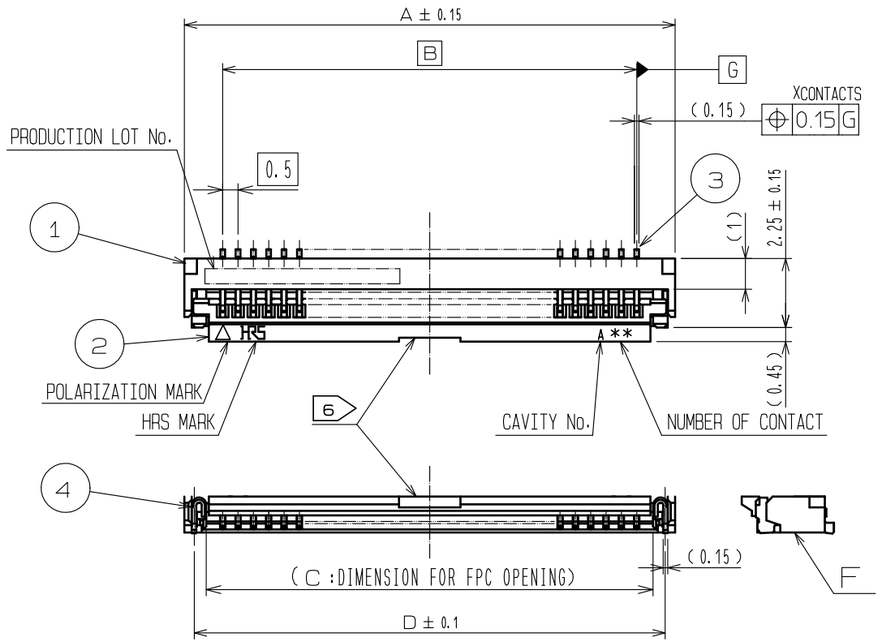
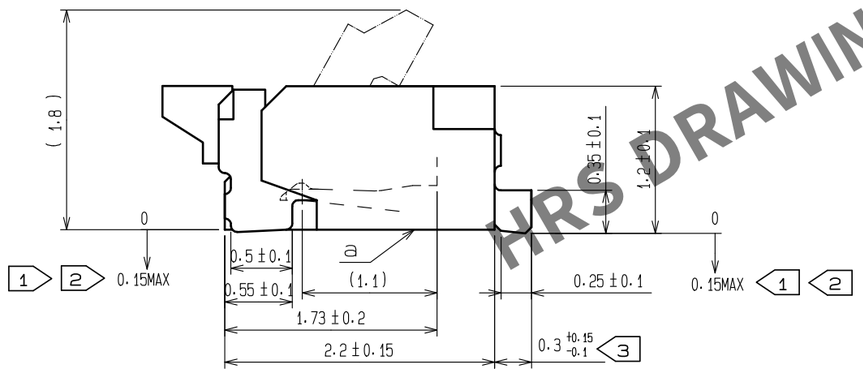
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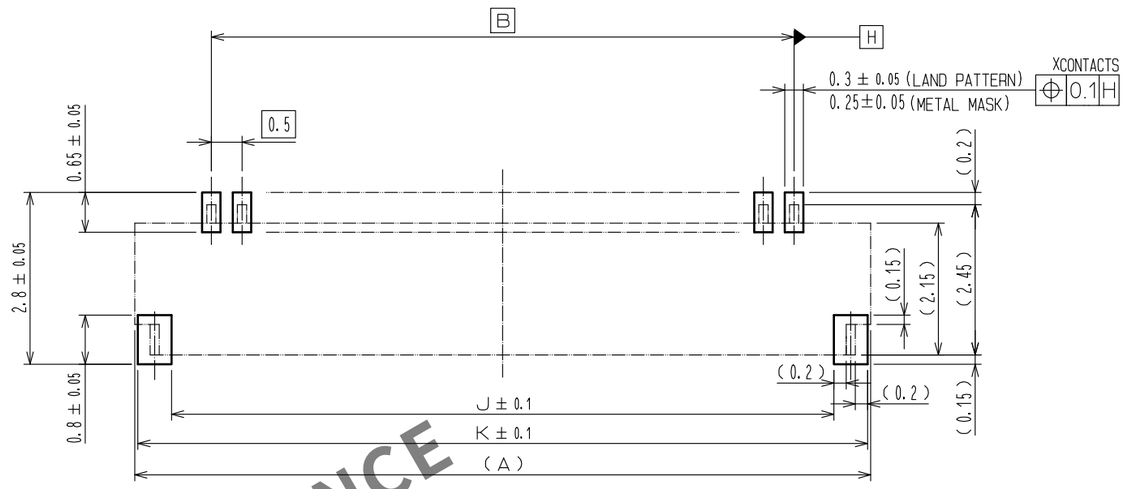


