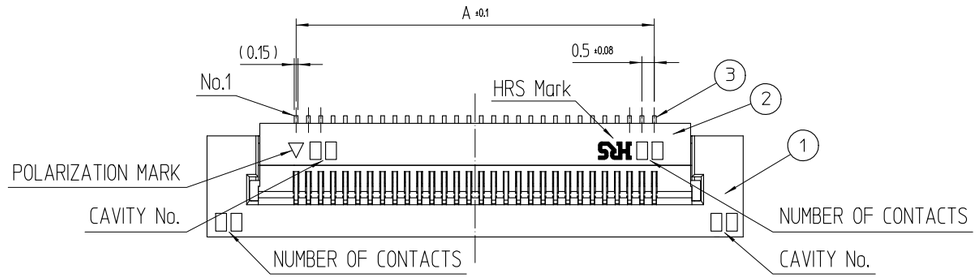
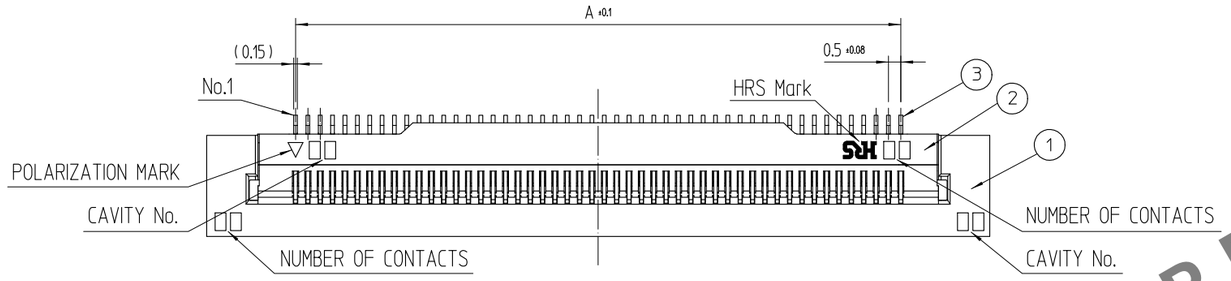
Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

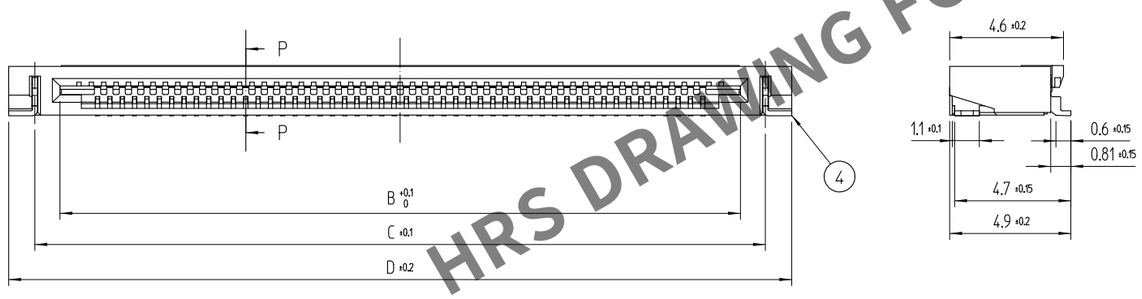
	△數 COUNT	訂正事項 DESCRIPTION OF REVISIONS	擔當 BY	檢圖 CHKD	年月日 DATE
△					. .
△					. .
△					. .

