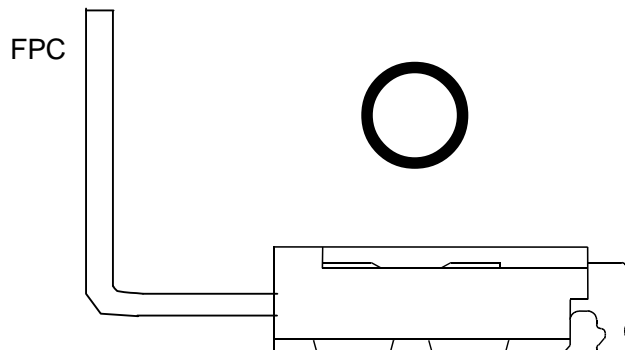
5. Handling of FPC after Mounting on PC Board

When inserted FPC is handled, provide sufficient FPC length so that force is not loaded to FHJ connector, because such loading may cause damage and discontinuity of connector.

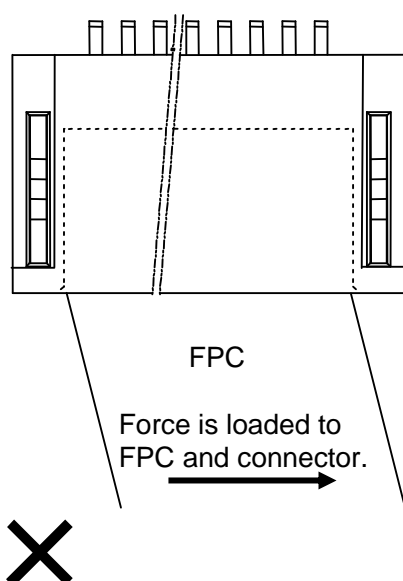


Force is loaded to FPC and connector.

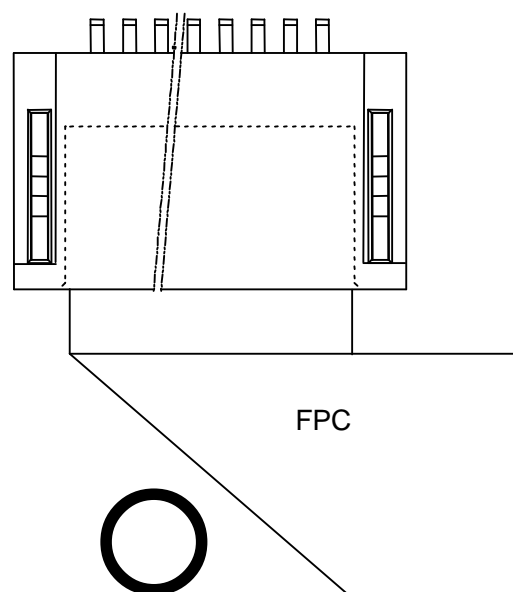
※ FPC length is not sufficient to handle.



※ FPC length is sufficient to handle.



※ Force is loaded to FPC and connector.



※ Forming processing is conducted to FPC not so as to load force to connector.

In the case that load is applied to mating part of connector and FPC due to operation of rotation part of device, etc. when using connector, such condition may cause defective contacting at connector mating part due to abrasion.

In such case, some treatment such as fixing FPC around mating part should be conducted.

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6. Precautions for Soldering Operation

6.1 Soldering iron method

Solder a connector mounted on PC board using a soldering iron with temperature of 350°C at the tip of soldering iron quickly within 3 seconds, and check appearance visually.
When soldering, strictly conduct the following points.

Do not press soldering iron tip on connector contact lead part nor apply abnormal force such as lateral load, etc. If done, dismount and exchange connector, and conduct soldering again.
Do not reuse dismounted connector.

6.2 Reflow soldering method

Soldering by following the less temperature profile of reflow soldering, which is mentioned in Product Specification as item of "Resistance to soldering heat", is recommended.
As recommended reflow temperature condition varies depending on solder paste to be used, follow each condition.

When bridge trouble appears in process of reflow soldering method and modification is conducted by hand, strictly conduct item 6.1 "Soldering iron method."

7. Storage

Keep FHJ connector (embossed-taping product) in the following ambience.

Storage temperature	5 to 35°C
Relative humidity	60% max.