



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



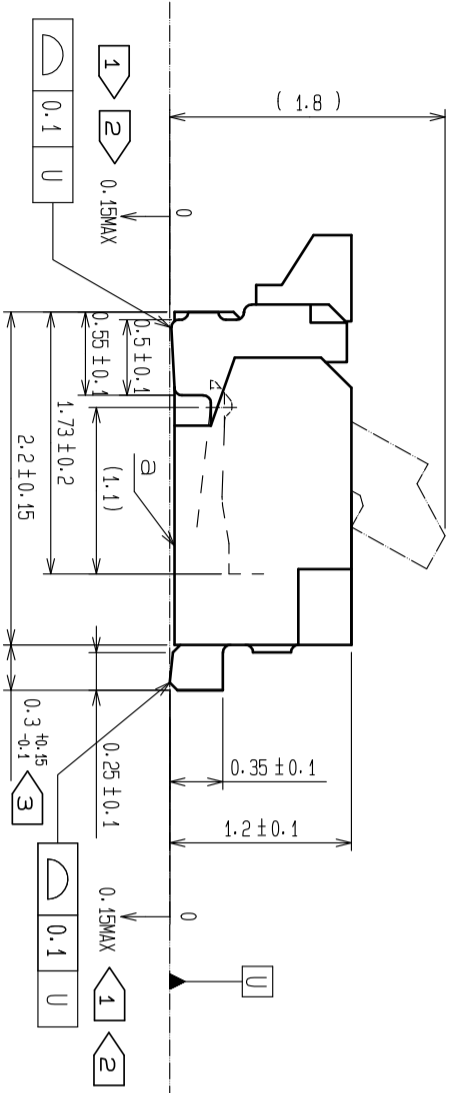
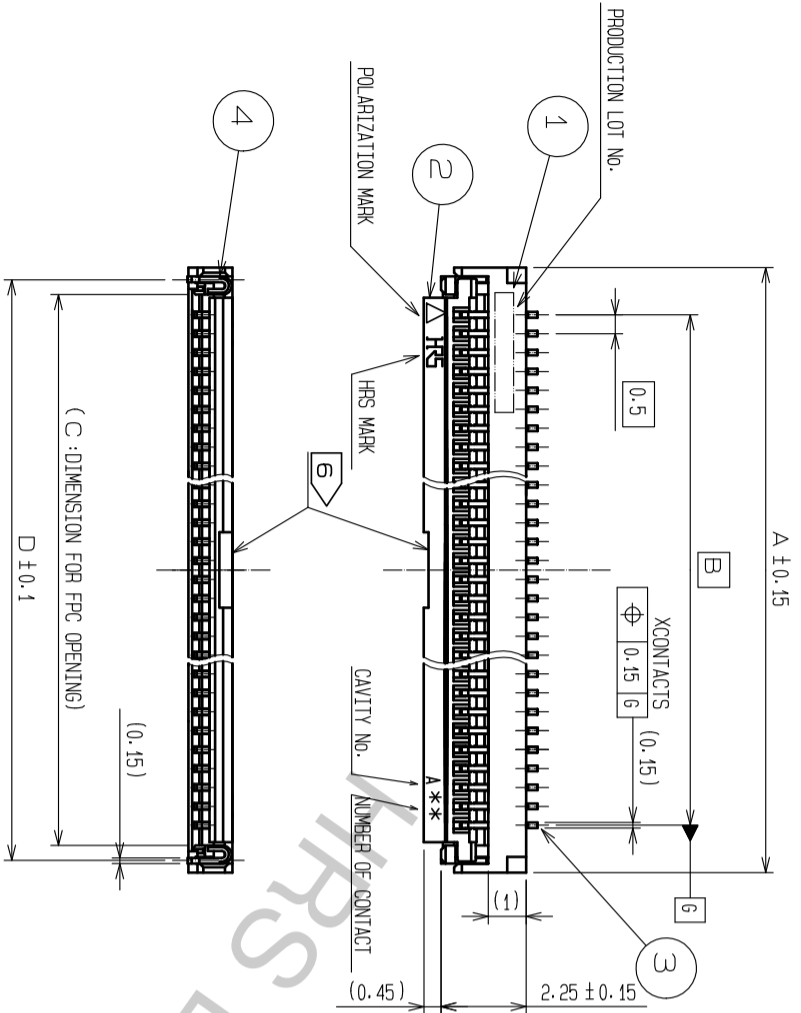
## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