10~30 CONTACTS

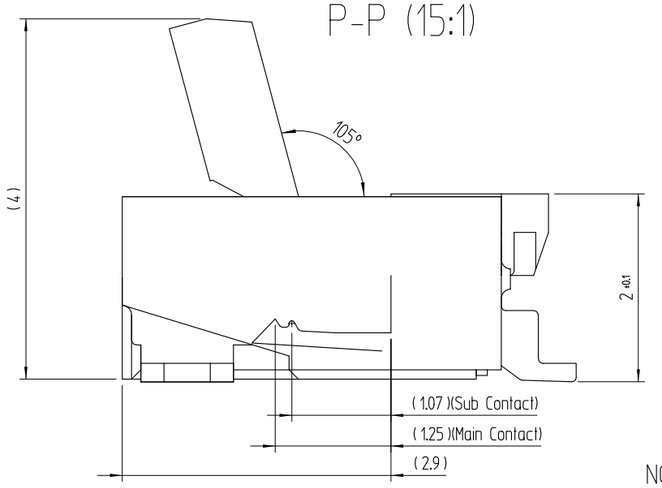


40~60 CONTACTS



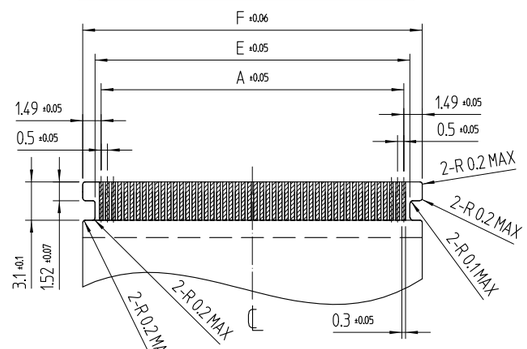


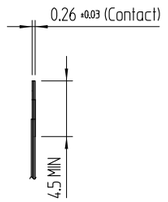
P-P (15:1)



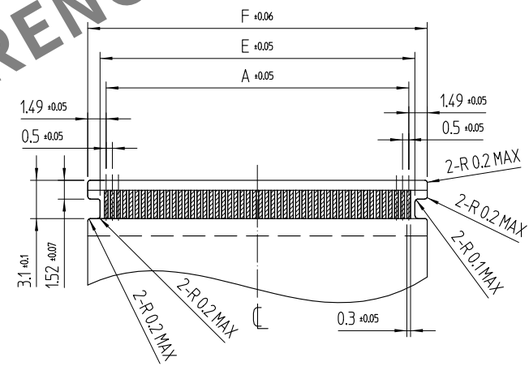
NOTE 1 : LEAD CO-PLANARITY SHALL BE 0.1mm MAX

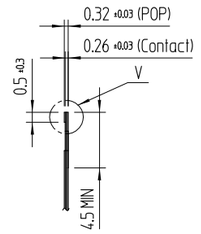
RECOMMENDED FPC/FFC TYPE A

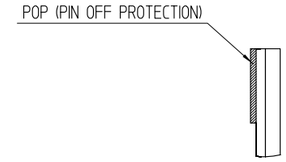




RECOMMENDED FPC/FFC TYPE B

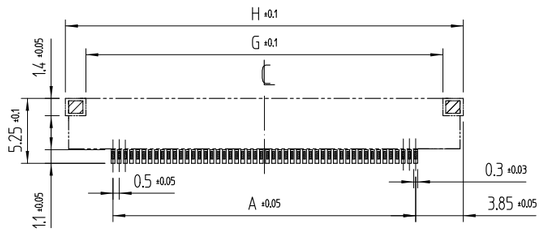






V (15:1)

RECOMMENDED LAND PATTERN , METAL MASK



RECOMMENDED METAL MASK THICKNESS : t = 0.15

NO.	MATERIAL	FINISH,REMARKS	NO.	MATERIAL	FINISH,REMARKS
			4	PHOSPHOR BRONZE	TIN PLATING 1um MIN, OVER NICKEL 1um MIN
2	LCP	UL94V-0 , BLACK	3	PHOSPHOR BRONZE	(CONTACT AREA) GOLD PLATING 0.05um MIN, OVER NICKEL 1um MIN (LEAD AREA) GOLD PLATING 0.05um MIN, OVER NICKEL 1um MIN (OTHER) NICKEL PLATING 1um MIN
1	LCP	UL94V-0 , BLACK			

CODE NO. (OLD)	DRAWN	DESIGNED	CHECKED	APPROVED	RELEASED
	S.G.LEE 19.01.02	S.G.LEE 19.01.02	S.G.LEE 19.01.02	D.H.CHO 19.01.02	ENG 19.05.24 DEPT

