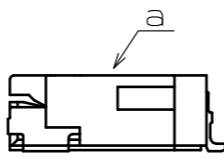
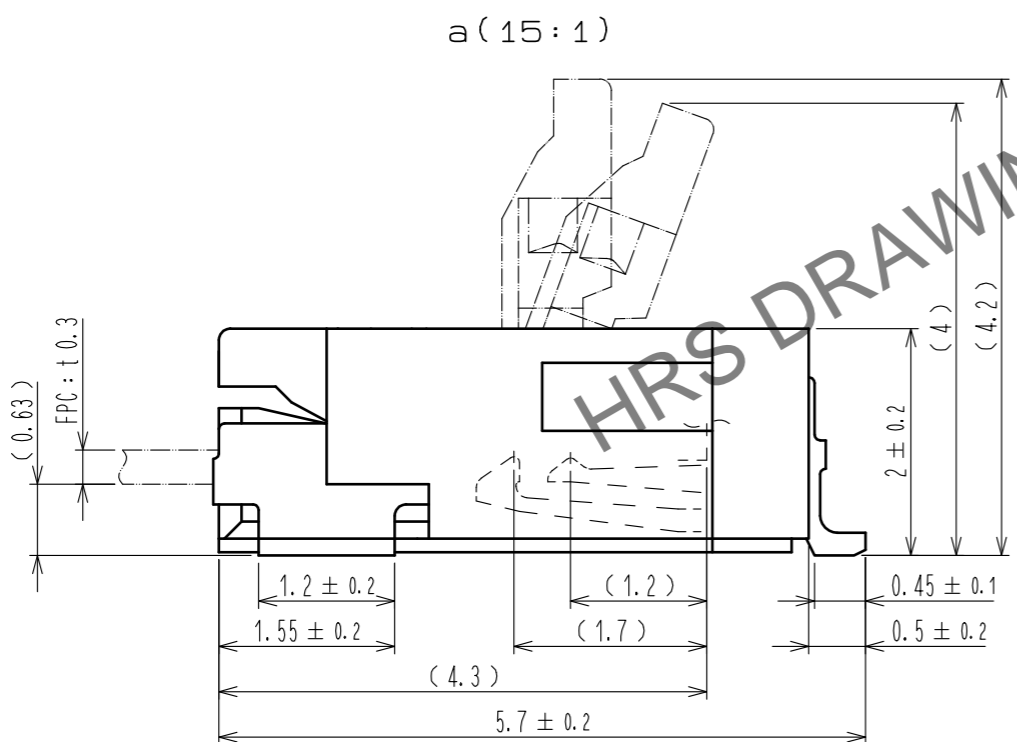
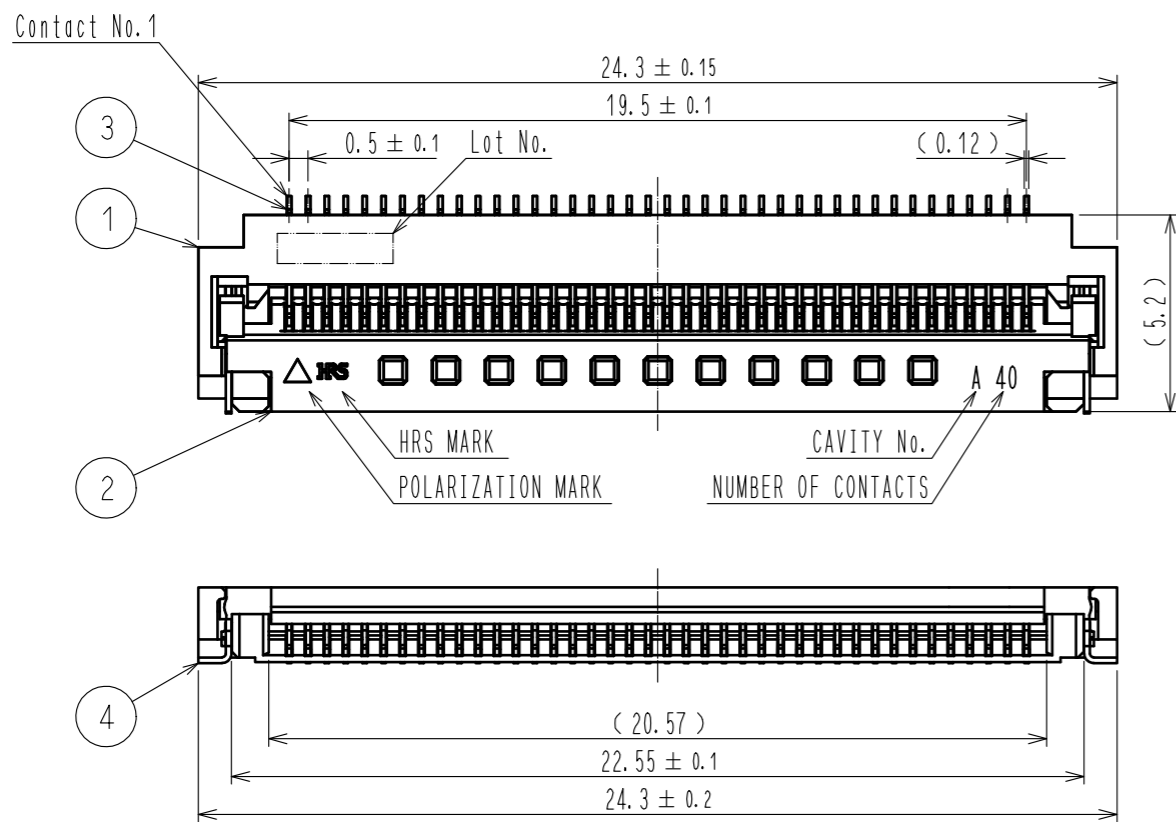
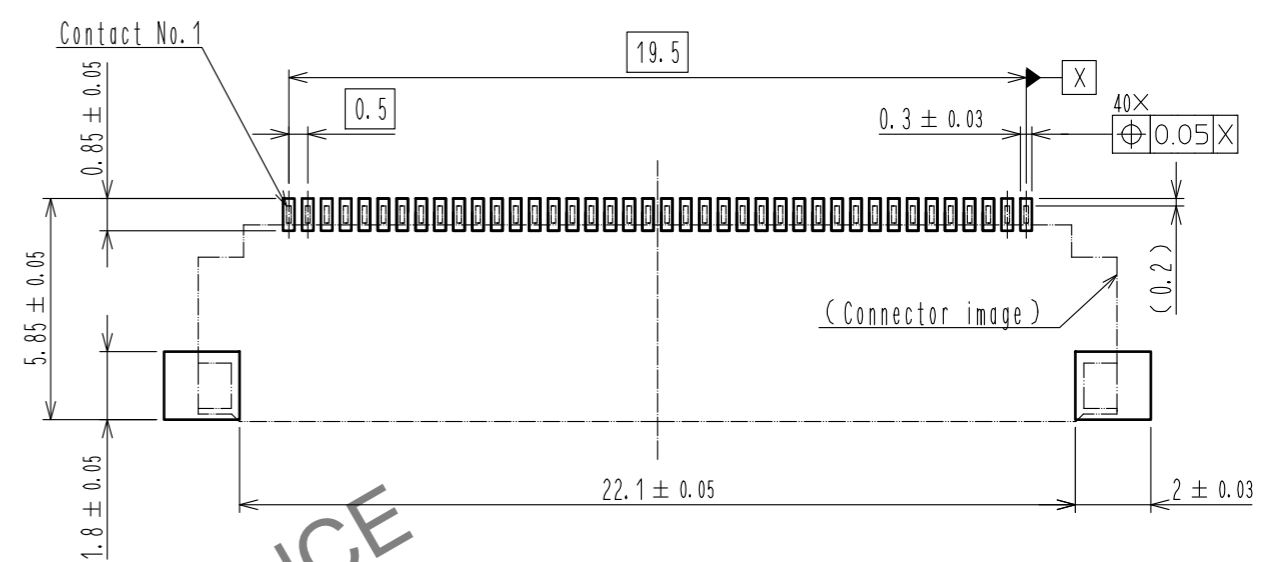


