



Title of Document:	HANDLING MANUAL	Issue No. CHM-1-2144	Rev. 2
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Title subject:	FH Connector (Embossed-Taping Product)	Revision date: October 28, 2019	

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

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

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1. Model Number and Part Name

1-1 Model Number

Part name		Model No.
FH connector	Embossed-taping product	**FH-SM1-#-TB () _{*1}
	Loose piece product	**FH-SM1-# () _{*1}

Note₁: The number of circuits is indicated in **.

e.g.: 08FH-SM1; 8 circuits

18FH-SM1; 18 circuits

Note₂: Plating specification of contact is indicated in #.

Blank: Tin-plated

GB: Gold-plated

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

Note₄: ()_{*1} stands for lead-free product. "(LF)(SN)" shall be displayed.

1-2 Part name

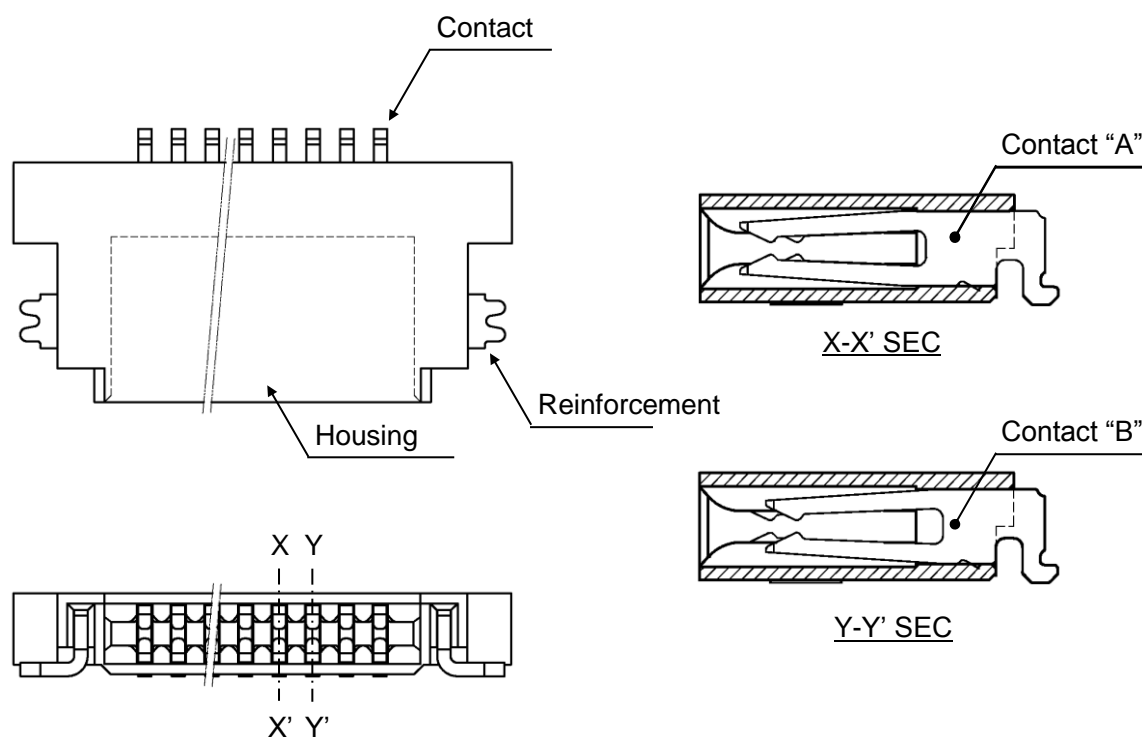


Fig.-1

2. Applicable FPC

Item	Rated value
Applicable FPC	Lead: Tin-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.