SCALE 4:1	DRAWING NO. EDC3-632748-80	PART NO. TF45-**S-0.5SH(800)
UNITS mm	HRS HIROSE KOREA CO.,LTD.	CODE NO CL 6555-0018-5-800 1/5

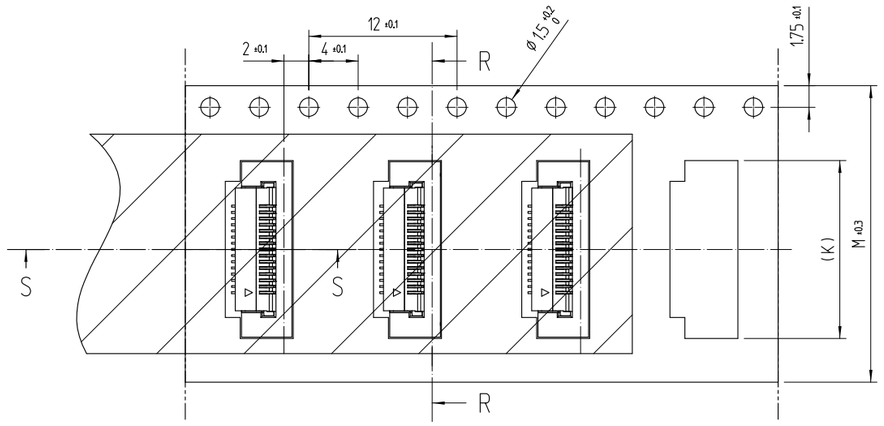
HRS DRAWING FOR REFERENCE

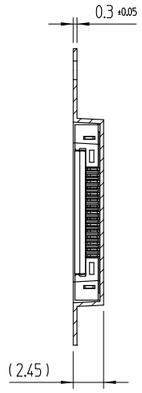
Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

	△数 COUNT	訂正事項 DESCRIPTION OF REVISIONS	擔當 B Y	檢圖 CHKD	年月日 DATE	△数 COUNT	訂正事項 DESCRIPTION OF REVISIONS	擔當 B Y	檢圖 CHKD	年月日 DATE
△					. .	△				. .
△					. .	△				. .
△					. .	△				. .

TAPE WIDTH:

