



Title of Document:	HANDLING MANUAL	Issue No. CHM-1-2183	Rev. 1
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Title subject:	FXZT Connector (Gold-Plated Product)	Revision date: October 18, 2019	

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

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

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JST	Title subject: FXZT Connector (Gold-Plated Product)	No. CHM-1-2183
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1. Model Number and Part Name

1-1 Model number

Remark: 17- ~ 39-circuit for inner lock type
41- ~ 51-circuit for outer lock type

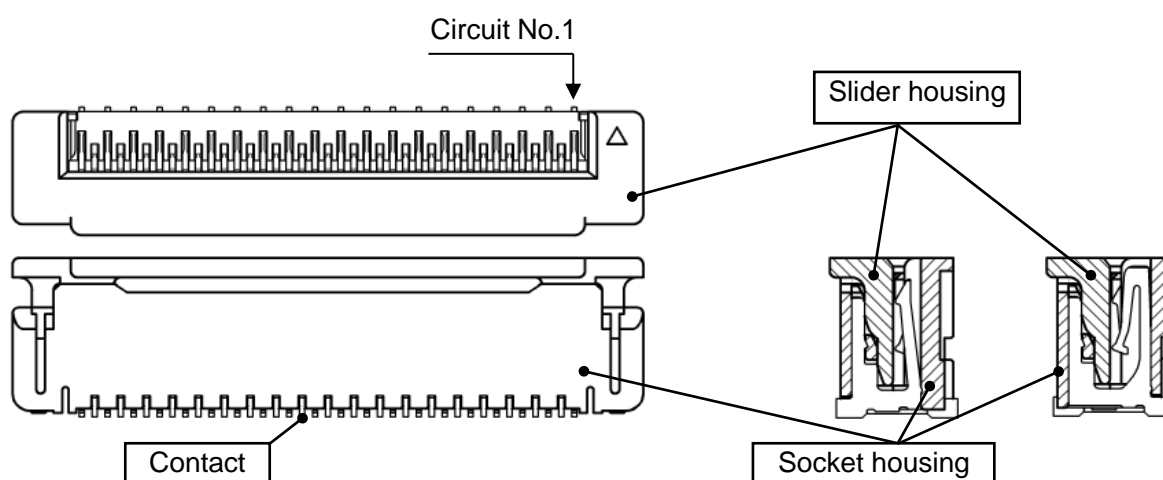
Part name		Model No.
FXZT connector (Gold-plated product)	Embossed-taping product	**FXZT-SM1-GAN-TF
	Loose piece product	**FXZT-SM1-GAN

Note 1: Number of circuits in two-digit figure is indicated by asterisk
e.g.) 39FXZT-SM1-GAN-TF: 39-circuit FXZT connector (embossed-taping product)

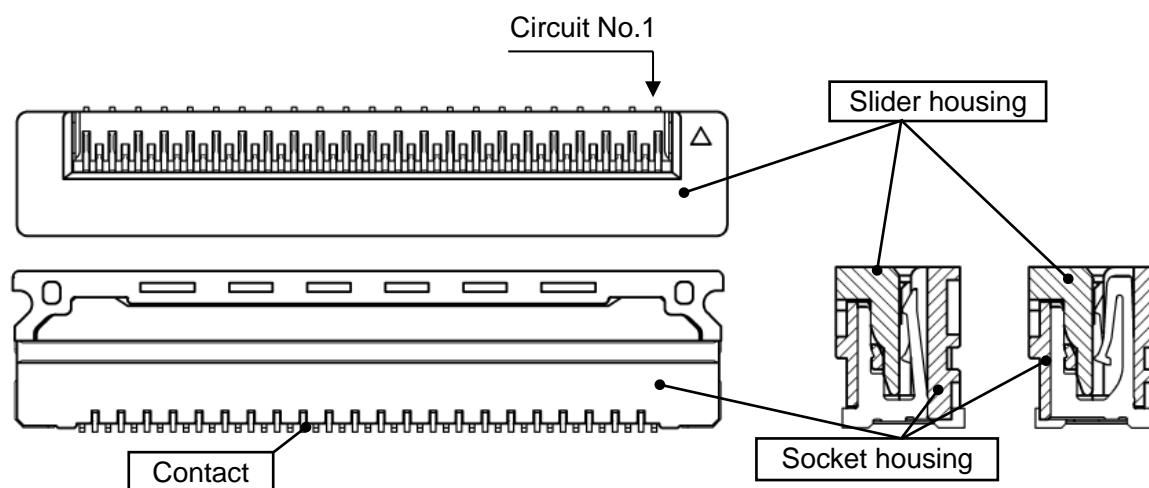
Note 2: FXZT connector is supplied on embossed-tape (2,000 pcs./reel).