F (20 : 1)

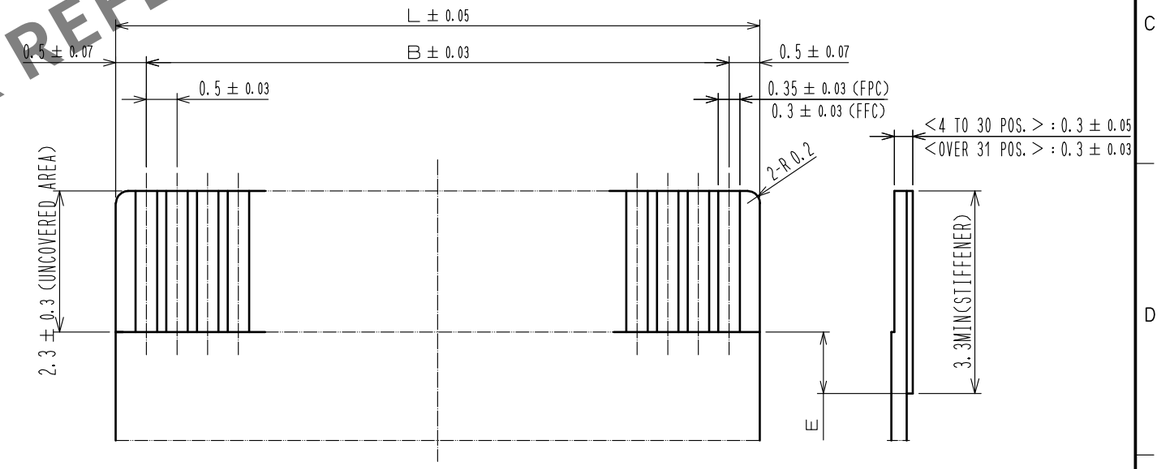


RECOMMENDED LAND PATTERN, METAL MASK(FREE)

RECOMMENDED METAL MASK THICKNESS:t=0.10



RECOMMENDED FPC, FFC(FREE)



FOR FPC APPLICATION, STIFFENER MATERIAL IS POLYIMID, HEAT CURED ADHESIVE.
DIMENSION E MUST BE 0.5mm MINIMUM WHEN THE STIFFENER IS SHORTER THAN 3.3mm.

NOTES
1. LEAD CO-PLANARITY INCLUDING REINFORCED METAL FITTINGS SHALL BE 0.1 MAX.
2. DIMENSION:FROM REFERENCE A.
3. DIFFERENCE OF EACH CONTACT LEAD TO BE MAX 0.1.
   TO BE DELIVERED WITH TAPE AND REEL PACKAGES.
   SEE ATTACHED PACKAGING SPECIFICATIONS FOR DETAILS.
5. NOTE THAT PREVENTIVE HOLE FOR SINK MARK COULD BE ADDED FOR IMPROVEMENT.
6. THE NUMBER AND THE SHAPE OF GATES DIFFER DEPENDING ON THE NUMBER OF CONTACTS.
7. THIS PRODUCT SATISFIES HALOGEN FREE REQUIREMENTS DEFINED AS 900 PPM MAXIMUM CHLORINE, 900 PPM MAXIMUM BROMINE, AND 1,500 PPM MAXIMUM TOTAL OF CHLORINE AND BROMINE.
8. THE DIMENSIONS IN PARENTHESES ARE FOR REFERENCE.