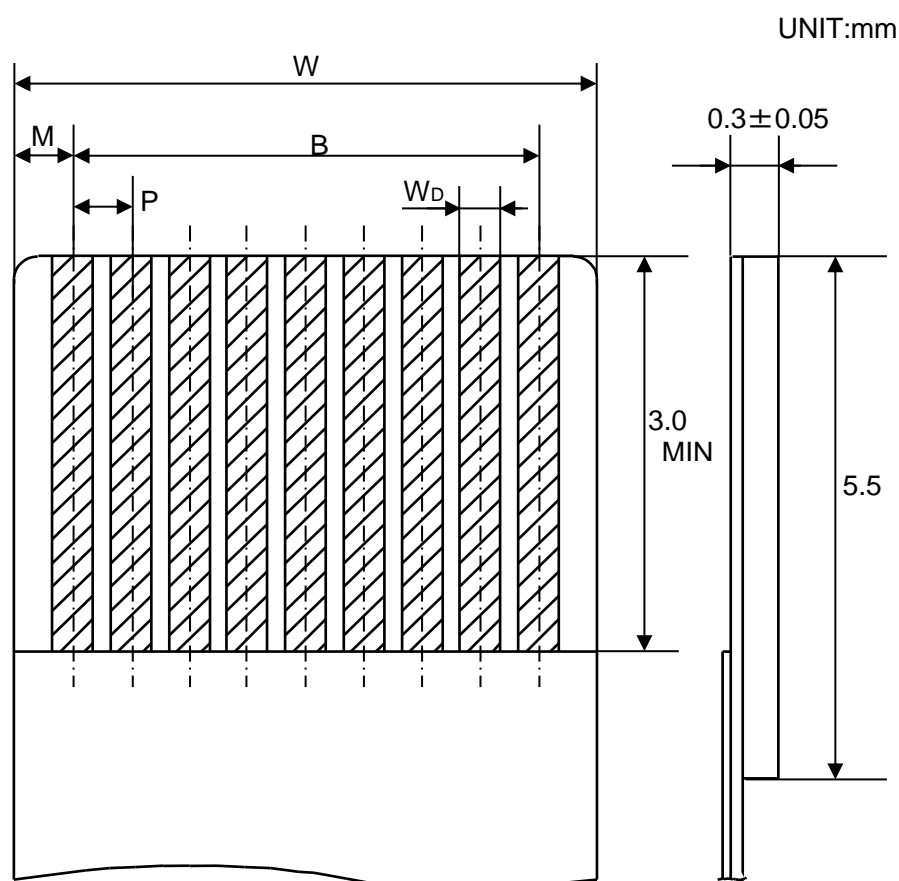


Fig.-2 Applicable lead (FPC)

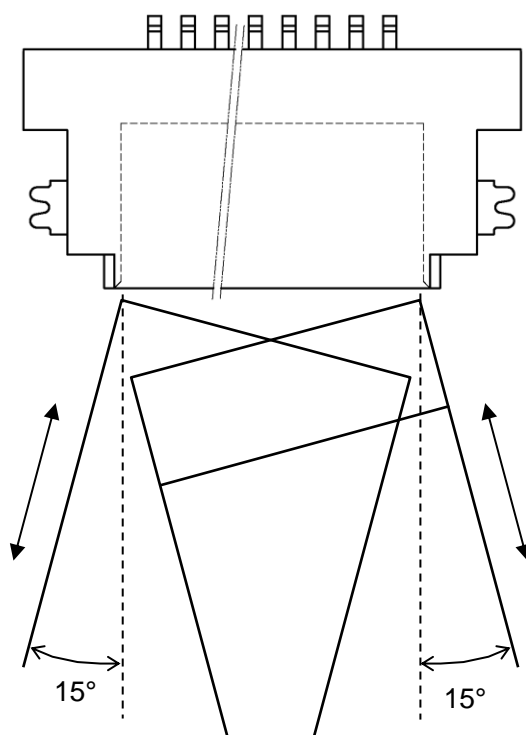
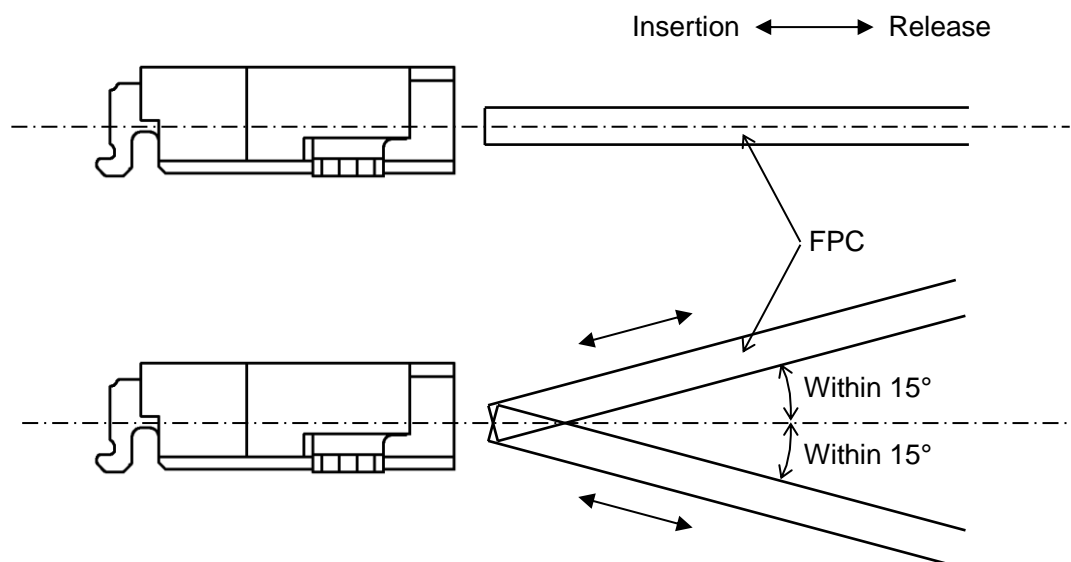
	FPC
M	0.5 ± 0.1
P	0.5 ± 0.03
B	$0.5 (N - 1) \pm 0.03$
W	$0.5 (N + 1) \pm 0.05$
W _D	0.35 ± 0.04