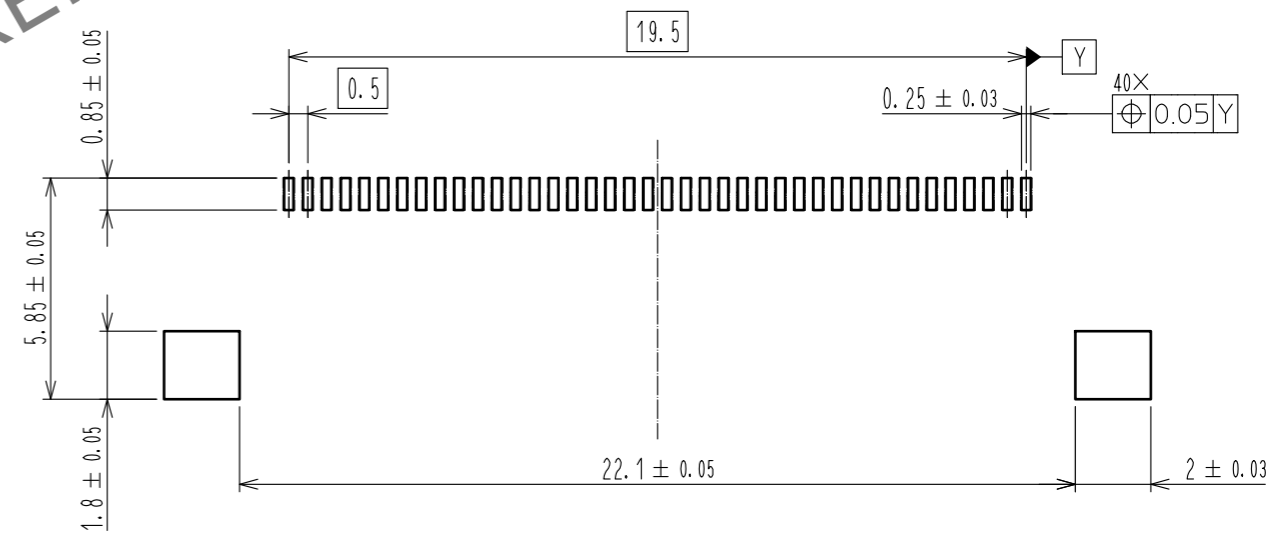
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RECOMMENDED PCB MOUNTING PATTERN



RECOMMENDED STENCIL PATTERN
(RECOMMENDED STENCIL THICKNESS: t=0.12)

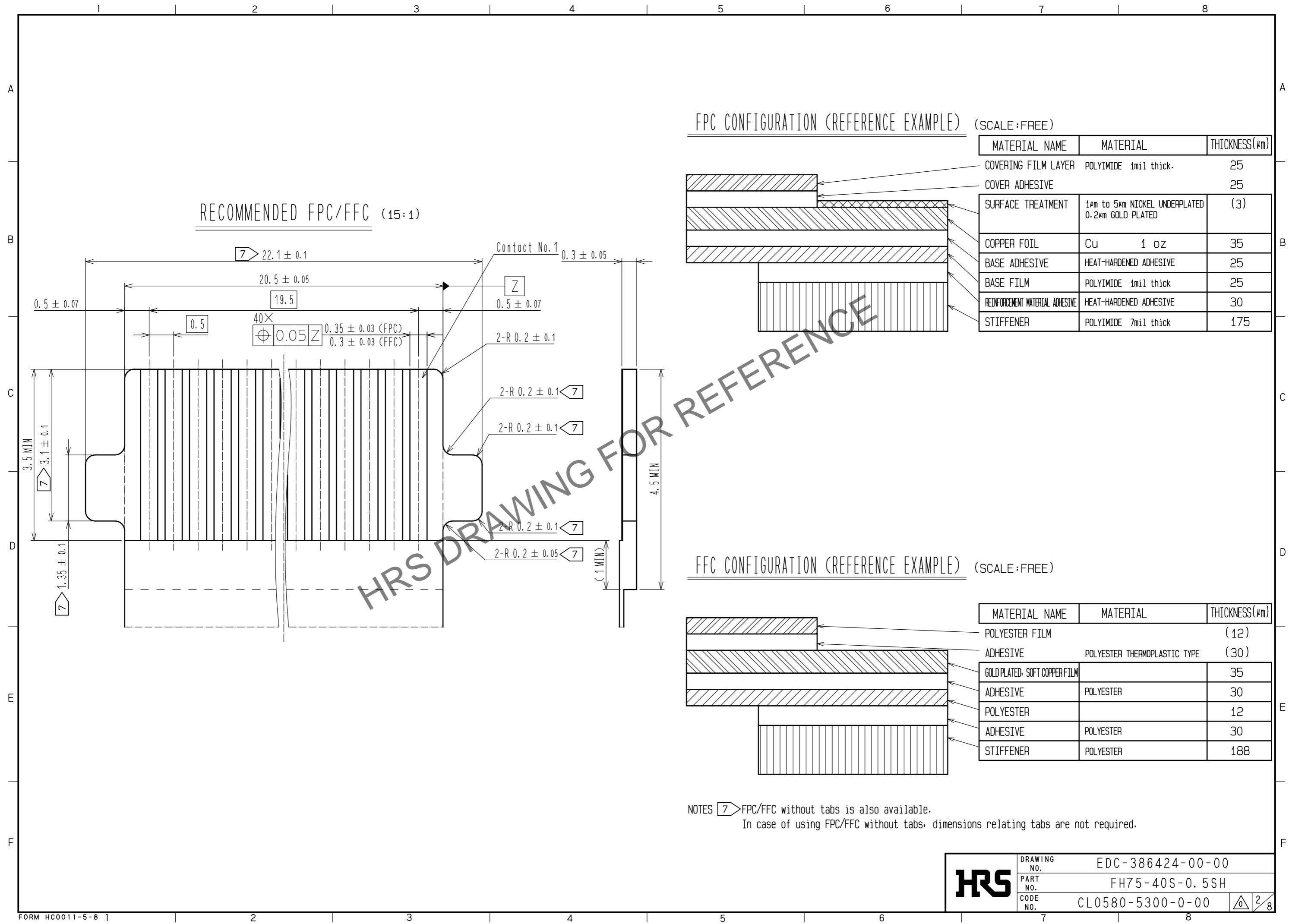


- NOTES
- The dimension in parentheses are for reference.
 - Lead CO-PLANARITY including reinforced metal fittings shall be 0.1 MAX.
 - To be delivered with tape and reel packages.
 - Note that preventive hole for sink mark could be added for improvement.
 - The quality remains good. Even with the dark spots, which could occasionally occur molded plastics.
 - This product satisfies halogen free requirements defined as 900ppm maximum chlorine, 900ppm maximum bromine, and 1500ppm maximum total of chlorine and bromine.