NO.	MATERIAL	FINISH . REMARKS	NO.	MATERIAL	FINISH . REMARKS
4	PHOSPHOR BRONZE (PLATED MATERIAL)	TIN PLATING(REFLOW FINISHED) 1μm MIN OVER COPPER 0.5μm MIN			
3	PHOSPHOR BRONZE	(CONTACT AREA, LEAD)GOLD PLATING 0.05μm MIN OVER NICKEL 1μm MIN (OTHER)NICKEL PLATING 1μm MIN	8	(CONNECTOR)	
			7	POLYSTYRENE	
2	PPS	BLACK UL94V-0	6	POLYESTER	
1	LCP	BEIGE UL94V-0	5	POLYSTYRENE	

UNITS	SCALE	COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
mm	5 : 1	0				

HIROSE ELECTRIC CO., LTD.

APPROVED	NF. MIYAZAKI	15.12.09
CHECKED	SJ. OKAMURA	15.12.09
DESIGNED	SG. MASAKI	15.12.09
DRAWN	RN. IIDA	15.09.15

DRAWING NO.	EDC-332429-10-01
PART NO.	FH33J-**S-0.5SH(10)
CODE NO.	CL580

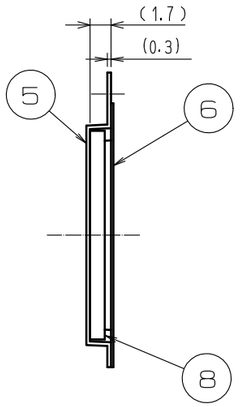
0 1/5

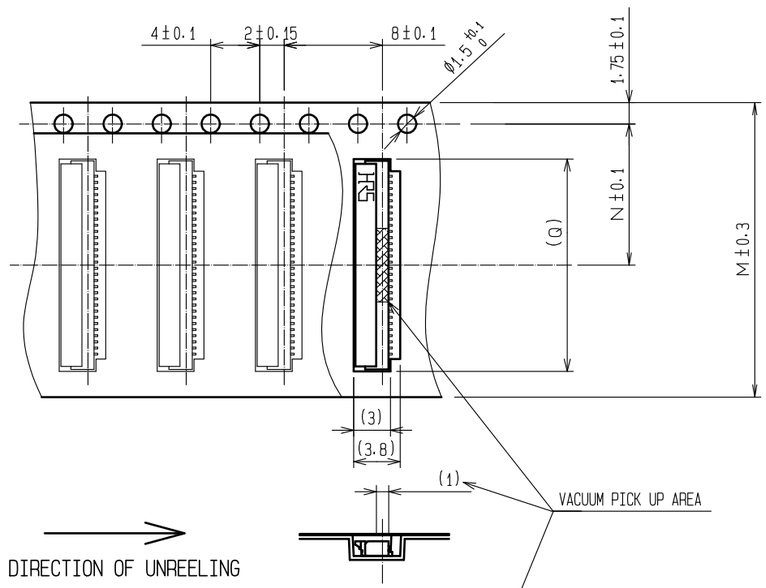
HRS DRAWING FOR REFERENCE

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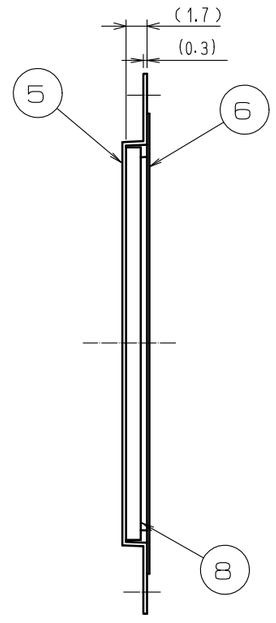
EMBOSSED CARRIER TAPE DIMENSIONS (2:1)