1-2 Part name

Inner lock type: 17- ~ 39-circuit



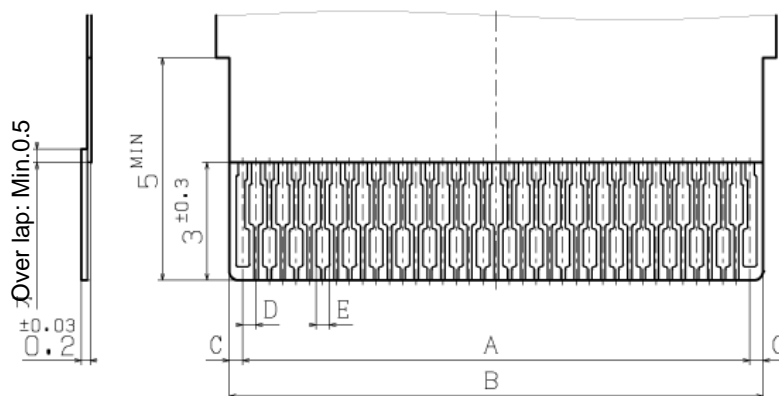
Outer lock type: 41- ~ 51-circuit



2. Applicable FPC

- ① Dimensions of FPC greatly affect to the contacting reliability with connector.
Conform the dimensions of FPC with those of applicable ones described in drawing.
- 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.
- ③ 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.
- ④ Blanking shall be conducted in the direction from conductor side to reinforcing plate side.
Material of reinforcing plate should be polyimide and thermosetting adhesive shall be used.

Item	Rated value	
Applicable FPC (Refer to connector approval drawing and the following figure.)	Conductor:	Gold-plated (Plating method: Electrolytic plating)
	Conductor pitch: 0.3 mm	
	Conductor width: 0.3 mm	
	Mating part thickness:	0.2 ±0.03 mm
	Material of reinforcing plate:	Polyimide
	Adhesive:	Thermosetting adhesive

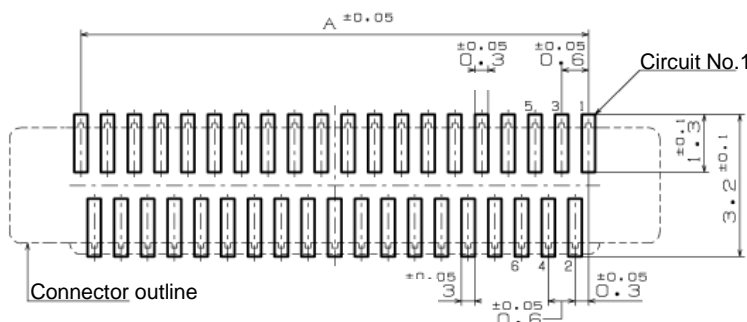


	Dimension (mm)
A	$0.3(N-1) \pm 0.03$
B	$0.3(N+1) \pm 0.05$
C	0.3 ± 0.07
D	0.3 ± 0.02
E	0.3 ± 0.03

N= Circuit No.