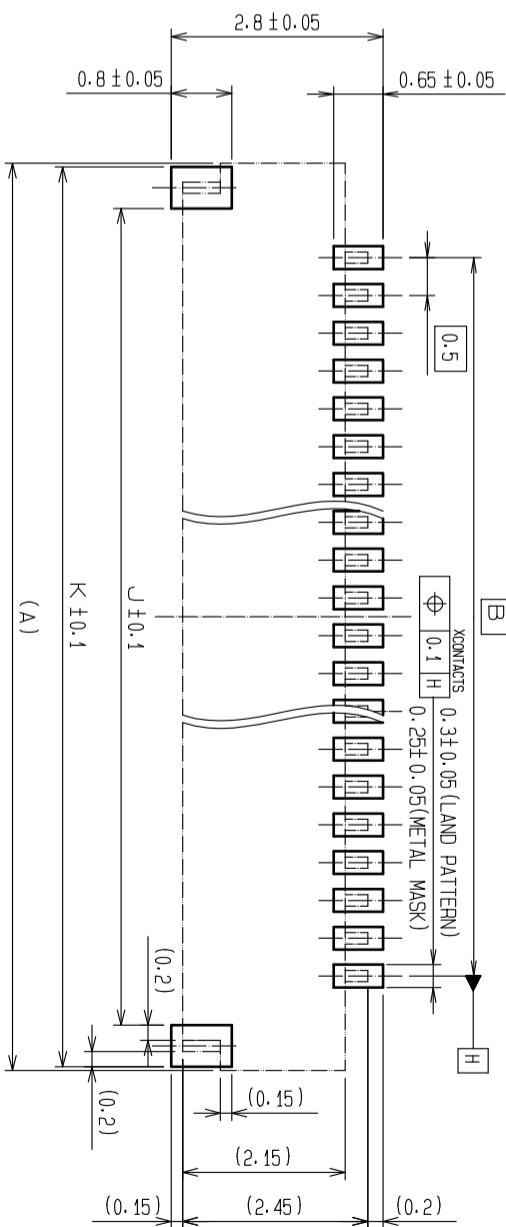
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





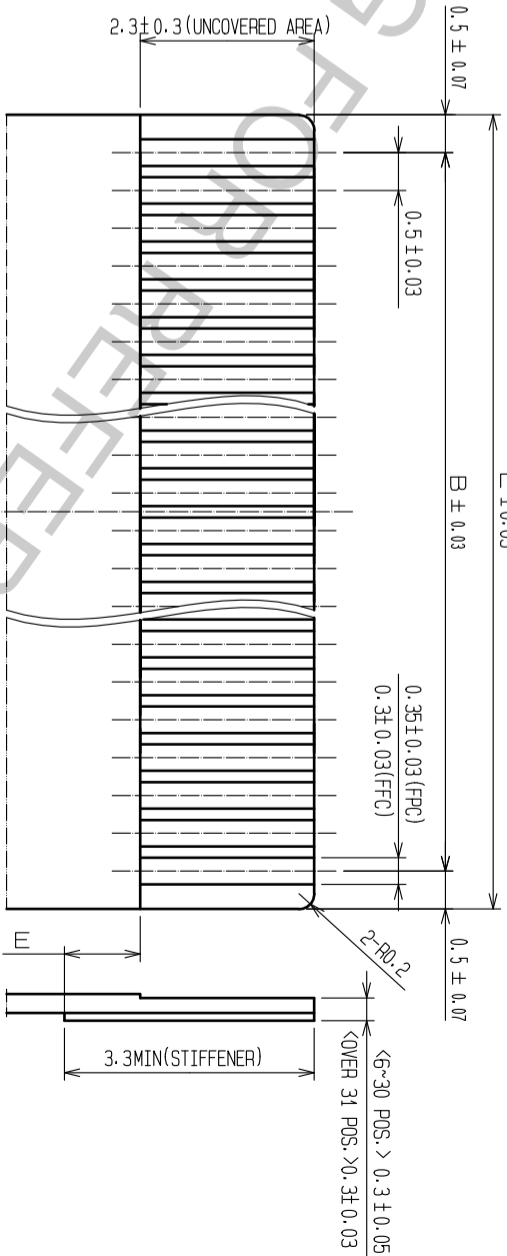
F (20 : 1)



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.  
FOR FFC APPLICATION, PAY ATTENTION TO THE TOLERANCE OF FPC THICKNESS AT MATING AREA.  
DIMENSION E MUST BE 0.5mm MINIMUM WHEN THE STIFFENER IS SHORTER THAN 3.3mm.