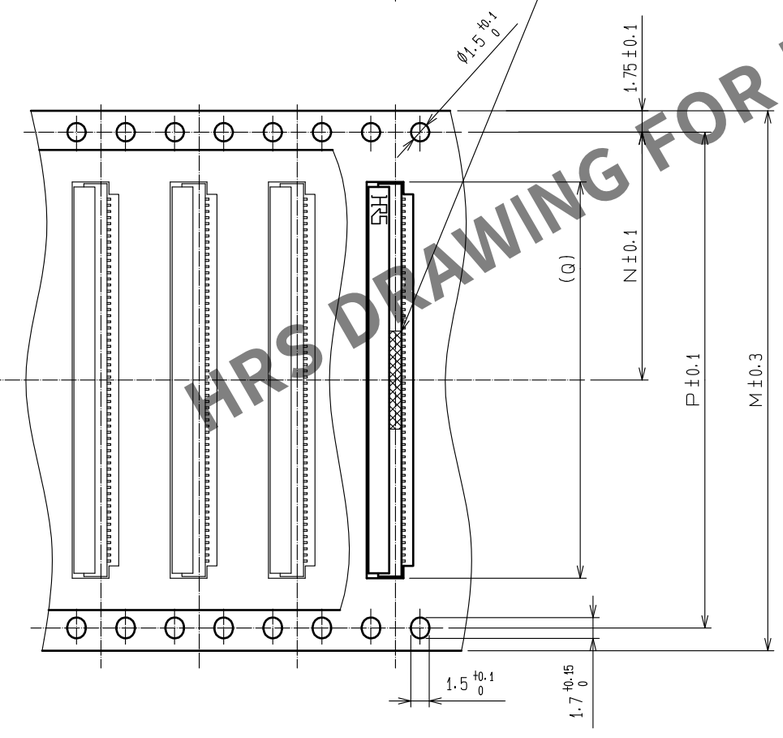
●TAPE WIDTH : 24mm MAX

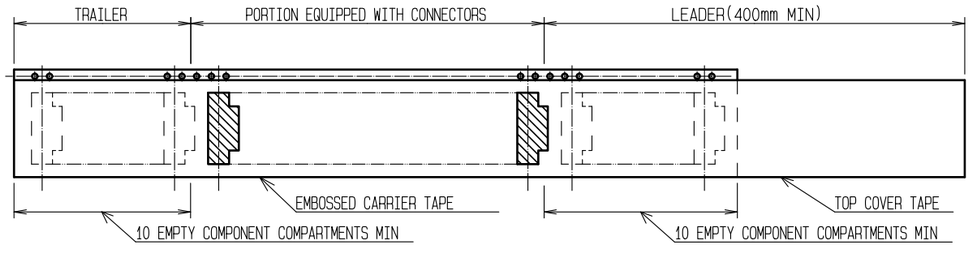




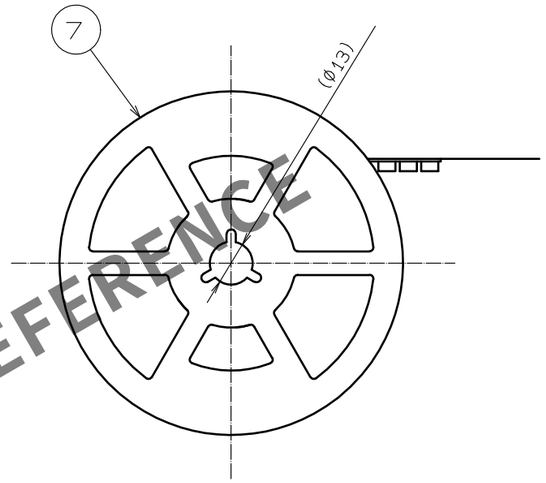
●TAPE WIDTH : 32mm MIN

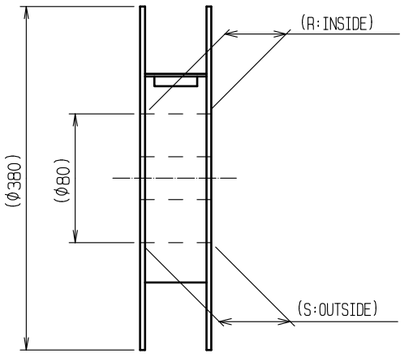






REEL DIMENSIONS (FREE)





NOTE 9 PER REEL:5,000 CONNECTORS.
10 REFER TO JIS C 0806(PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING.)

HRS DRAWING FOR REFERENCE

<DRAWING FOR PACKING>

DRAWING NO.	EDC-332429-10-01
PART NO.	FH33J-**S-0.5SH(10)
CODE NO.	CL580

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DIMENSION TABLE OF CONNECTOR, FPC, FFC, LAND PATTERN AND METAL MASK

PART NUMBER	CODE NUMBER	NUMBER OF CONTACTS	A	B	C	D	J	K	L
FH33J- 4S-0.5SH(10)	CL580-1329-0-10	4	4	1.5	2.57	3.35	2.8	3.9	2.5
FH33J-10S-0.5SH(10)	CL580-1324-7-10	10	7	4.5	5.57	6.35	5.8	6.9	5.5
FH33J-12S-0.5SH(10)	CL580-1328-8-10	12	8	5.5	6.57	7.35	6.8	7.9	6.5
FH33J-16S-0.5SH(10)	CL580-1331-2-10	16	10	7.5	8.57	9.35	8.8	9.9	8.5
FH33J-18S-0.5SH(10)	CL580-1334-0-10	18	11	8.5	9.57	10.35	9.8	10.9	9.5
FH33J-19S-0.5SH(10)	CL580-1332-5-10	19	11.5	9	10.07	10.85	10.3	11.4	10