24mmMAX





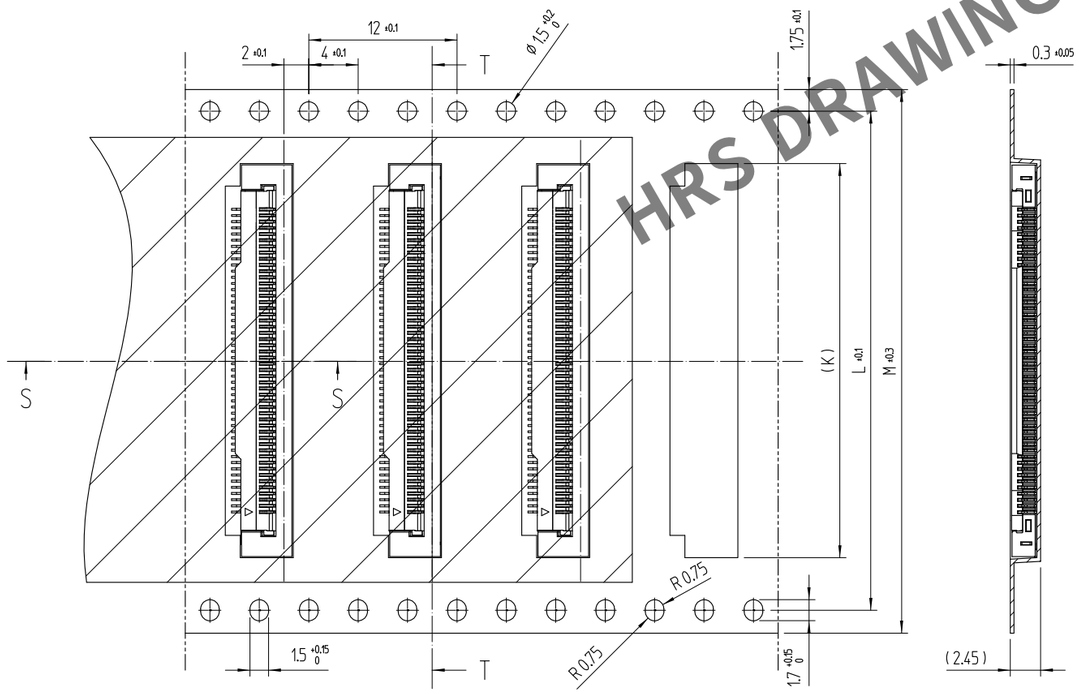
R-R



S-S

TAPE WIDTH:

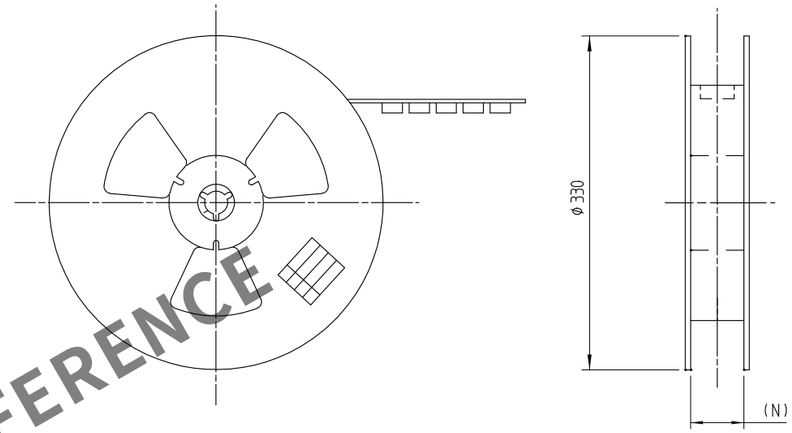
32mmMIN

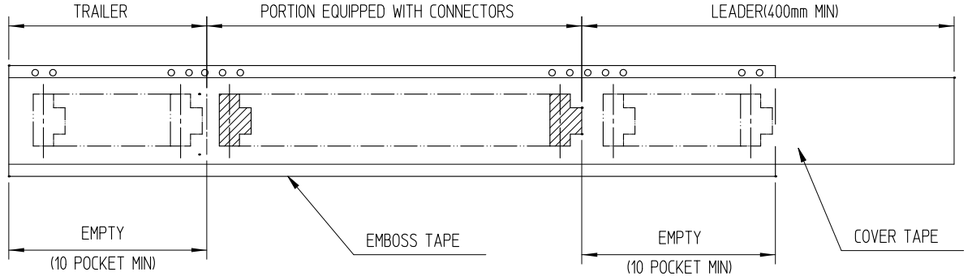


T-T

REEL DIMENSION (FREE)

THE DIRECTION OF PULLING OUT





NOTE 1. 1REEL CONTAINS 2,000PCS.

HRS DRAWING FOR REFERENCE

NO.	MATERIAL	FINISH,REMARKS	NO.	MATERIAL	FINISH,REMARKS

CODE NO. (OLD)	DRAWN	DESIGNED	CHECKED	APPROVED	RELEASED
	S.G.LEE 19.01.02	S.G.LEE 19.01.02	S.G.LEE 19.01.02	D.H.CHO 19.01.02	ENG 19.05.24 DEPT

SCALE 2:1 UNITS mm	DRAWING NO. EDC3-632748-80	PART NO. TF45-**S-0.5SH(800)
	HRS HIROSE KOREA CO.,LTD.	CODE NO CL 6555-0018-5-800

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demands high reliability, kindly contact our sales window correspondents.

	△数 COUNT	訂正事項 DESCRIPTION OF REVISIONS	擔當 B Y	檢圖 CHKD	年月日 DATE		△数 COUNT	訂正事項 DESCRIPTION OF REVISIONS	擔當 B Y	檢圖 CHKD	年月日 DATE
△					. .	△					. .
△					. .	△					. .
△					. .	△					. .