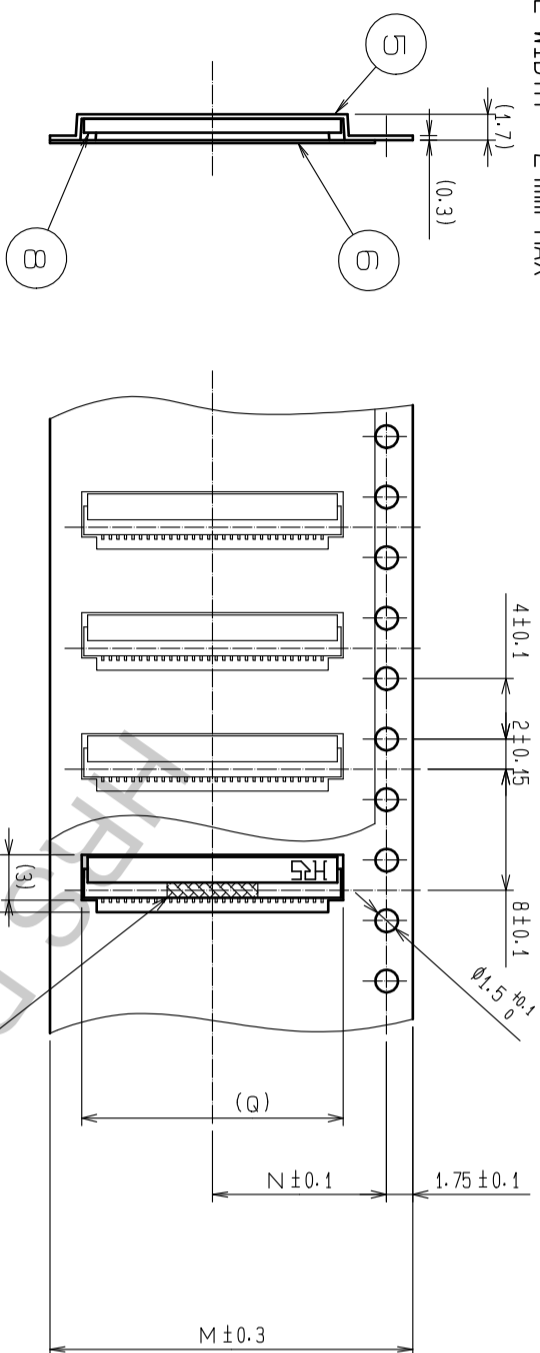
NOTES

- 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.
- 4 TO BE DELIVERED WITH TAPE AND REEL PACKAGES.
- 5 SEE ATTACHED PACKAGING SPECIFICATIONS FOR DETAILS.
- 6 NOTE THAT PREVENTIVE HOLE FOR SINK MARK COULD BE ADDED FOR IMPROVEMENT.
- 7 THE NUMBER AND THE SHAPE OF GATES DIFFER DEPENDING ON THE NUMBER OF CONTACTS.