FH33J-40S-0.5SH(10)	CL580-1330-0-10	40	22	19.5	20.57	21.35	20.8	21.9	20.5

DIMENSION TABLE OF DRAWING FOR PACKING

PART NUMBER	CODE NUMBER	NUMBER OF CONTACTS	M	N	P	Q	R	S
FH33J- 4S-0.5SH(10)	CL580-1329-0-10	4	16	7.5	—	4.3	17.4	21.4
FH33J-10S-0.5SH(10)	CL580-1324-7-10	10	16	7.5	—	7.3	17.4	21.4
FH33J-12S-0.5SH(10)	CL580-1328-8-10	12	16	7.5	—	8.3	17.4	21.4
FH33J-16S-0.5SH(10)	CL580-1331-2-10	16	24	11.5	—	10.3	25.4	29.4
FH33J-18S-0.5SH(10)	CL580-1334-0-10	18	24	11.5	—	11.3	25.4	29.4
FH33J-19S-0.5SH(10)	CL580-1332-5-10	19	24	11.5	—	11.8	25.4	29.4
FH33J-40S-0.5SH(10)	CL580-1330-0-10	40	44	20.2	40.4	22.3	45.4	49.4

HRS DRAWING FOR REFERENCE

<DIMENSION TABLE>

HRS	DRAWING NO.	EDC-332429-10-01
	PART NO.	FH33J-**S-0.5SH(10)
	CODE NO.	CL580

△0 3/5

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This connector is small and thin and requires delicate and careful handling.
Read through the instructions shown below and handle the connector properly.
Each values indicating here are for reference and may differ from standard value.