3. PC Board Pattern Layout

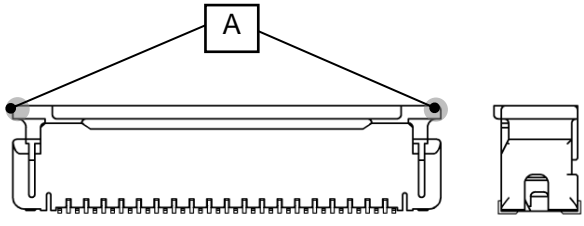
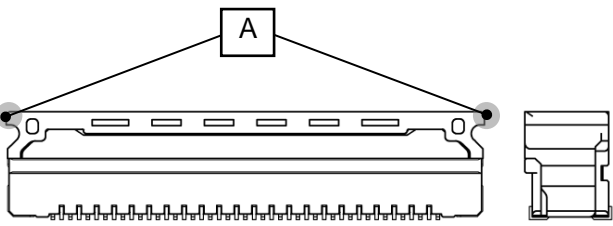
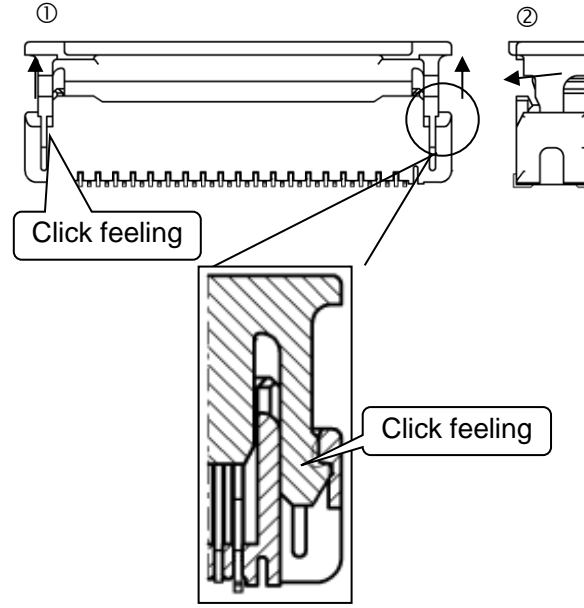
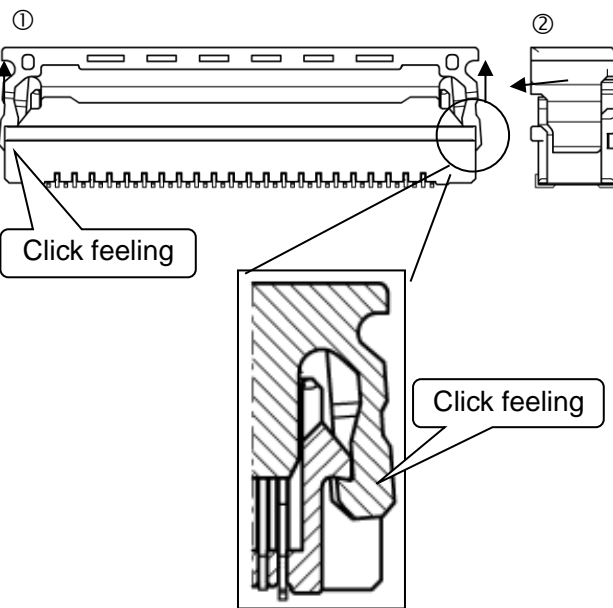
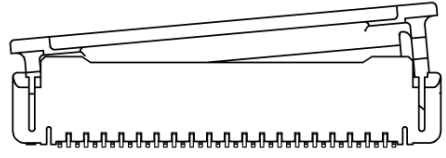
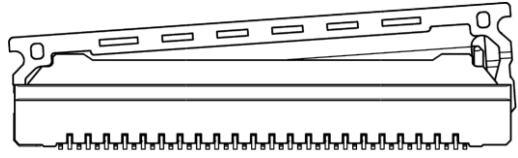
The following PC board pattern layout viewed from connector mounting side is recommended.