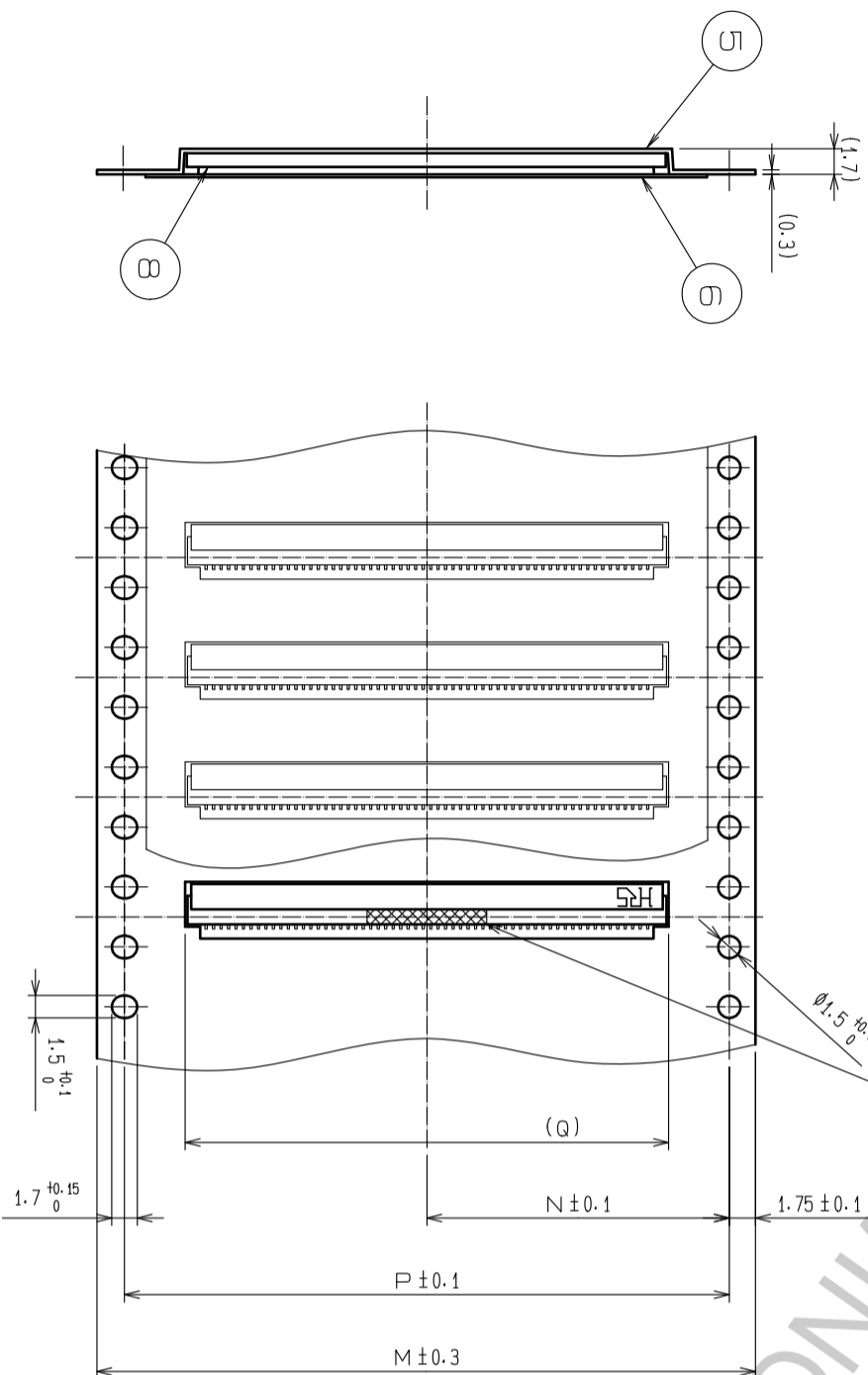
4	PHOSPHOR BRONZE (PLATED MATERIAL)	TIN PLATING (REFLOW FINISHED) 1μm MIN OVER COPPER 0.5μm MIN	9	POLYSTYRENE (CONNECTOR)	
3	PHOSPHOR BRONZE	(CONTACT AREA) LEAD/BOND 0.05μm MIN OVER NICKEL 1μm MIN (OVERNICKEL PLATING 1μm MIN)	8	POLYSTYRENE	
2	PA	DEEP BROWN UL94V-0	7	POLYESTER	
1	PA	BEIGE UL94V-0	6	POLYSTYRENE	
MATERIAL FINISH		REMARKS	NO.		MATERIAL FINISH
UNITS		SCALE	COUNT	DESCRIPTION OF REVISIONS	DESIGNED
mm		5 : 1			CHECKED
HRS		HI ROSE ELECTRIC CO., LTD.	APPROVED : NF. MIYAZAKI	16.08.31	DRAWING NO.
			CHECKED : YH. MICHIDA	16.08.31	PART NO.
			DESIGNED : KN. KOBAYASHI	16.08.31	CODE
			DRAWN : RK. OGASAWARA	16.08.31	NO.
					EDC-156169-99-00
					FH33-**-S-0.5SH(99)
					CL580

EMBOSSED CARRIER TAPE DIMENSION (2:1)