PART NUMBER	NUMBER OF CONTACTS	DIMENSION OF CONNECTOR/ FPC, PCB MOUMTING PATTERN								DIMENSION OF PACKING			
		A	B	C	D	E	F	G	H	K	L	M	N
TF45-10S-0.5SH(800)	10S	4.5	7.55	9.57	11.7	5.5	7.48	8.9	12.2	11.9	-	24	24.5
TF45-15S-0.5SH(800)	15S	7	10.05	12.07	14.2	8	9.98	11.4	14.7	14.4	-	24	24.5
TF45-20S-0.5SH(800)	20S	9.5	12.55	14.57	16.7	10.5	12.48	13.9	17.2	16.9	28.4	32	32.5
TF45-25S-0.5SH(800)	25S	12	15.05	17.07	19.2	13	14.98	16.4	19.7	19.4	28.4	32	32.5
TF45-30S-0.5SH(800)	30S	14.5	17.55	19.57	21.7	15.5	17.48	18.9	22.2	21.9	40.4	44	44.5
TF45-40S-0.5SH(800)	40S	19.5	22.55	24.57	26.7	20.5	22.48	23.9	27.2	26.9	40.4	44	44.5
TF45-50S-0.5SH(800)	50S	24.5	27.55	29.57	31.7	25.5	27.48	28.9	32.2	31.9	40.4	44	44.5
TF45-60S-0.5SH(800)	60S	29.5	32.55	34.57	36.7	30.5	32.48	33.9	37.2	36.9	52.4	56	56.5

HRS DRAWING FOR REFERENCE

NO.	MATERIAL	FINISH,REMARKS	NO.	MATERIAL	FINISH,REMARKS

CODE NO. (OLD)	DRAWN	DESIGNED	CHECKED	APPROVED	RELEASED
	S.G.LEE 19.01.02	S.G.LEE 19.01.02	S.G.LEE 19.01.02	D.H.CHO 19.01.02	ENG 19.05.24 DEPT

SCALE 1:1	DRAWING NO. EDC3-632748-80	PART NO. TF45-**S-0.5SH(800)
UNITS mm	HRS HIROSE KOREA CO.,LTD.	CODE NO CL 6555-0018-5-800 3/5

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demands high reliability, kindly contact our sales window correspondents.

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

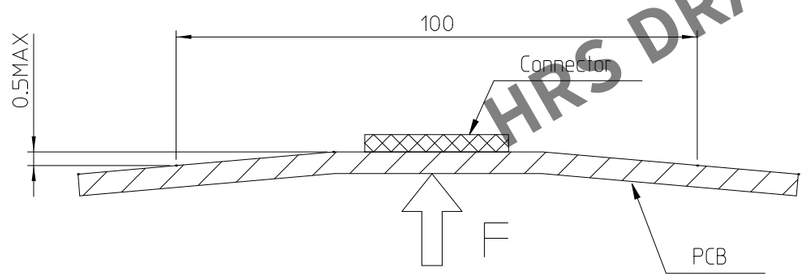
[INSTRUCTIONS FOR MOUNTING ON THE BOARD]

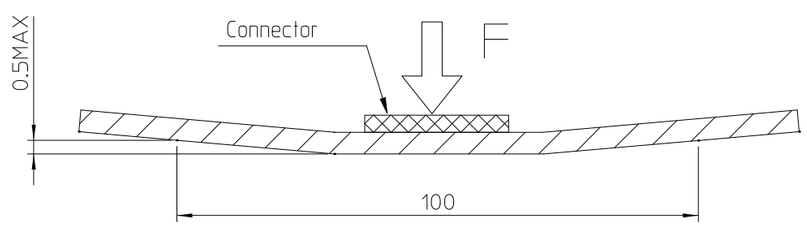
◆ Warp of Board
Minimize warp of the board as possible
Lead co-planarity including reinforced metal fitting is 0.1mm or less
Too much warp of the board may result in a soldering.