4	BRASS	TIN PLATING 3μm MIN OVER NICKEL 1μm MIN	8	(CONNECTOR)	
3	COPPER ALLOY	(CONTACT AREA·LEAD) GOLD 0.03μmMIN OVER NICKEL 1μmMIN (OTHER) NICKEL PLATING 1μmMIN	7	POLYSTYRENE	
2	LCP	BLACK UL94V-0	6	POLYESTER	
1	LCP	GRAY UL94V-0	5	POLYSTYRENE	
NO.	MATERIAL	FINISH . REMARKS	NO.	MATERIAL	FINISH . REMARKS

UNITS mm		SCALE 5 : 1	COUNT 	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
HRS HIROSE ELECTRIC CO., LTD.		APPROVED : HS. HIRAHARA 20251216	DRAWING NO.	EDC-386424-00-00			
		CHECKED : HS. HIRAHARA 20251216	PART NO.	FH75-40S-0.5SH			
		DESIGNED : GT. TSURUMAKI 20251216	CODE NO.	CL0580-5300-0-00			
		DRAWN : GT. TSURUMAKI 20251216		1/8			

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RECOMMENDED FPC/FFC (15:1)

FPC CONFIGURATION (REFERENCE EXAMPLE) (SCALE:FREE)

MATERIAL NAME	MATERIAL	THICKNESS(#m)
COVERING FILM LAYER	POLYIMIDE 1mil thick.	25
COVER ADHESIVE		25
SURFACE TREATMENT	1#m to 5#m NICKEL UNDERPLATED 0.2#m GOLD PLATED	(3)
COPPER FOIL	CU 1 oz	35
BASE ADHESIVE	HEAT-HARDENED ADHESIVE	25
BASE FILM	POLYIMIDE 1mil thick	25
REINFORCEMENT MATERIAL ADHESIVE	HEAT-HARDENED ADHESIVE	30
STIFFENER	POLYIMIDE 7mil thick	175

FFC CONFIGURATION (REFERENCE EXAMPLE) (SCALE:FREE)

MATERIAL NAME	MATERIAL	THICKNESS(#m)
POLYESTER FILM		(12)
ADHESIVE	POLYESTER THERMOPLASTIC TYPE	(30)
GOLD PLATED SOFT COPPER FILM		35
ADHESIVE	POLYESTER	30
POLYESTER		12
ADHESIVE	POLYESTER	30
STIFFENER	POLYESTER	188

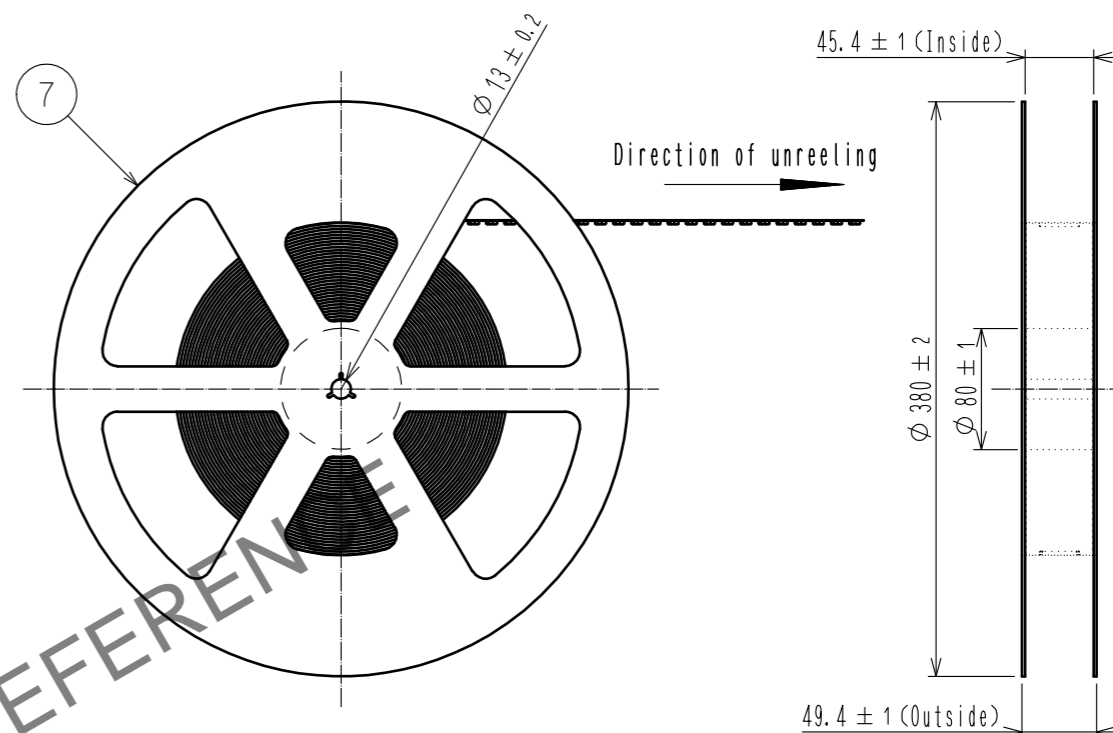
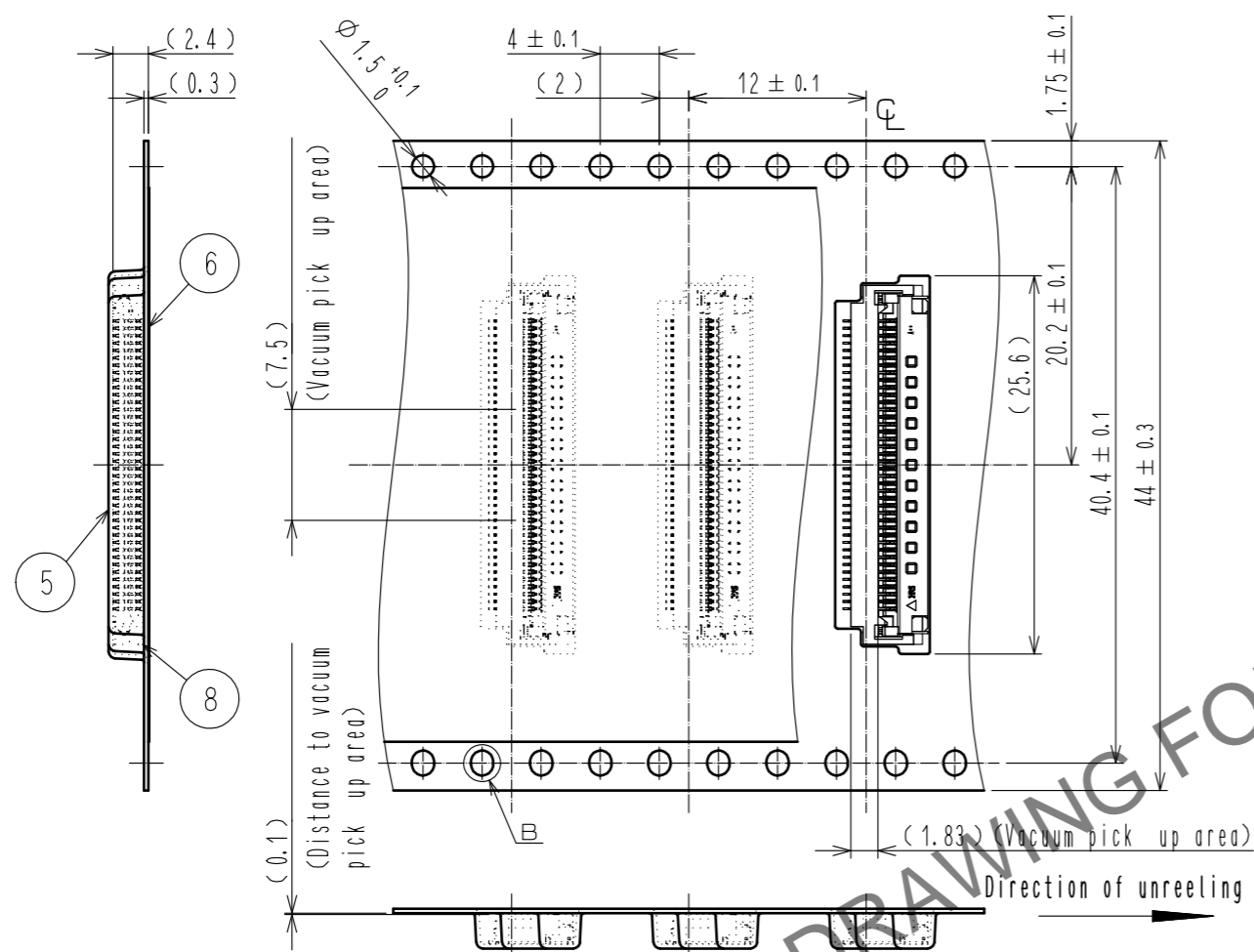
NOTES 7 FPC/FFC without tabs is also available.
In case of using FPC/FFC without tabs, dimensions relating tabs are not required.