N = No. of circuits

4. Handling Precautions

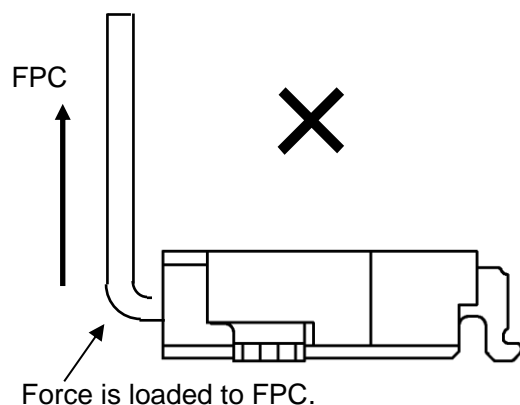
4-1 Inserting and releasing FPC

Inserting and releasing operations with FH 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.

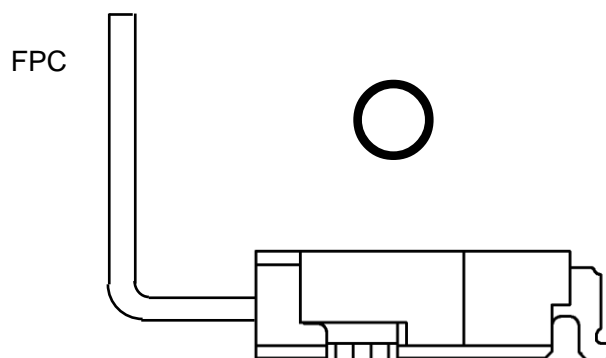


5. Handling of FPC after Mounting on PC Board

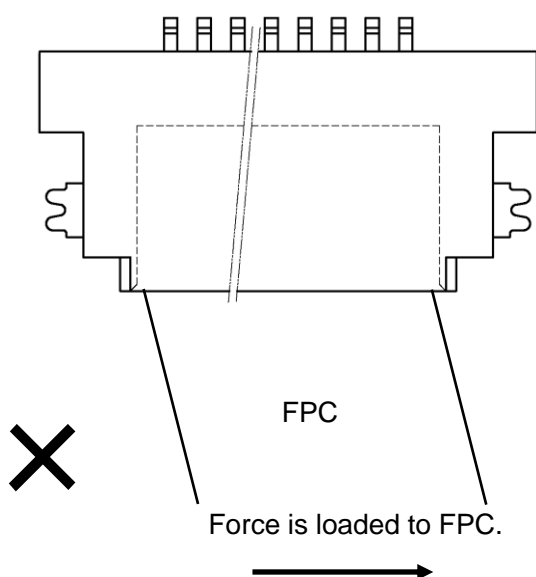
When inserted FPC is handled, provide sufficient FPC length so that force is not loaded to FH connector, because such loading may cause damage and discontinuity of connector.



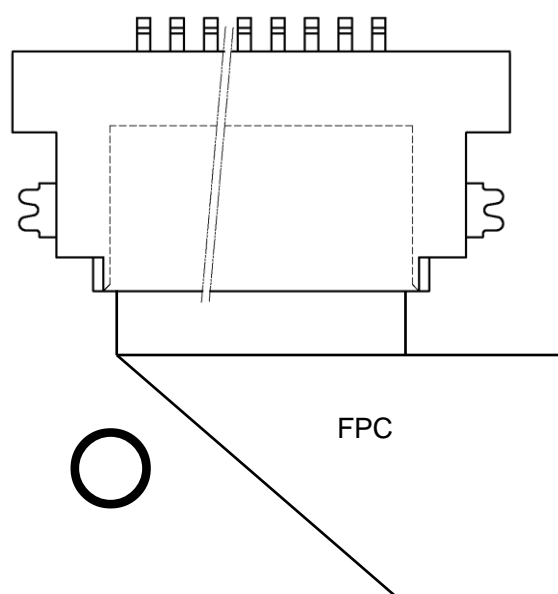
※ FPC length is not sufficient to handle.



※ FPC length is sufficient to handle.



※ Force is loaded to FPC.



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

In the case that FPC, which is inserted into connector, moves when moving parts at rotation part of mobile phones operate, such condition may cause defective contacting at connector mating part due to abrasion.

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

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6. Precautions for Soldering Operation

6-1 Solder 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.

Do not strongly press soldering iron tip on connector contact lead part nor apply abnormal load 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

Reflow soldering by lower temperature profile than that of described in item "Resistance to Soldering Heat" of product specification is recommended, though recommended reflow temperature condition varies depending on solder paste to be used.

When bridge trouble appears in process of reflow soldering and repair is conducted by hand, strictly conduct item 6-1 "Solder iron method."

7. Storage

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

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