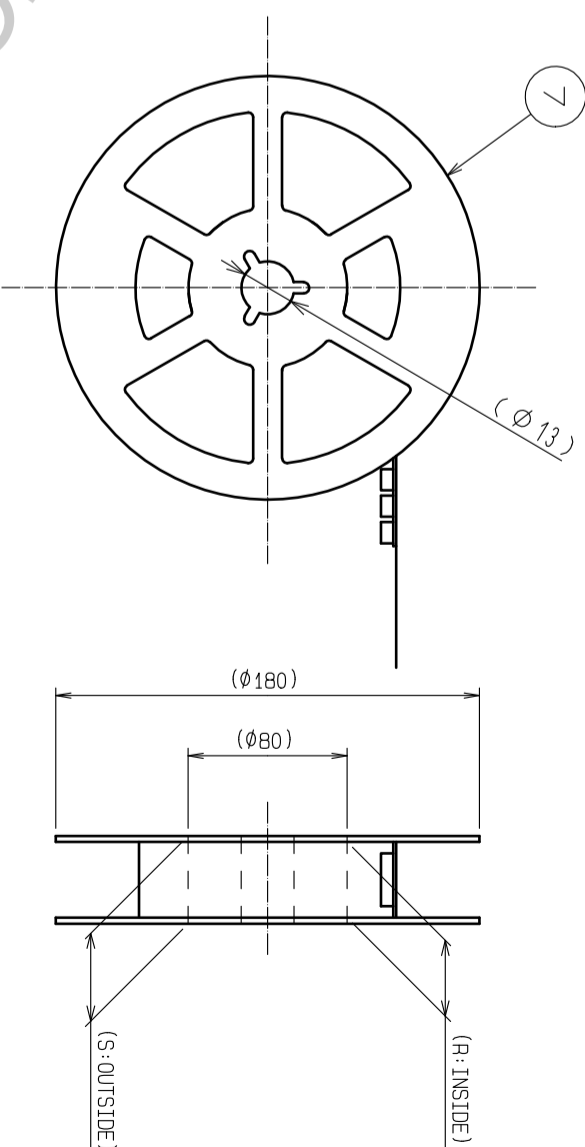
● TAPE WIDTH : 24mm MAX



● TAPE WIDTH : 32mm MIN

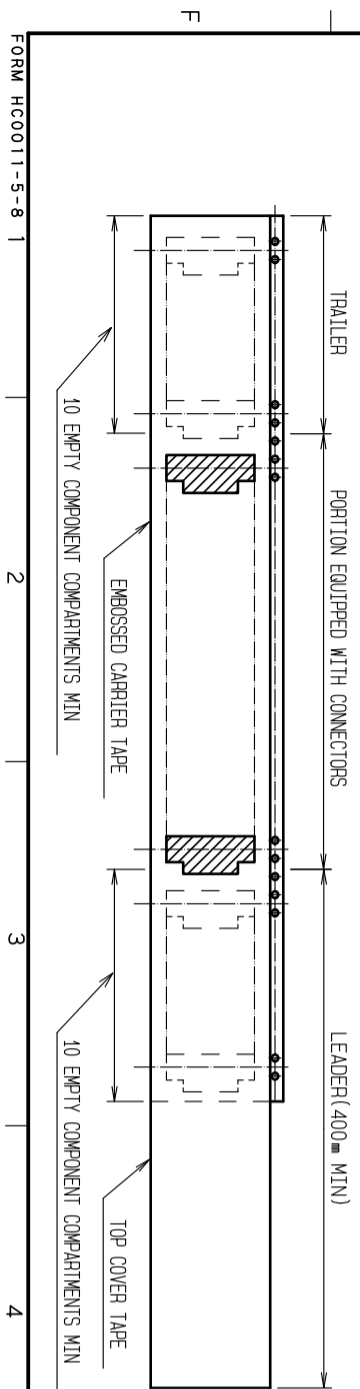


REEL DIMENSION (FREE)



NOTE 8 PER REEL : 500 CONNECTORS.  
9 COMPLIANT TO JIS C 0806 AND IEC 60286-3 (PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING.)

DRAWING FOR REFERENCE



<b>HRS</b>	
DRAWING NO.	EDC-156169-99-00
PART NO.	FH33-**-S-0.5SH(99)
CODE NO.	CL580
	2/5

FORM HC0011-5-8 1 2 3 4 5 6 7 8

DIMENSION TABLE OF CONNECTOR: FPG, FPG, LAND PATTERN AND METAL MASK

PART No.	CODE No.	*	A	B	C	D	J	K	L
FH33-6S-0.5SH(99)	CL580-1301-1-99	6	5	2.5	3.57	4.35	3.8	4.9	3.5
FH33-9S-0.5SH(99)	CL580-1303-7-99	9	6.5	4	5.07	5.85	5.3	6.4	5
FH33-10S-0.5SH(99)	CL580-1304-0-99	10	7	4.5	5.57	6.35	5.8	6.9	5.5
FH33-12S-0.5SH(99)	CL580-1302-4-99	12	8	5.5	6.57	7.35	6.8	7.9	6.5
FH33-14S-0.5SH(99)	CL580-1305-2-99	14	9	6.5	7.57	8.35	7.8	8.9	7.5
FH33-19S-0.5SH(99)	CL580-1307-8-99	19	11.5	9	10.07	10.85	10.3	11.4	10
FH33-20S-0.5SH(99)	CL580-1317-1-99	20	12	9.5	10.57	11.35	10.8	11.9	10.5
FH33-26S-0.5SH(99)	CL580-1306-5-99	26	15	12.5	13.57	14.35	13.8	14.9	13.5
FH33-28S-0.5SH(99)	CL580-1300-9-99	28	16	13.5	14.57	15.35	14.8	15.9	14.5
FH33-30S-0.5SH(99)	CL580-1312-8-99	30	17	14.5	15.57	16.35	15.8	16.9	15.5
FH33-32S-0.5SH(99)	CL580-1310-2-99	32	18	15.5	16.57	17.35	16.8	17.9	16.5
FH33-36S-0.5SH(99)	CL580-1311-5-99	36	20	17.5	18.57	19.35	18.8	19.9	18.5
FH33-40S-0.5SH(99)	CL580-1308-0-99	40	22	19.5	20.57	21.35	20.8	21.9	20.5
FH33-45S-0.5SH(99)	CL580-1316-9-99	45	24.5	22	23.07	23.85	23.3	24.4	23