HRS	DRAWING NO.	EDC-386424-00-00
	PART NO.	FH75-40S-0.5SH
	CODE NO.	CL0580-5300-0-00 2/8

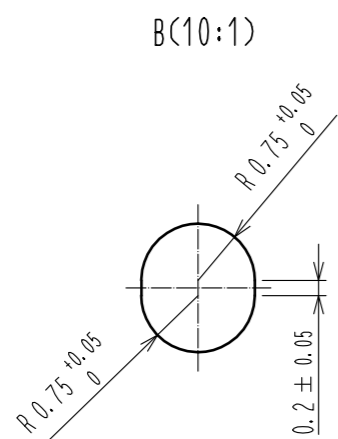
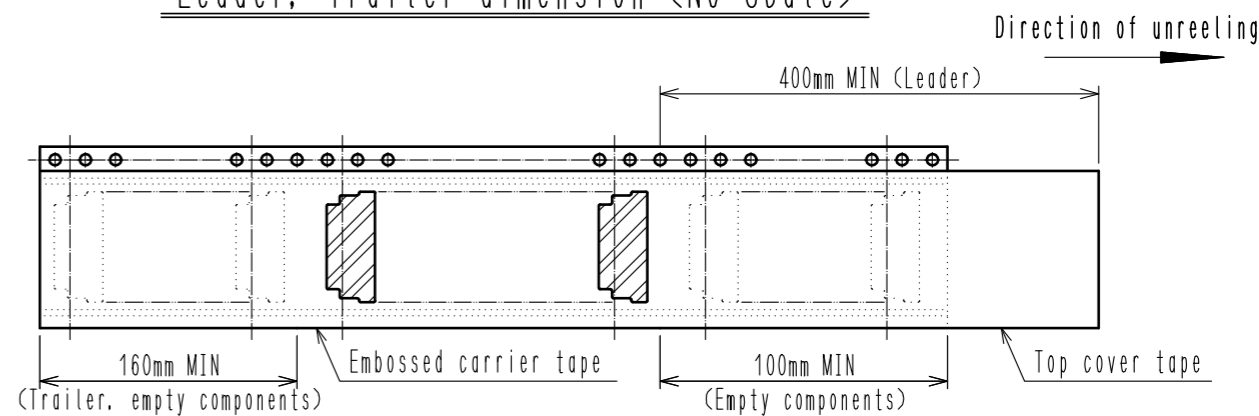
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Embossed carrier tape dimension (2:1)

Reel dimension (No Scale)



Leader, Trailer dimension (No Scale)



- NOTES
- 8. 1 reel : 3000 connectors.
 - 9. Refer to JIS C 0806 and IEC 60286-3 (Packaging of components for automatic handling.)

<Packing specification>

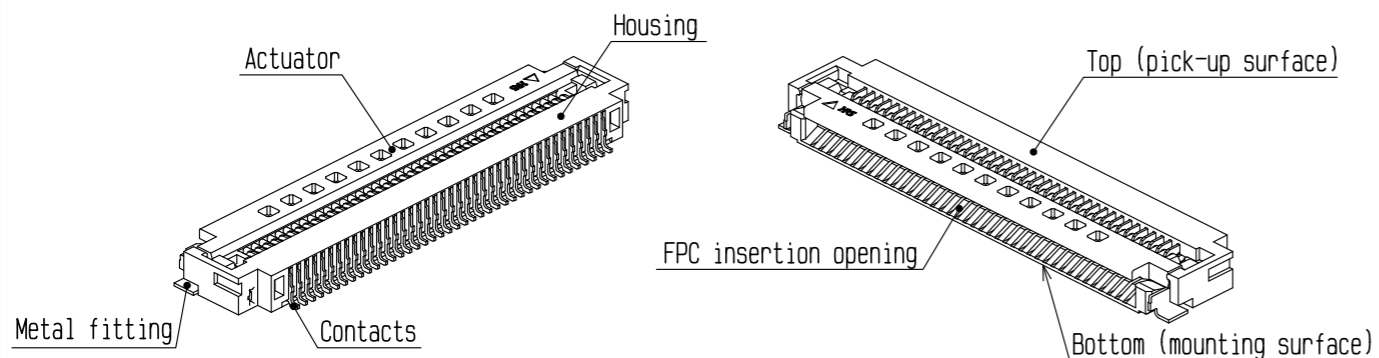
HRS	DRAWING NO.	EDC-386424-00-00
	PART NO.	FH75-40S-0.5SH
	CODE NO.	CL0580-5300-0-00

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To prevent connector/FPC breakage and contact failure (mating failure, FPC pattern breakage, etc), read through the instructions shown below and handle the connector properly. Although this instruction manual is applicable to usage with FPC/FFC.

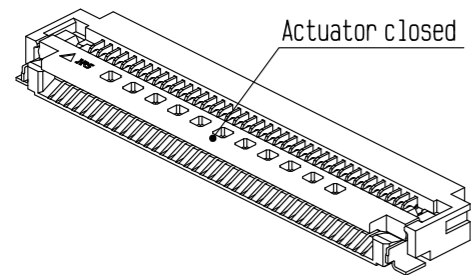
[Connector Part Nomenclature]



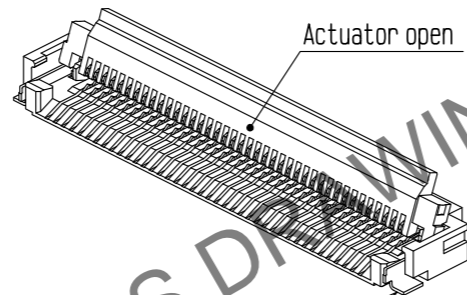
[Operation and cautions]

1. Initial condition

The connector is delivered with the actuator closed.



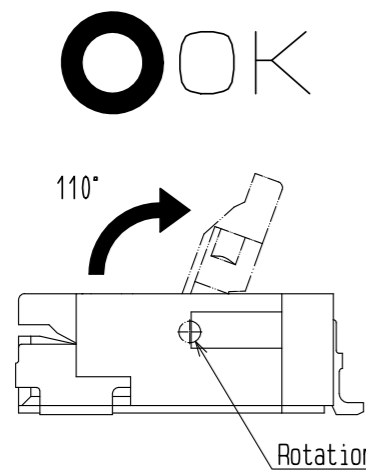
- When delivered -



Before mounting

2. How to unlock (Before inserting FPC)

The actuator rotates on its axis as shown below. Slowly flip up the actuator to release the lock.