◆ Load to Connector
Do not apply a force of 0.5N or more to the connector before mounting it on the board.
Otherwise, the connector may be broken.
Do not warp the FPC or operate the connector before mounting it.

◆ Load 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.

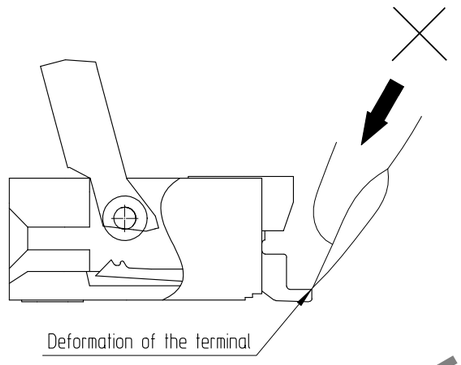
◆ Amount of Warp
The warp of a 100mm wide board should be 0.5mm or less.
The warp of board suffers stress on connector and connector may become defective.



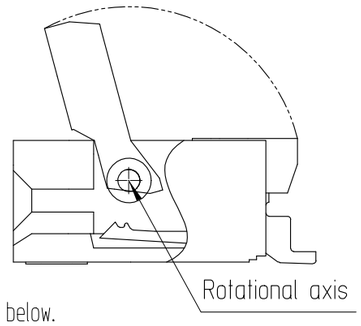


[INSTRUCTIONS ON INSERTING FFC/FPC AND CONNECTOR]

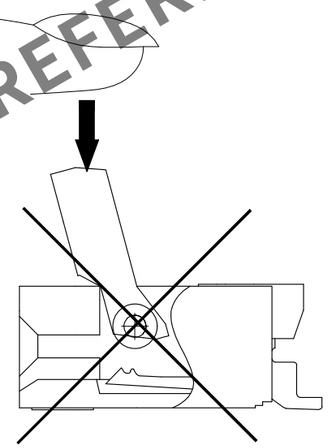
◆ Use of the Actuator
1. Be very careful not to apply excessive force when releasing the Actuator.
in the initial position (with no FPC inserted)
if you use your nail or finger as shown, the terimals may be deformed.



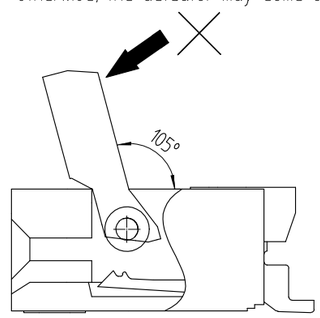
2. The actuator rotates around the rotational axis as shown below.
Please rotate the actuator.



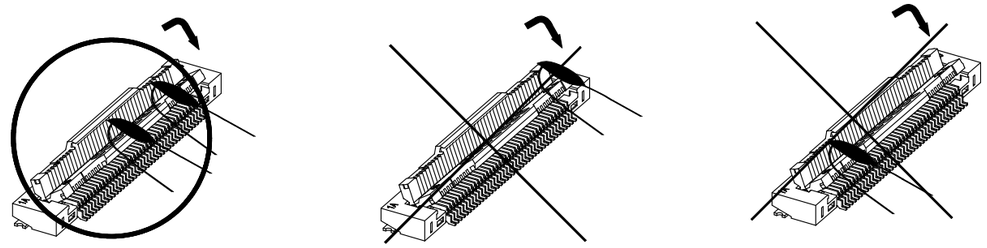
3. Please do not push downwards to the Actuator with more than 0.5N force, as shown below.
Otherwise, the Actuator may fall off or be damaged.



4. The actuator will not open more than 105°.
Do not apply any force backward beyond this point.
Otherwise, the actuator may come off or break.