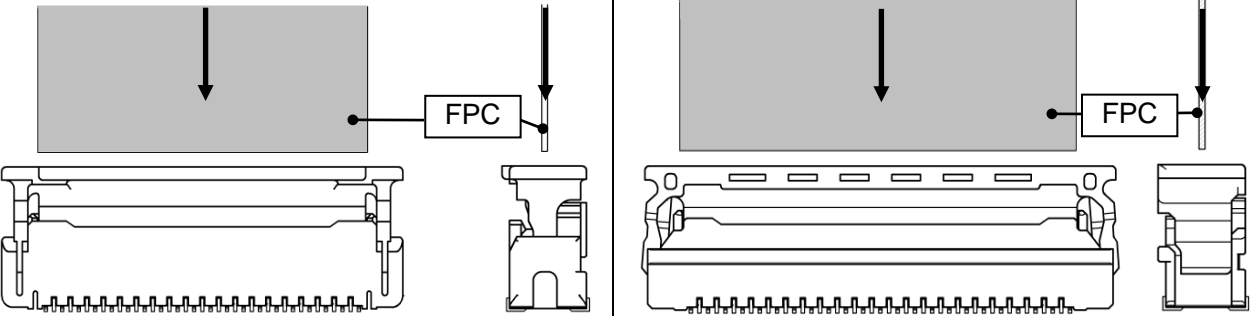
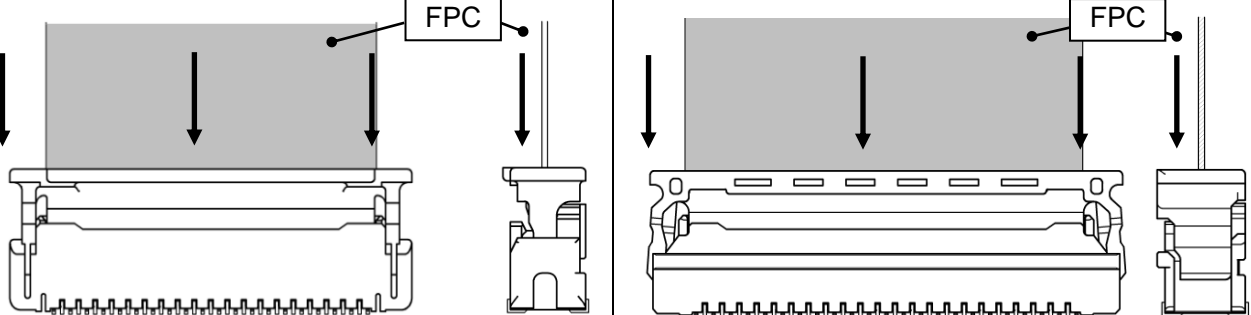

 $A=0.3(N-1)$ N: Circuit No.