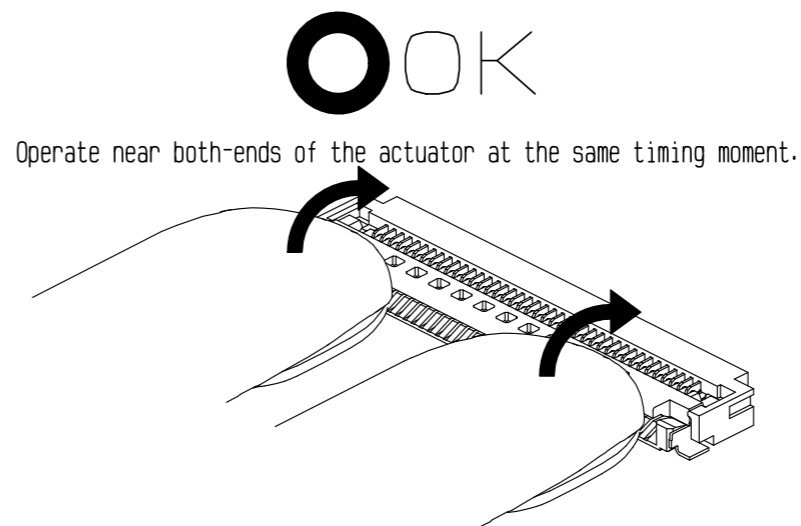


110°

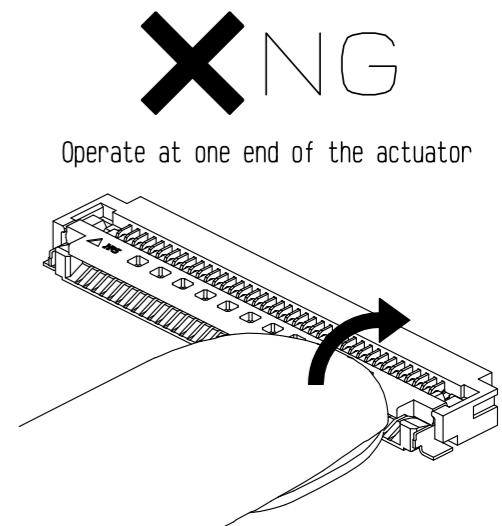
Rotational axis



Operate the center of the actuator



Operate near both-ends of the actuator at the same timing moment.



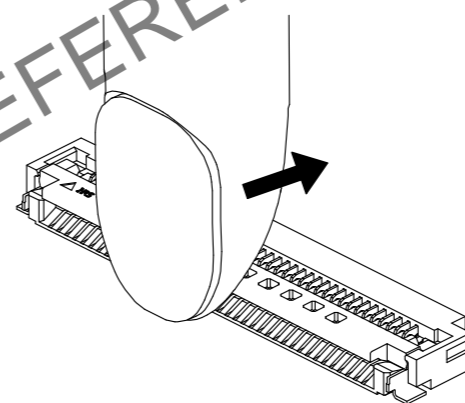
Operate at one end of the actuator



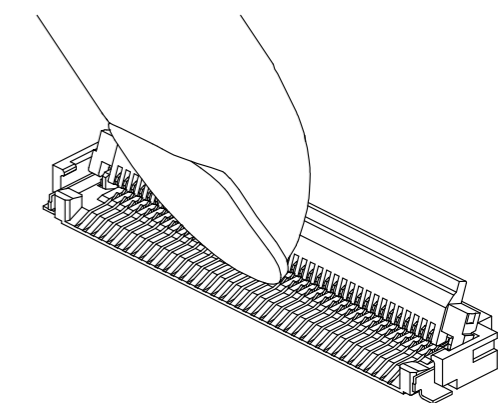
Operation to push the actuator into connector



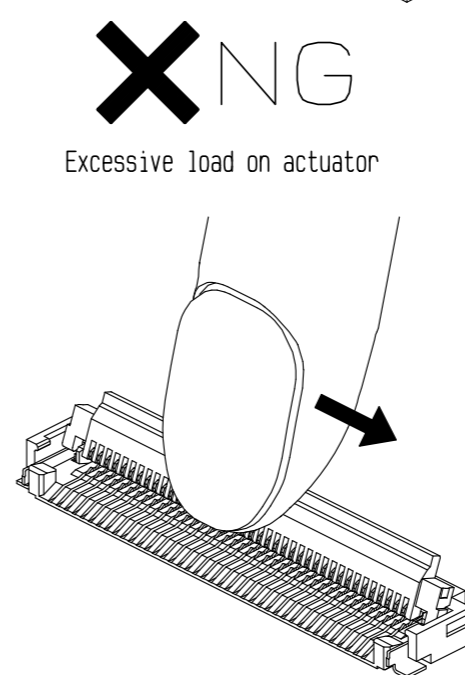
Insertion of fingernails or any tool inside the connector