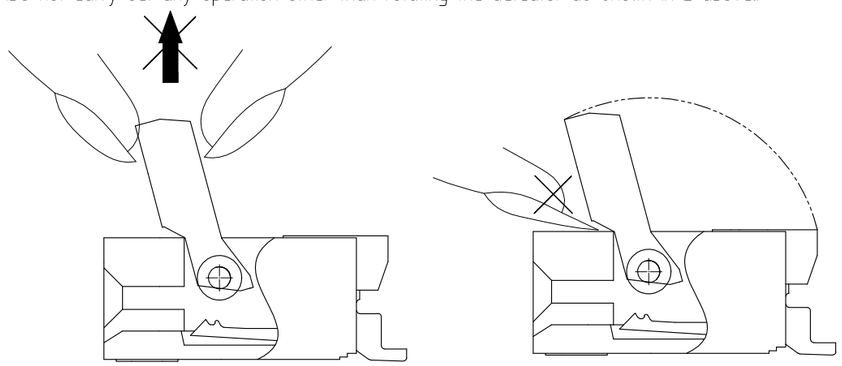
5. Please use two fingers when rotating the actuator as shown below.
Otherwise, this may cause the actuator to malfunction.



HRS DRAWING FOR REFERENCE

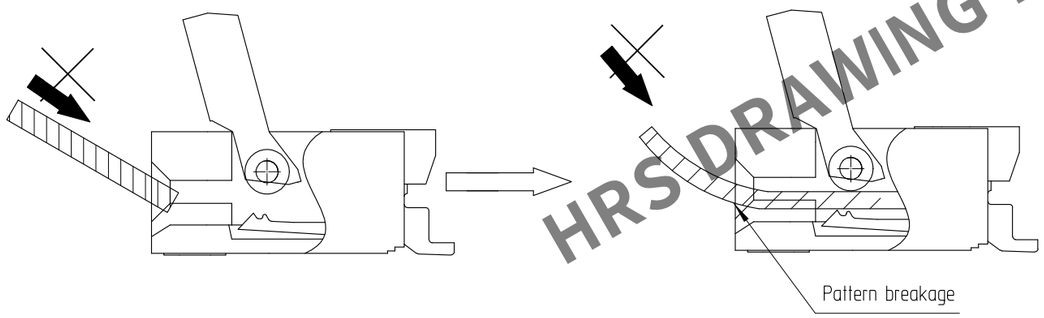
Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

5. Move the actuator at approximately the center.
(It may break if operate the edge of the actuator with FPC inserted.)
6. 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 FPC 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.



2. Do not insert the FPC diagonally from above
If the FPC is inserted at a slot (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. Designed the proper layout of parts.

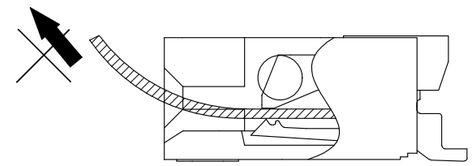
Make adjustments with the FPC manufacturer for bending performance and breakage resistant.

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

[INSTRUCTION ON FPC LAYOUT AFTER CONNECTOR]

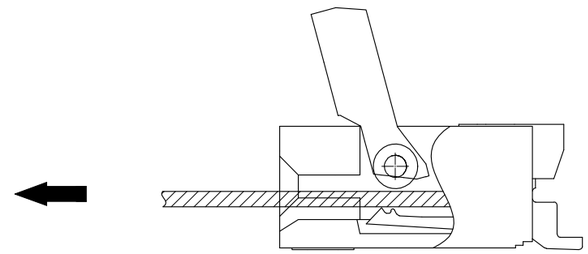
♦ Load to FPC
Be very careful not to apply any force to the FPC after inserting it.
Otherwise, the connector may become unlocked or the FPC may break.
Fix the FPC, in particular, when loads are applied to it continuously.
Design the FPC layout with care not to bend it sharply near the insertion opening.

Load: 0.25(N) x n MAX
(n: number of contacts)



[INSTRUCTIONS ON REMOVING FPC]

♦ Release the actuator at approximately the center.
(It may break if isorate the edge of the actuator with FPC inserted.)



[OTHER INSTRUCTIONS]

♦ Instruction on Manual Soldering
Follow the instructions shown 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 inpoor contact or a rotation failure of the actuator.

HRS DRAWING FOR REFERENCE