PC board pattern layout

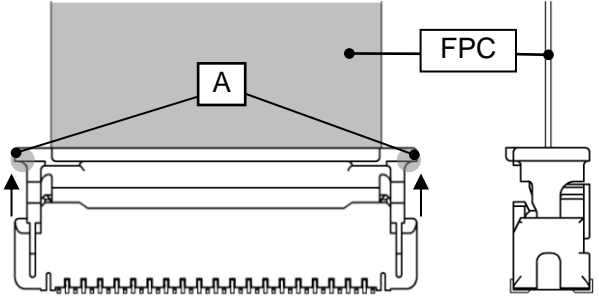
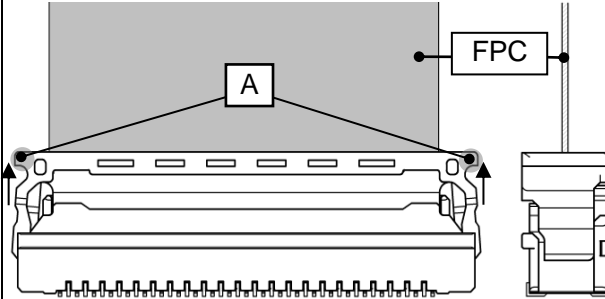
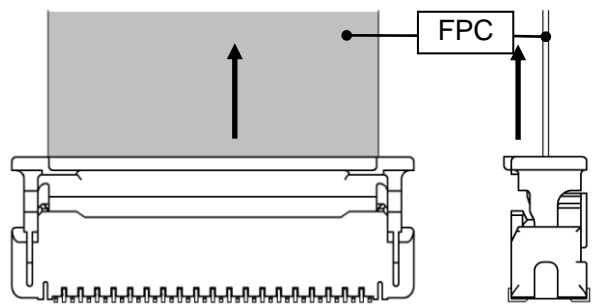
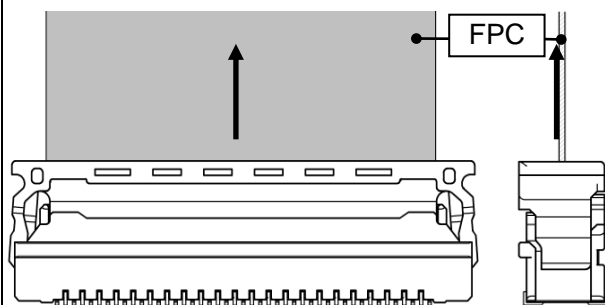
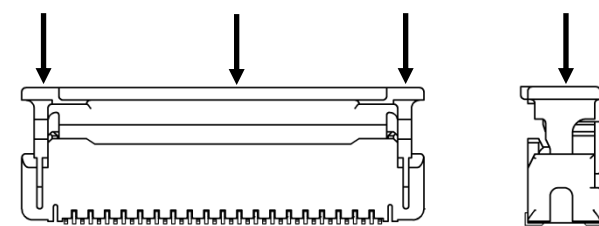
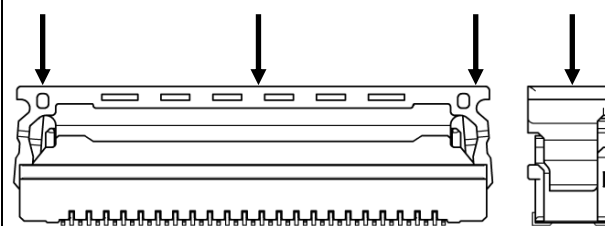
4. Handling Precautions

4-1 Inserting FPC (Slider pre-holding method)

	Inner lock type: 17- ~ 39-circuit	Outer lock type: 41- ~ 51-circuit
I		
Comment	Catch slider A part and pull out it straightly from the connector with even force at both sides.	
II		
Comment	<p>① When slider is pulled out up to the utmost, there is click feeling and it is fixed at the utmost position because slider has pre-holding device.</p> <p>② Then, tilt slider lightly in the arrow direction.</p> <p><u>Note</u> When slider is tilted insufficiently, it hits FPC and FPC may not be fully inserted in the connector.</p> <p>In such a case, do operation ① and ② again.</p>	
Note		
Comment	When slider is pulled out, do not apply the excessive force to slider or not to pull out only one side of slider as shown below. Such handling may cause the breakage of slider.	

