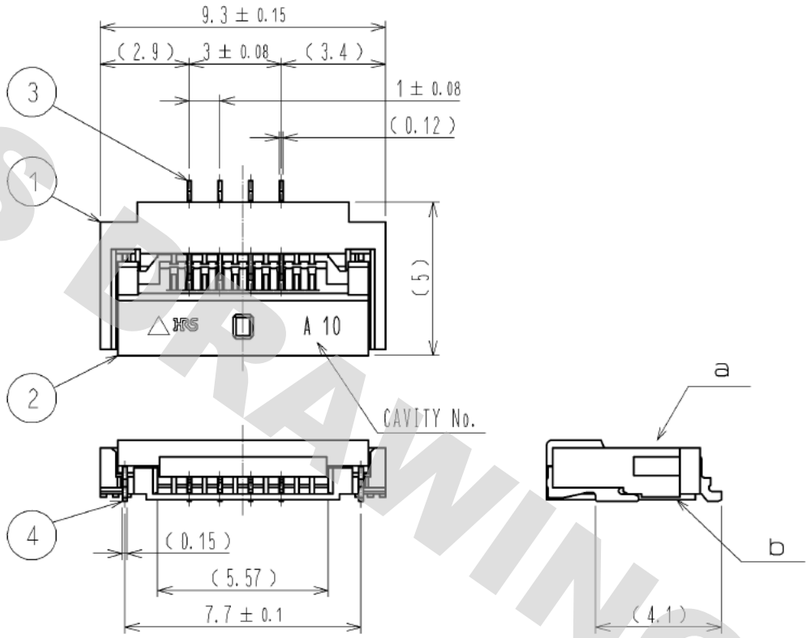
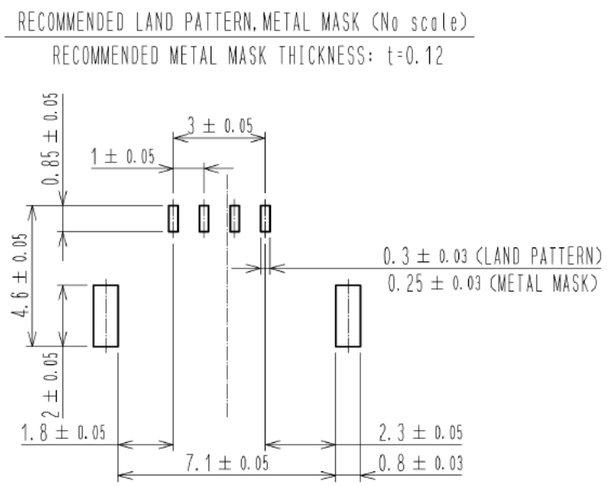
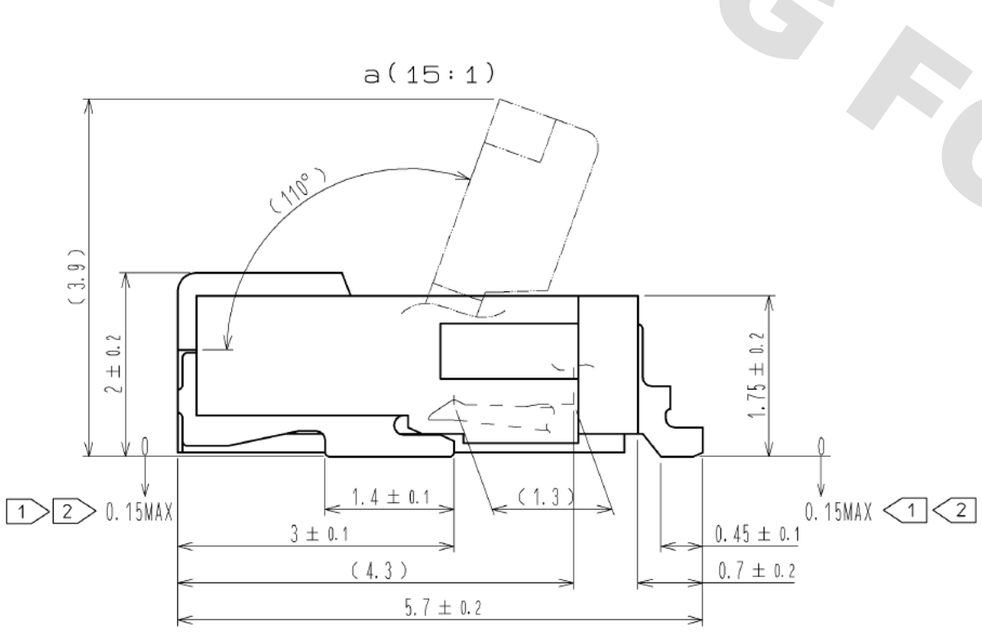
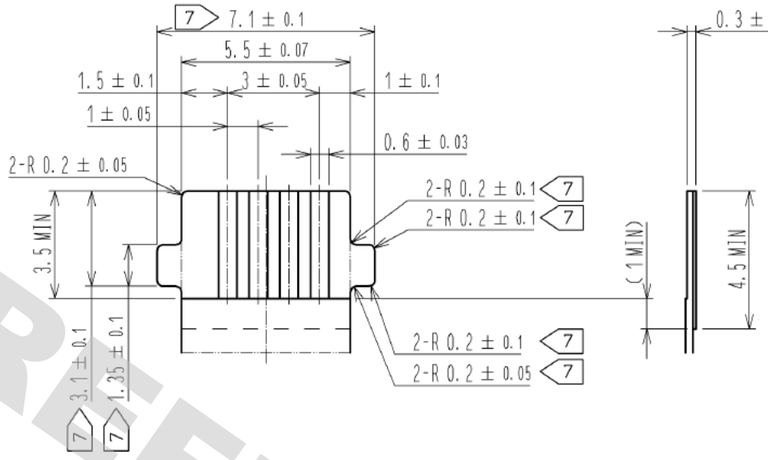
DRAWING FOR REFERENCE: This is subject to change without notice
05/31/2013