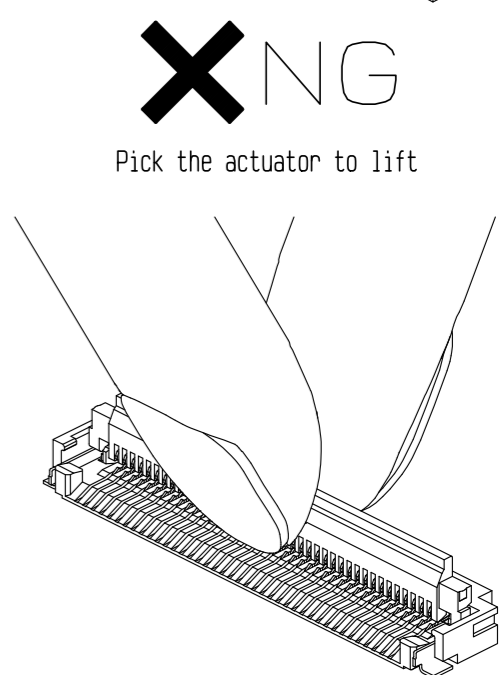
Excessive load on actuator



Pick the actuator to lift



Excessive load on actuator



Pick the actuator to lift

<Instruction manual(1)>

HRS	DRAWING NO.	EDC-386424-00-00	4/8
	PART NO.	FH75-40S-0.5SH	
	CODE NO.	CL0580-5300-0-00	

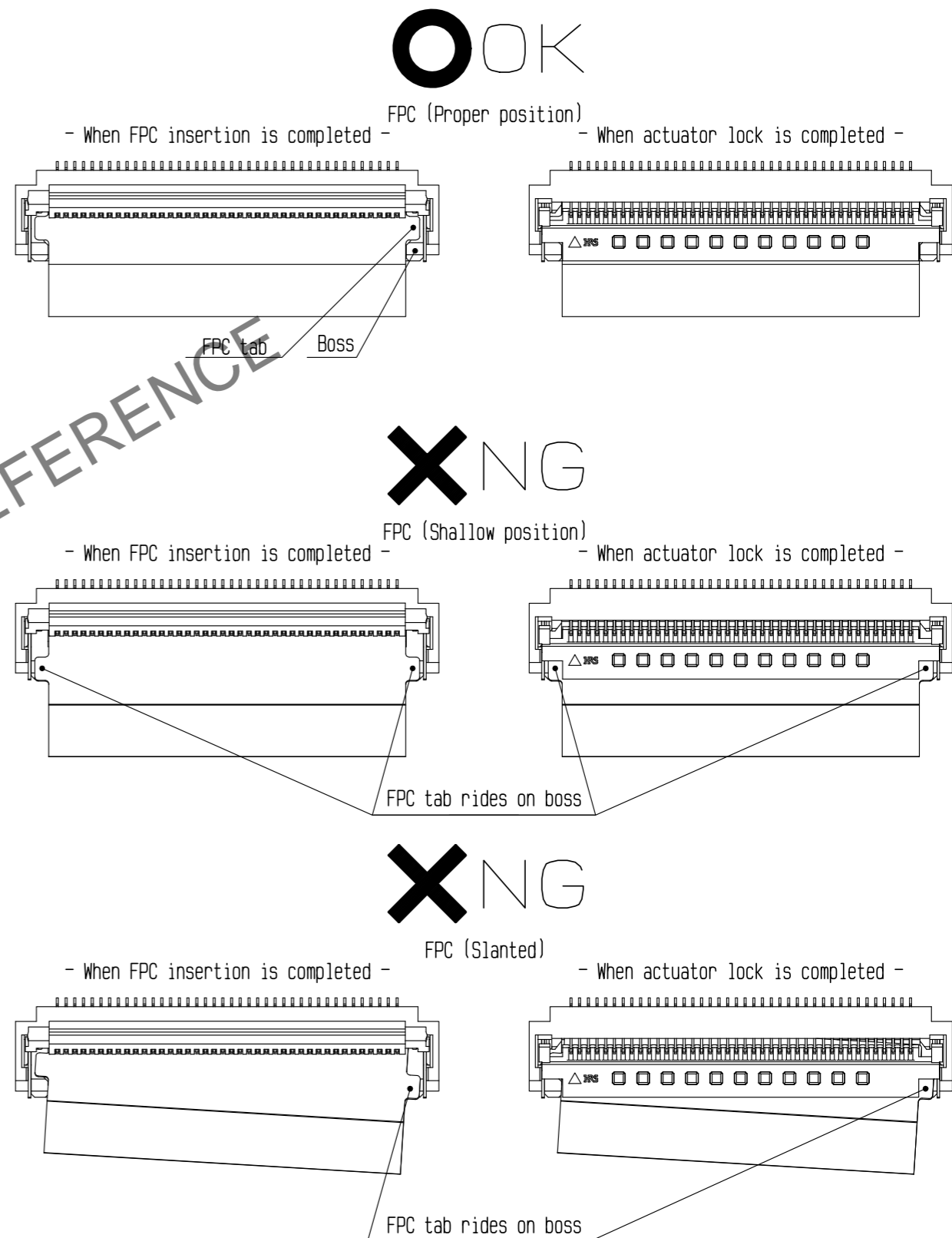
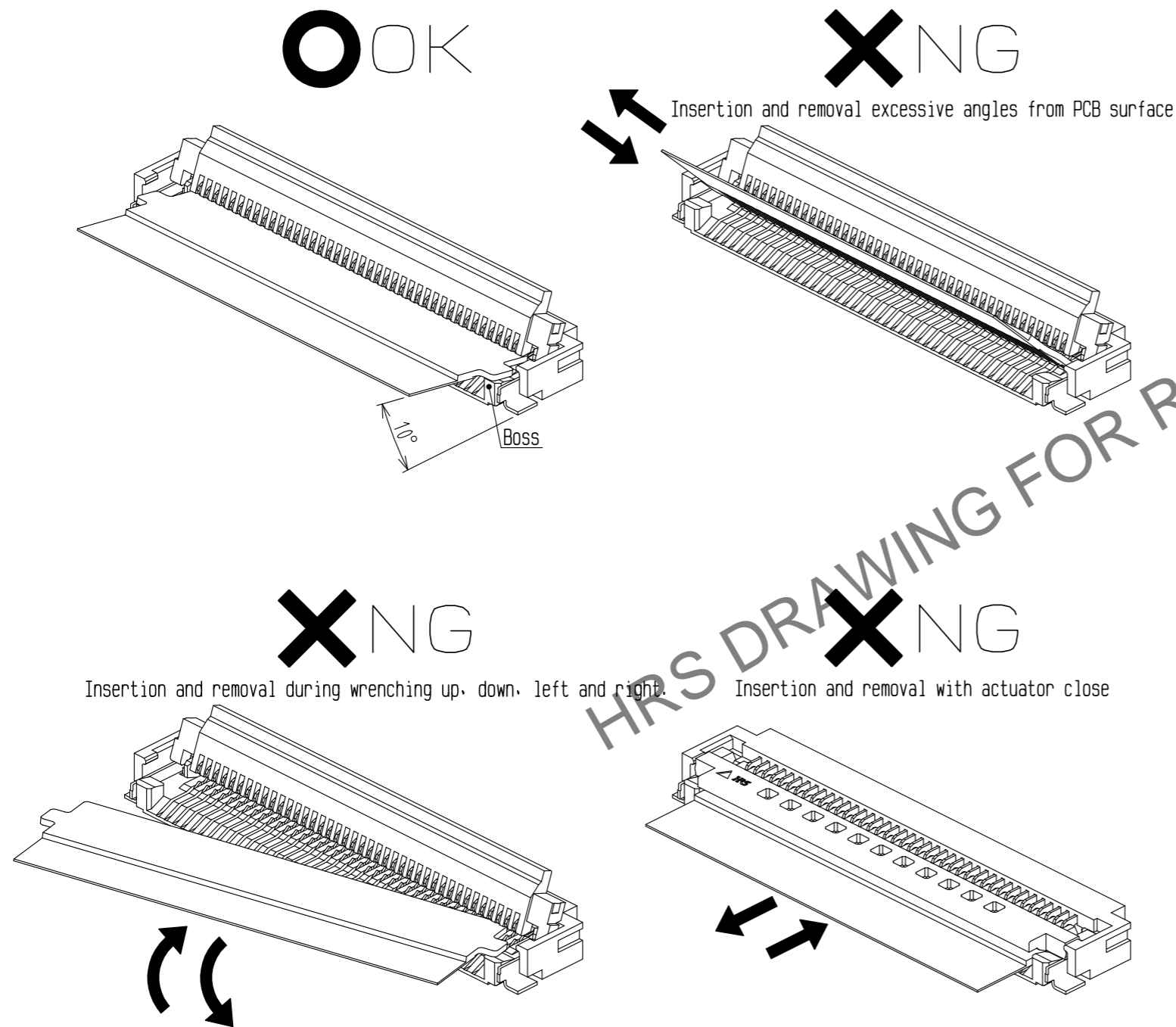
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3. How to insert FPC

This connector has contacts on the bottom, insert the FPC with the exposed conductors face down.
This connector has boss for positioning FPC, insert the FPC at about 10 degree angle to the PCB mounting surface.
In case of using FPC without tabs, insert the FPC horizontally along the surface.
After rotating the actuator to the fully opened position carefully withdraw the FPC pulling out at about 10 degree angle to the PCB mounting surface.
In case of using FPC without tabs, pull out the FPC horizontally along the surface.

4. FPC insertion check and mating confirmation of the FPC

Boss for positioning FPC guide the FPC tabs to the correct position.
Make sure that the FPC tabs are located in correct position as shown in the figure below after FPC insertion.



<Instruction manual(2)>

HRS	DRAWING NO.	EDC-386424-00-00
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	CODE NO.	CL0580-5300-0-00
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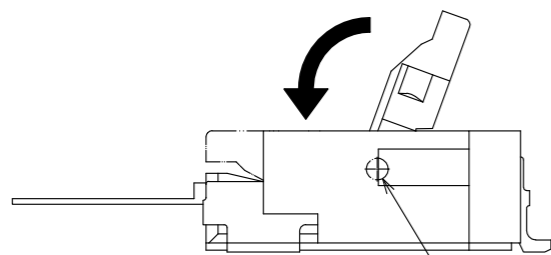
5. How to lock and unlock

The actuator rotates around the rotational axis.

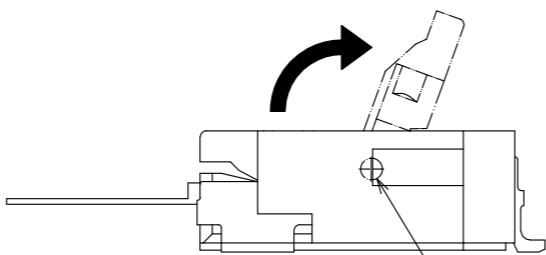
Lock : Apply load to rotate the actuator after inserting the FPC.

Unlock : Slowly flip up the actuator to release the lock.