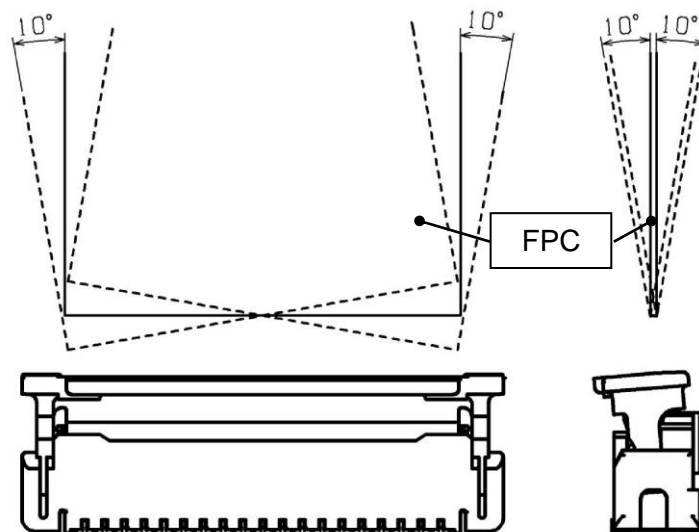
	Inner lock type: 17- ~ 39-circuit	Outer lock type: 41- ~ 51-circuit
III		
Comment	<p>Insert FPC straightly into the connector mating entrance up to the backmost.</p> <p><u>Note</u> FXZT connector has a slider pre-holding device, while in some cases, slider hits FPC and they insert in the connector together. At that time, the insufficient insertion of FPC may be caused, so release slider and insert FPC again.</p>	
IV		
Comment	<p>After checking that FPC is inserted into the connector up to the backmost, push the whole of slider straightly in the connector with even force.</p> <p><u>Note</u> Insert not only one side but the whole of slider at a time.</p>	

4-2 Releasing FPC

	Inner lock type: 17- ~ 39-circuit	Outer lock type: 41- ~ 51-circuit
I		
Comment	<p>Catch slider A part and pull out it straightly from the connector with even force at both sides. When slider is pulled out up to the utmost, there is click feeling and it is fixed at the utmost position because slider has pre-holding device.</p> <p>Note Pull out slider with applying the even force at both sides not to apply the excessive force to slider or not to pull out only one side of slider.</p>	
II		
Comment	<p>After slider is pulled out, release FPC straightly on the mating axis,</p> <p>Note Do not release FPC with prying or in the lateral direction. because such handling may cause the damage of FPC and the breakage of the connector</p>	
III		
Comment	<p>Push the whole of slider straightly in the connector with even force.</p> <p>Note Insert not only one side but the whole of slider at a time.</p>	

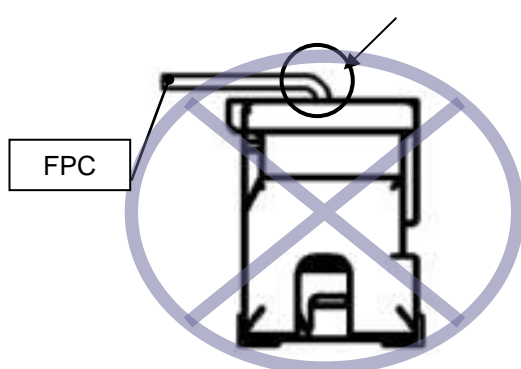
4-3 Inserting, releasing and handling of FPC

Inserting and releasing operations with FXZT connector and FPC shall be conducted on the same axis. When the operation on same axis is difficult, conduct smooth operation within 10 degrees to each direction as below.

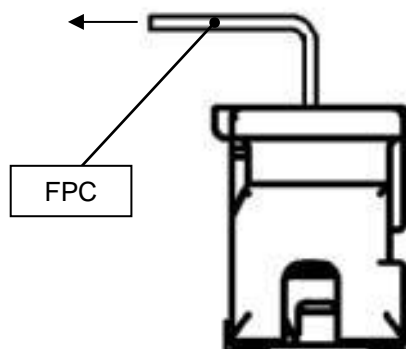


When inserted FPC is handled, provide sufficient FPC length so that force is not loaded to FXZT connector, because such loading may cause damage and discontinuity of connector.