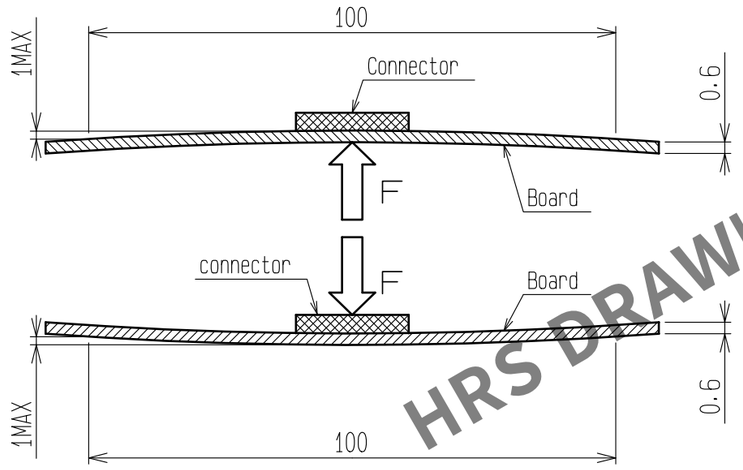
[INSTRUCTIONS FOR MOUNTING ON THE BOARD]

♦Warp of Board
Minimize warp of the board as much as possible.
Lead co-planarity including reinforced metal fittings is 0.1 mm or less.
Too much warp of the board may result in a soldering failure.

♦Load to Connector
Do not apply a force of 1 N or more to the connector before mounting it on the board.
Otherwise, the connector may be broken.
Do not insert the FPC or operate the connector before mounting it.

♦Lord to Board
·Splitting a large board into several pieces
·Screwing the board
Avoid the handling described above so that no force is exerted on the board during the assembly process.
Otherwise, the connector may become defective.

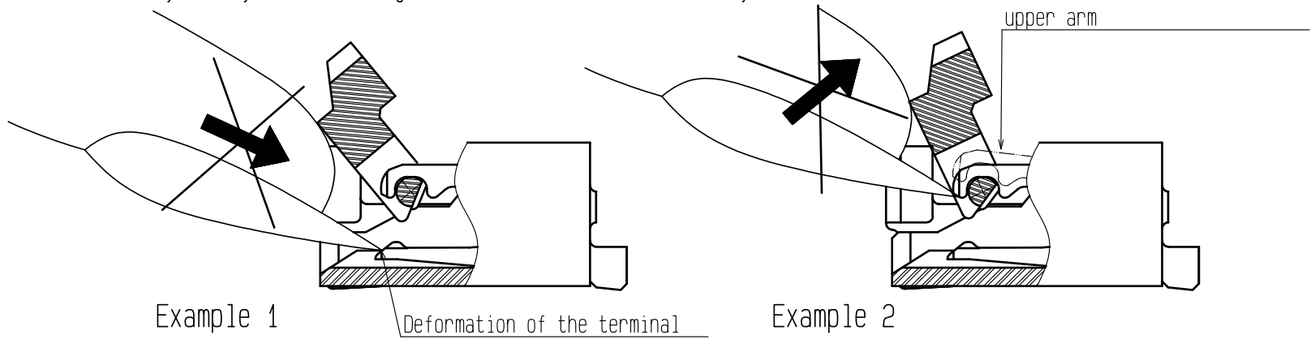
♦Amount of Warp
The warp of a 100 mm wide board should be 1 mm or less.
The warp of board suffers stress on connector and the connector may become defective.



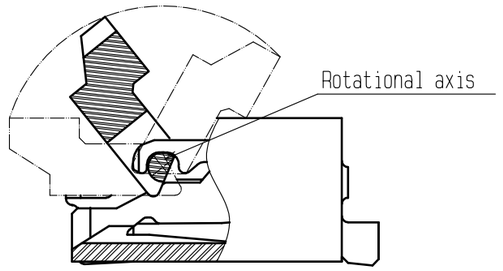
HRS DRAWING FOR REFERENCE

[INSTRUCTIONS ON INSERTING FPC AND CONNECTION]

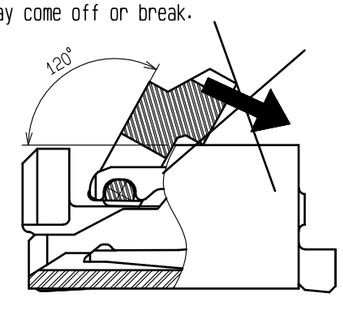
♦ Use of the Actuator
1. Be very careful not to apply excessive force when releasing the actuator in the initial position (with no FPC inserted).
If you use your nail or finger as shown below, the terminals may be deformed.