DIMENSION TABLE OF DRAWING FOR PACKING

PART No.	CODE No.	*	M	N	P	Q	R	S
FH33-6S-0.5SH(99)	CL580-1301-1-99	6	16	7.5	—	5.3	17.4	21.4
FH33-9S-0.5SH(99)	CL580-1303-7-99	9	16	7.5	—	6.8	17.4	21.4
FH33-10S-0.5SH(99)	CL580-1304-0-99	10	16	7.5	—	7.3	17.4	21.4
FH33-12S-0.5SH(99)	CL580-1302-4-99	12	16	7.5	—	8.3	17.4	21.4
FH33-14S-0.5SH(99)	CL580-1305-2-99	14	16	7.5	—	9.3	17.4	21.4
FH33-19S-0.5SH(99)	CL580-1307-8-99	19	24	11.5	—	11.8	25.4	29.4
FH33-20S-0.5SH(99)	CL580-1317-1-99	20	24	11.5	—	12.3	25.4	29.4
FH33-26S-0.5SH(99)	CL580-1306-5-99	26	24	11.5	—	15.3	25.4	29.4
FH33-28S-0.5SH(99)	CL580-1300-9-99	28	24	11.5	—	16.3	25.4	29.4
FH33-30S-0.5SH(99)	CL580-1312-8-99	30	24	11.5	—	17.3	25.4	29.4
FH33-32S-0.5SH(99)	CL580-1310-2-99	32	32	14.2	28.4	18.3	33.4	37.4
FH33-36S-0.5SH(99)	CL580-1311-5-99	36	32	14.2	28.4	20.3	33.4	37.4
FH33-40S-0.5SH(99)	CL580-1308-0-99	40	44	20.2	40.4	22.3	45.4	49.4
FH33-45S-0.5SH(99)	CL580-1316-9-99	45	44	20.2	40.4	24.8	45.4	49.4

\* : NUMBER OF CONTACTS

FOR REFERENCE

<b>HRS</b>	DRAWING NO.	EDC-156169-99-00
PART NO.	FH33-**-S-0.5SH(99)	
CODE NO.	CL580	

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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.

**◆Flexible board design**

Please make sure to put a stiffener on the backside of the flexible board.  
We recommend a glass epoxy material with the thickness of 0.3mm MIN.

**◆Load to Connector**

Do not add 4N or greater external force when unreel or pick and place the connector etc. or it may get broken.  
In addition, do not insert the FPC or operate the connector before mounting it.

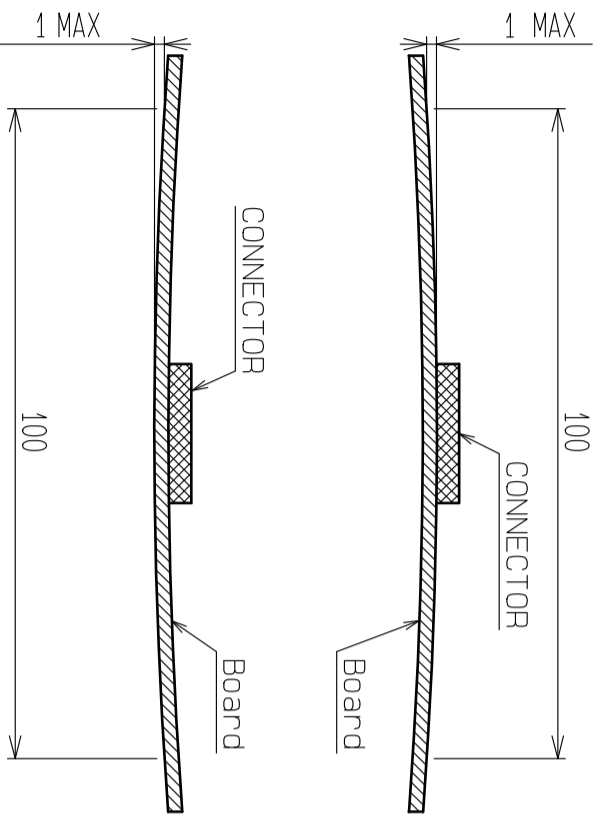
**INSTRUCTIONS FOR PCB HANDLING AFTER MOUNTING THE CONNECTOR**