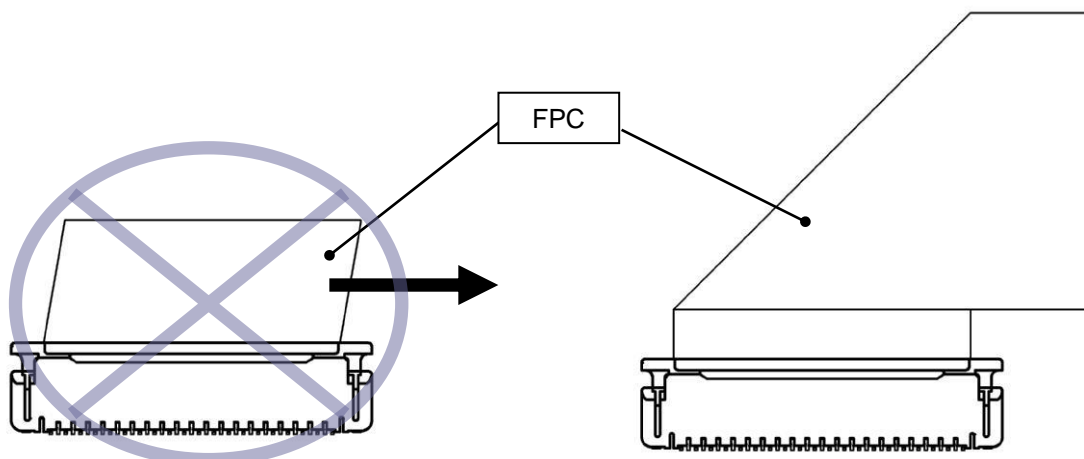
Excessive force is loaded to FPC.



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.

4-4 Precautions for soldering operation

4-4-1 Reflow soldering method

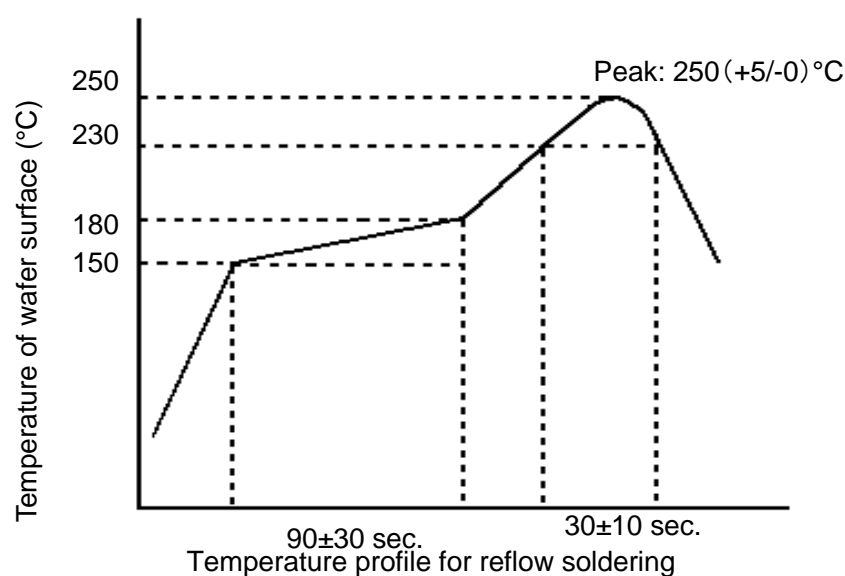
It is recommended that soldering should be conducted at the temperature below the temperature profile shown below.

Though recommended reflow temperature condition varies depending on solder paste to be used, evaluate and find adequate condition before production.

Following configuration of metal mask is recommended for mounting operation;

- Blanking part : same area as pad area on PC board
- Thickness : 0.10 ~ 0.12 mm

When metal mask more than 0.12 mm thickness is used, area of blanking part should be smaller than pad area on PC board, and amount of solder should be properly adjusted.



4-5 Storage

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

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