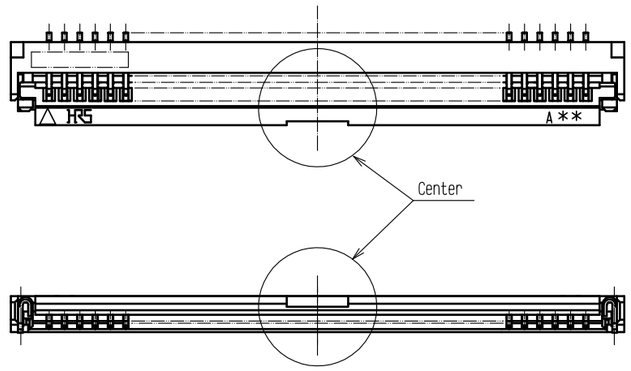
2. The actuator rotates around the rotational axis as shown below.
Rotate the actuator.



3. The actuator will not open more than 120°.
Do not apply any force backward beyond this point.
Otherwise, the actuator may come off or break.



4. Move the actuator at approximately the center.
Do not operate the edge of actuator.
Otherwise, the actuator may come off or break.

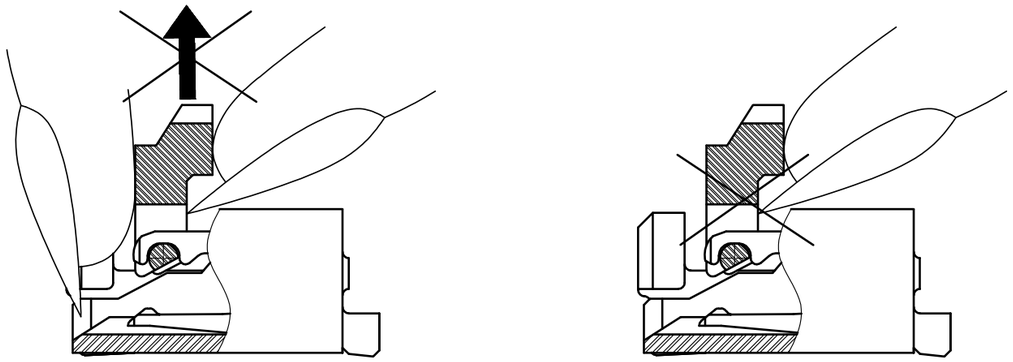


<INSTRUCTION MANUAL 1>

HRS	DRAWING NO.	EDC-332429-10-01
	PART NO.	FH33J-**S-0.5SH(10)
	CODE NO.	CL580

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5. Do not pinch or pick the actuator to lift it as shown below. Otherwise, it may break.
(Do not carry out any operation other than rotating the actuator as shown in 2 above.)



♦Direction of Contacts
This connector has contacts on the bottom. Thus, insert it with the exposed conductors face down.