**◆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**

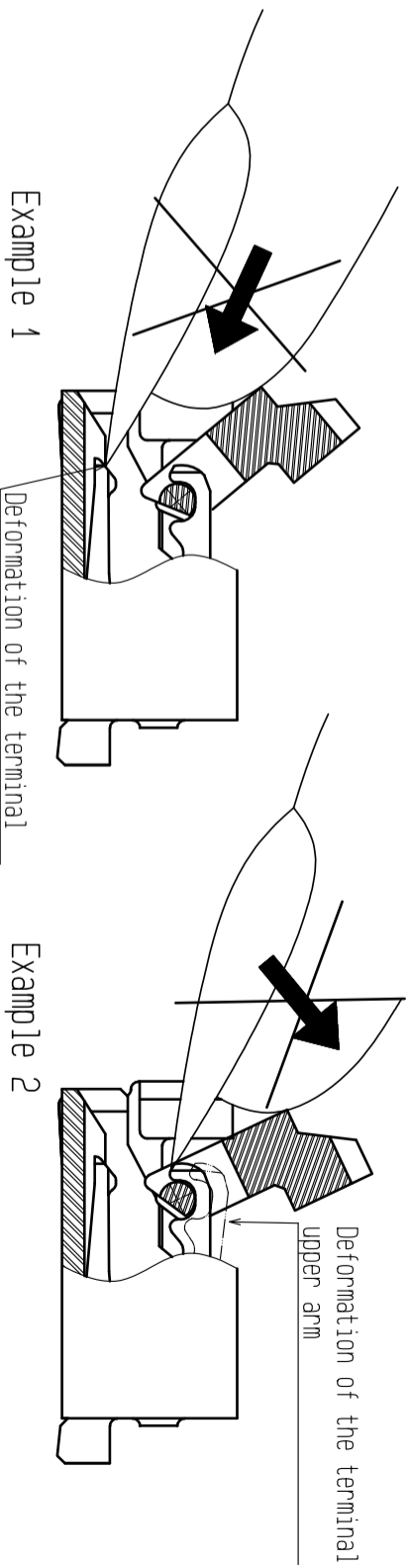
The warp of a 100-mm wide board should be 1 mm or less.  
The warp of board suffers stress on connector and the connector may become defective.



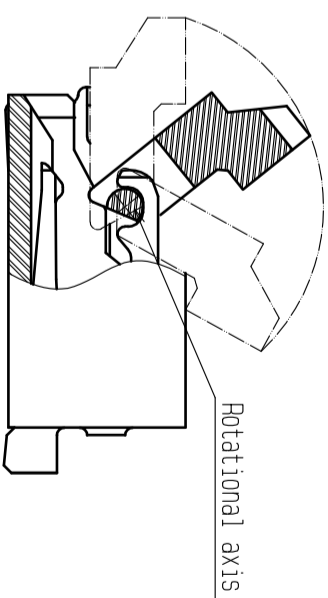
**INSTRUCTIONS ON INSERTING FPC AND CONNECTION**

**◆ Use of the Actuator**

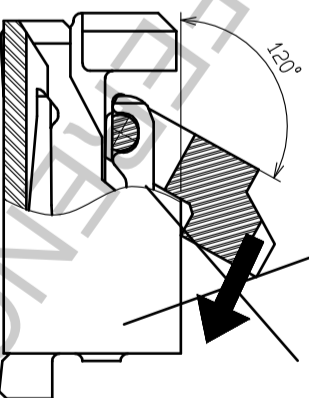
1. Be very careful not to apply excessive force when releasing the actuator in the initial position (with no FPC inserted).  
If you use your nail or finger as shown below, the terminals may be deformed.



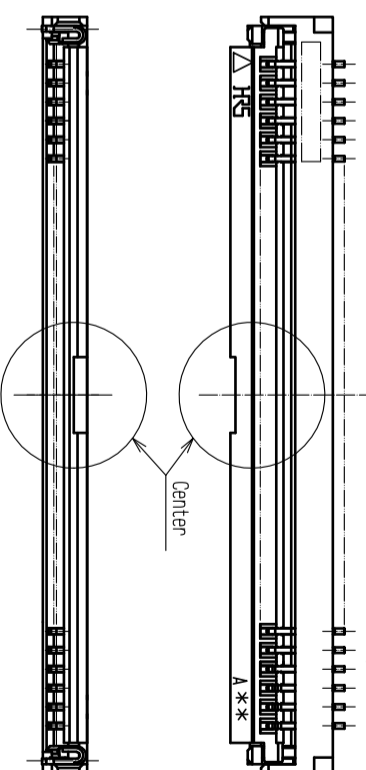
2. The actuator rotates around the rotational axis as shown below.  
Rotate the actuator.