OK



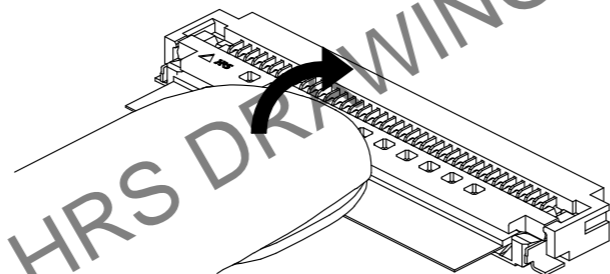
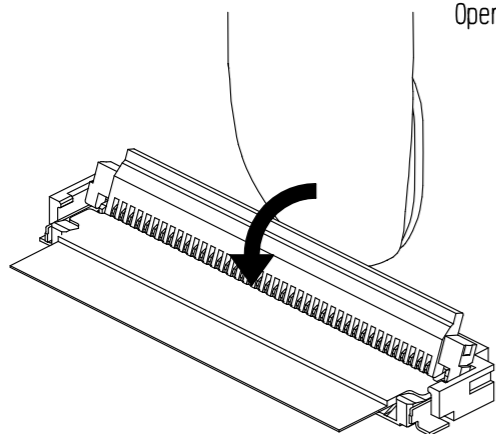
Rotational axis



Rotational axis

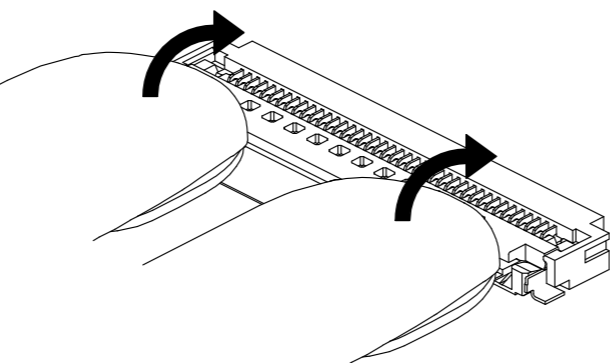
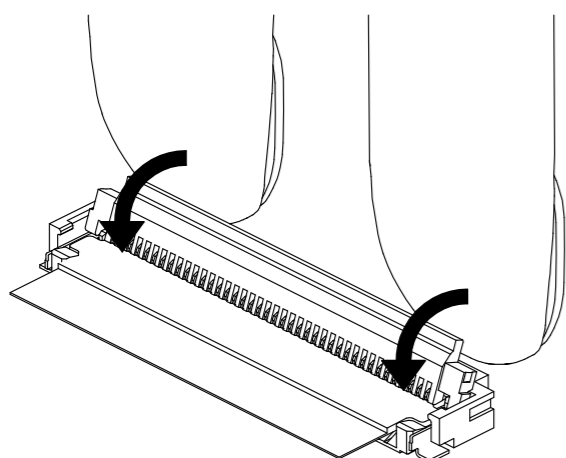
OK

Operate the center of the actuator



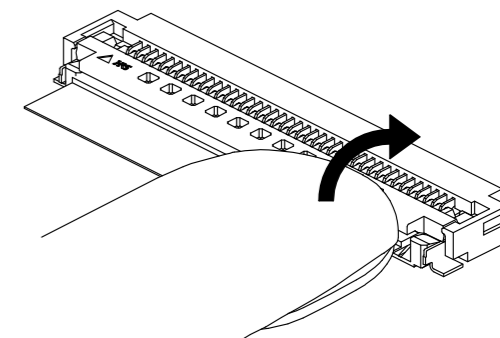
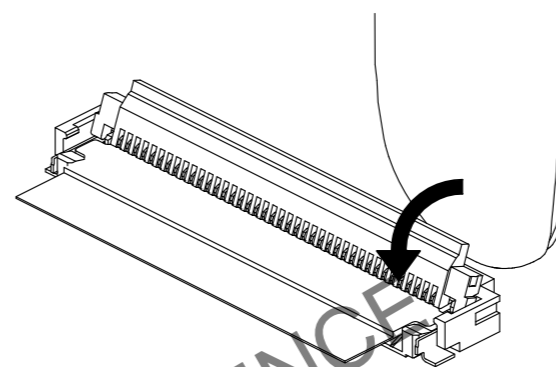
OK

Operate near both-ends of the actuator at the same timing moment.



NG

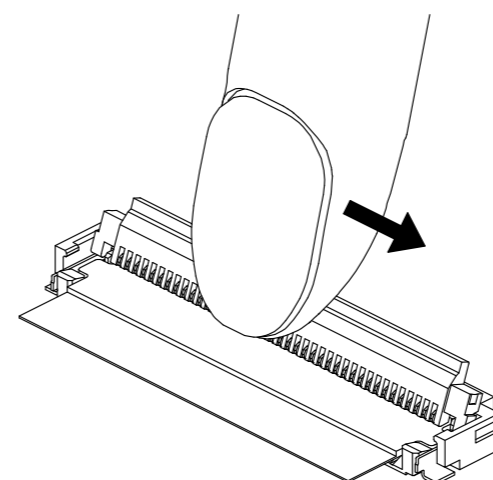
Operate at one end of the actuator



If there is a part that is not closed, press it again to close it.

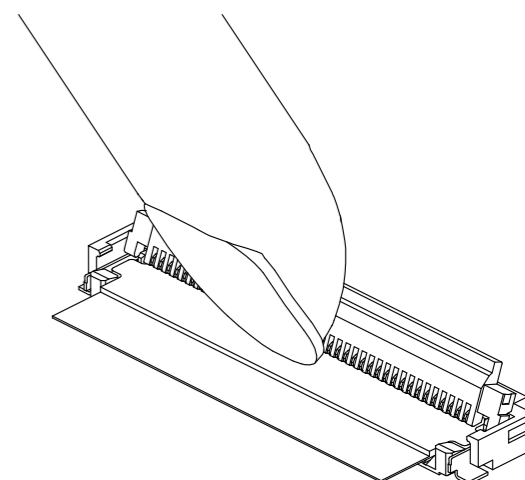
NG

Excessive load on actuator




NG

Insertion of fingernails or any tool inside the connector



<Instruction manual(3)>

HRS	DRAWING NO.	EDC-386424-00-00	 6/8
	PART NO.	FH75-40S-0.5SH	
	CODE NO.	CL0580-5300-0-00	

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[Instructions for PCB layout]

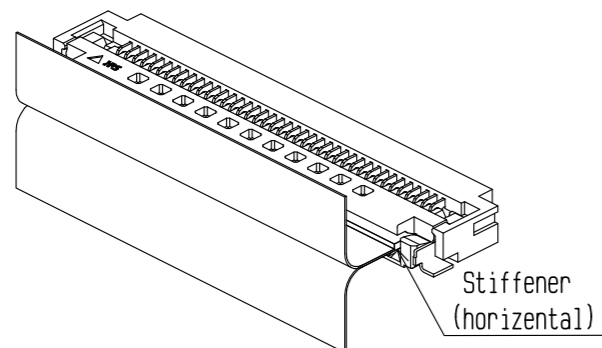
Please design a PCB layout not to apply load to connector and FPC.

[Cautions]

- When fixing FPC after FPC cabling, avoid pulling FPC, and route the wire FPC with slack. In this regard, the stiffener is parallel to the PCB.
- Do not mount other components touching to the FPC underneath the FPC stiffener.
- Make adjustments with the FPC manufacturer for FPC bending performance and wire breakage.
- Keep spaces for the actuator movement and its operation for PCB design and component layout.
- Please contact Hirose incase you would like to use an FPC with a different dimension or shape than recommended.