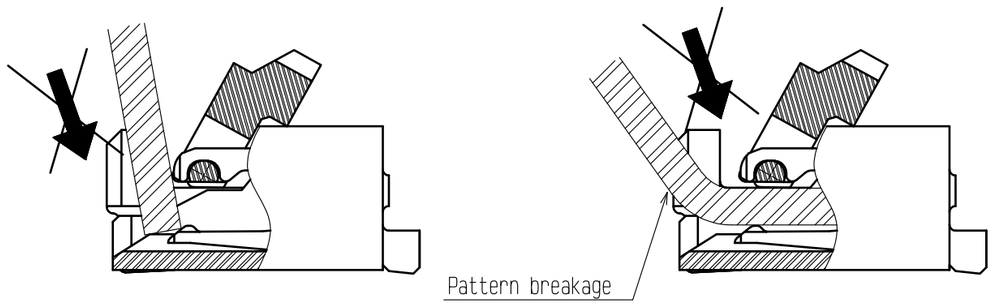
♦Inserting the FPC

1. Insert the FPC horizontally along the surface and at a right angle to the connector.
Insert it properly to the very end.
If the FPC is inserted at a slant (incorrectly),
the conductors may short-circuit due to pitch shift or the edge of the FPC may catch in the terminals,
resulting in deformation of the terminals.
This connector has a ZIF structure, and its effective engagement length is 1.1 mm
(when the recommended FPC nominal is used).
Use the actuator carefully to prevent the FPC from dislocating after inserting it.

2. Do not insert the FPC diagonally from above.
If the FPC is inserted at a slant (incorrectly) as shown below in the FPC insertion process,
the FPC may bend and patterns may break or the FPC may not insert completely,
resulting in improper conduction.

※Keep a sufficient FPC insertion space in the stage of the layout in order to avoid incorrect FPC insertion.
Besides, it is not difficult to insert FPC correctly all the way to the end.
Design the proper layout of parts.

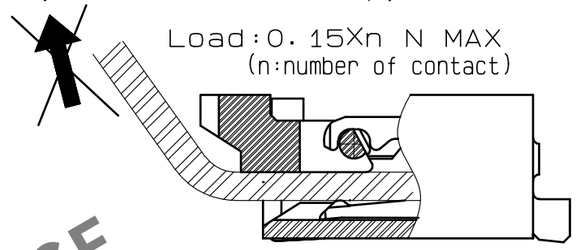
※Make adjustments with the FPC manufacturer for FPC bending perfomance and wire breakage.



♦Checking the Locking Condition
In the locked condition, make sure that the actuator is horizontal on the board surface.
Do not apply excessive force to it near the 0° position of the actuator.
Otherwise, the terminals may be deformed. (Allowable force: 1 N or less)

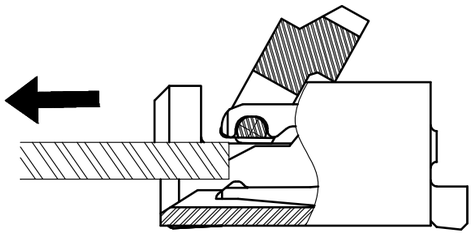
[INSTRUCTIONS ON FPC LAYOUT AFTER CONNECTION]

♦Load to FPC
Be very careful not to apply any force to the FPC after inserting it.
Otherwise, the connector may become unlocked or the FPC may break.
Fix the FPC, in particular, when loads are applied to it continuously.
Design the FPC layout with care not to bend it sharply near the insertion opening.



[INSTRUCTIONS ON REMOVING FPC]

♦Release the actuator to remove the FPC.



[OTHER INSTRUCTIONS]

♦Instructions on Manual Soldering
Follow the instructions shown below when soldering the connector manually during repair work, etc.

1. Do not perform reflow soldering or manual soldering with the FPC inserted into the connector.
2. Do not heat the connector excessively. Be very careful not to let the soldering iron contact any parts other than connector leads. Otherwise, the connector may be deformed or melt.
3. Do not use excessive solder (or flux).
If excessive solder (or flux) is used on the terminals, solder or flux may adhere to the contacts or rotating parts of the actuator, resulting in poor contact or a rotation failure of the actuator.
Supplying excessive solder to the reinforcing bracket may hinder actuator rotation, resulting in breakage of the connector.

HRS DRAWING FOR REFERENCE

<INSTRUCTION MANUAL 2>

HRS	DRAWING NO.	EDC-332429-10-01
	PART NO.	FH33J-**S-0.5SH(10)
	CODE NO.	CL580

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Global Electronic Components Distributor

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Hirose Electric:

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