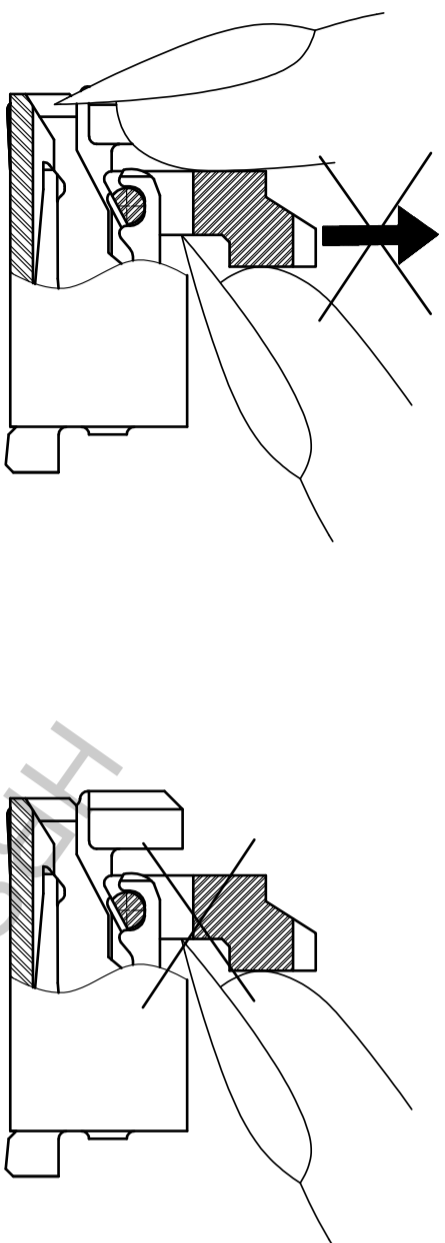
3. The actuator will not open more than 120°. Do not apply any force backward beyond this point. Otherwise, the actuator may come off or break.



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



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

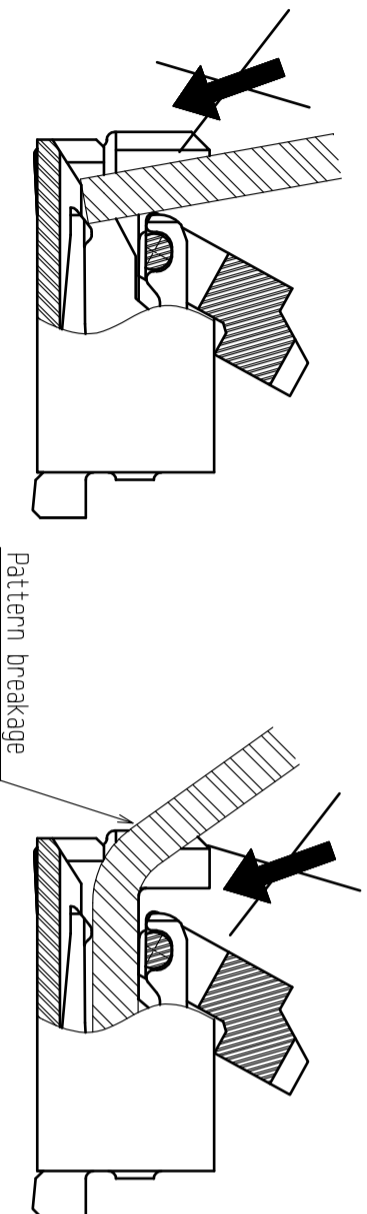
This connector has contacts on the bottom. Thus, insert it with the exposed conductors face down.

◆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 performance and wire breakage.

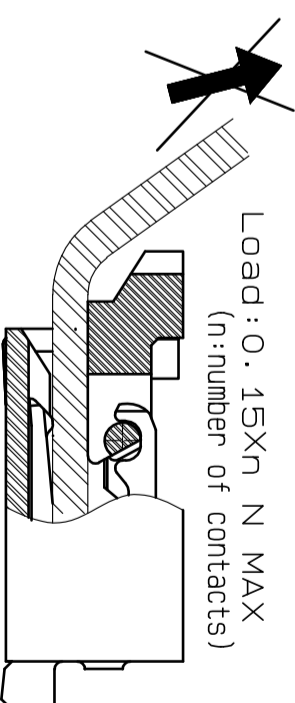


◆Checking the Locking Condition

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)

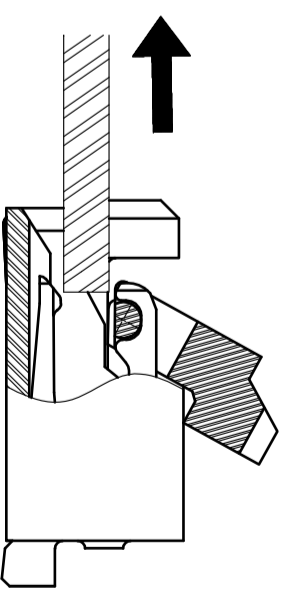
! INSTRUCTIONS ON FPC LAYOUT AFTER CONNECTION!

◆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.

<b>HR5</b>	
DRAWING NO.	EDC-156169-99-00
PART NO.	FH33-**-S-0.5SH(99)
CODE	CL580
NO.	5/5