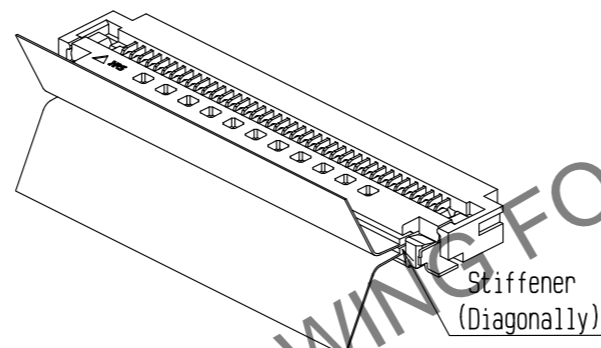
No load applied to stiffener



Stiffener (horizontal)



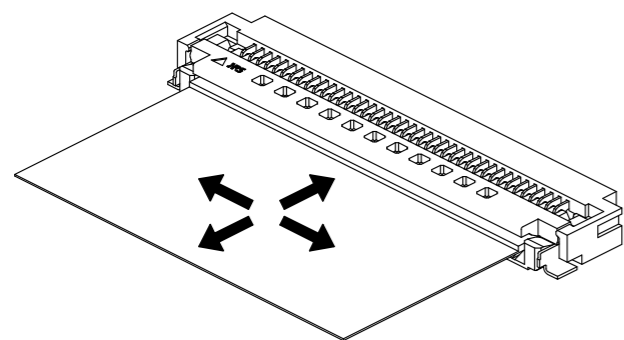
Load applied to stiffener



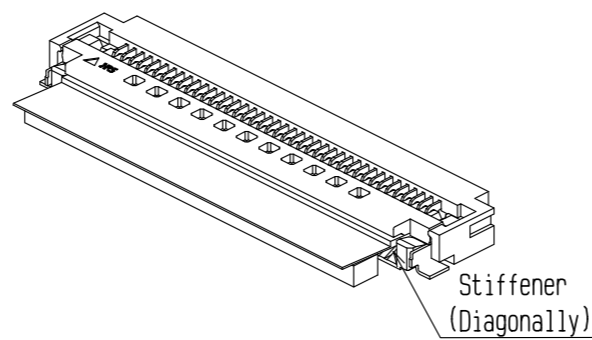
Stiffener (Diagonally)



Load applied to FPC



Housing or parts interfering with the FPC



Stiffener (Diagonally)

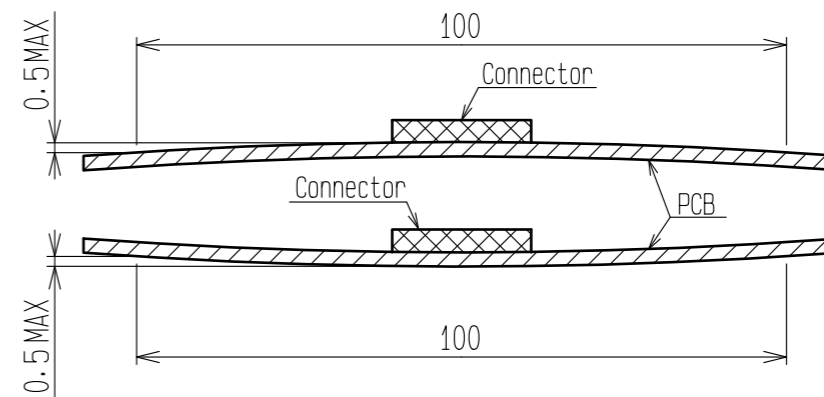
[Instructions for mounting on the PCB]

- Refer to recommended layouts for PCB, stencil pattern and FPC dimension.
- When there is silk printing etc. on the bottom of the connector, please check the mounting condition before use.
- Apply reflow temperature profile within the specified conditions. The mounting condition may change depending on the type of cream solder, manufacturer, PCB size. Please check the mounting condition before use and conditions of other mounting parts.
- Prevent warpage of PCB, the co-planarity of the connector is less than 0.1mm. but when the warpage of the PCB is large, soldering failure occurs.
- When mounting on the flexible board, please make sure to put a stiffener on the backside of the flexible board. We recommend a glass epoxy material with the thickness of 0.3 mm min.
- Do not add 0.5 N or greater external force when unreel or adsorb the connector etc, or it may get broken.

[Instructions for PCB handling after mounting the connector]

Due to warpage of the PCB, load may be applied to the connector and it may be damaged.

- Splitting a large PCB into several pieces
 - Screwing the PCB
- During the handling described above, do not exert an excessive force on the PCB. Otherwise, the connector may become defective.
- The warp of a 100 mm wide PCB should be 0.5 mm or less. The warp of PCB suffers stress on connector and the connector may become defective



[Instructions of hand soldering]

- Do not perform hand soldering with the FPC inserted into the connector.
- Do not apply excessive heat. And soldering iron must not touch connector except terminal leads area.
- Do not supply excessive solder (flux).

<Instruction manual(4)>

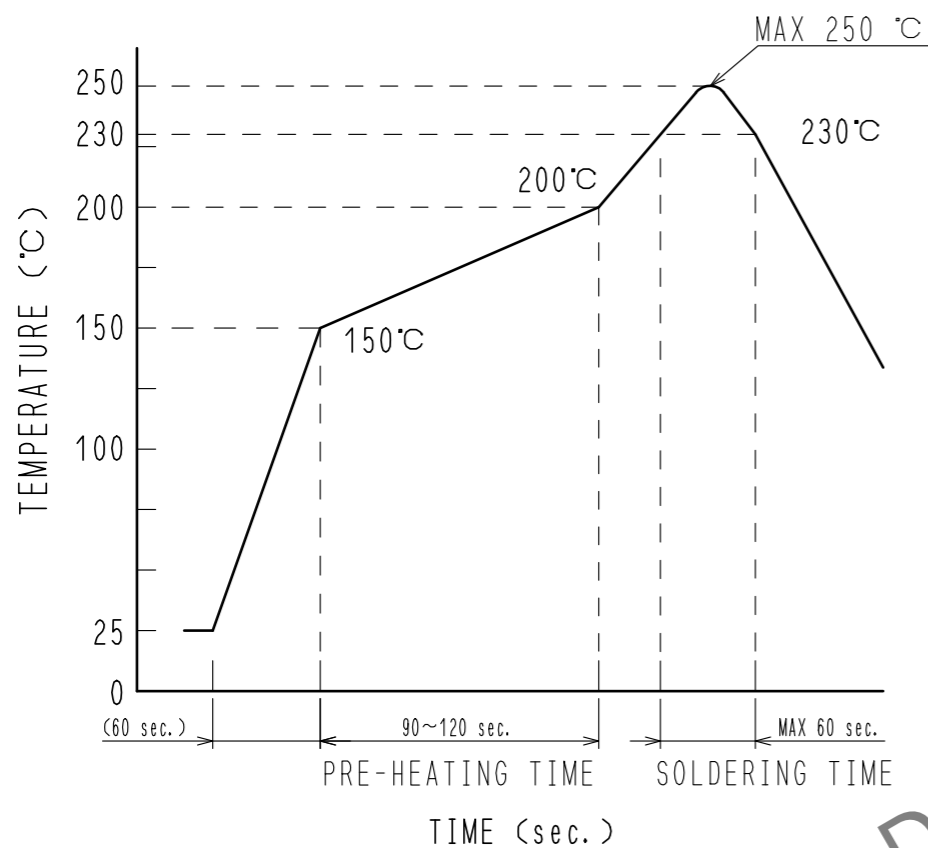
HRS	DRAWING NO.	EDC-386424-00-00
	PART NO.	FH75-40S-0.5SH
	CODE NO.	CL0580-5300-0-00

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[Recommended reflow temperature profile]

The temperatures mentioned above refer to the PCB surface temperature near the connector leads.
In individual applications the actual temperature may vary, depending on solder paste type, volume/thickness and board size/thickness.
Consult your solder paste and equipment manufacturer for specific recommendations.

- Reflow method: IR reflow
- Number of reflow cycles: 2 cycles MAX.



<Recommended reflow temperature profile>

HRS	DRAWING NO.	EDC-386424-00-00
	PART NO.	FH75-40S-0.5SH
	CODE NO.	CL0580-5300-0-00

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