HRS DRAWING FOR REFERENCE









NOTES
1. Lead CO-PLANARITY including reinforced metal fittings shall be 0.1 MAX.
2. Dimension: from reference b.
3. To be delivered with tape and reel packages.
4. Note that preventive hole for sink mark could be added for improvement.
5. The quality remains good. Even with the dark spots, which could occasionally occur molded plastics.
6. This product satisfies halogen free requirements defined as 900ppm maximum chlorine, 900ppm maximum bromine, and 1500ppm maximum total of chlorine and bromine.
7. FPC without tabs is also available.
   In case of using FPC without tabs, dimensions relating tabs are not required.

NO.	MATERIAL	FINISH . REMARKS	NO.	MATERIAL	FINISH . REMARKS
4	BRASS (PLATED MATERIAL)	TIN PLATING(REFLOW FINISHED) 1μmMIN OVER COPPER 0.3μmMIN	8	(CONNECTOR)	
3	PHOSPHOR BRONZE	(CONTACT AREA, LEAD) GOLD PLATING 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	

UNITS	SCALE	NO.	COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
mm	5 : 1						

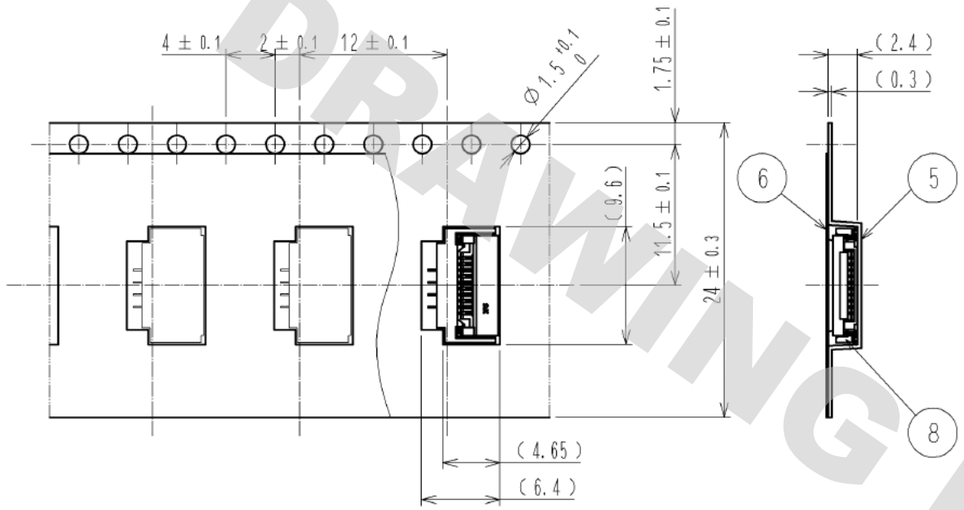
HIROSE ELECTRIC CO., LTD.

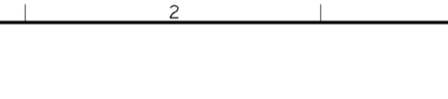
APPROVED	MO. ISHIDA	13.04.09
CHECKED	HS. SAKAMOTO	13.04.09
DESIGNED	SG. MASAKI	13.04.08
DRAWN	NM. SANPEI	13.04.08

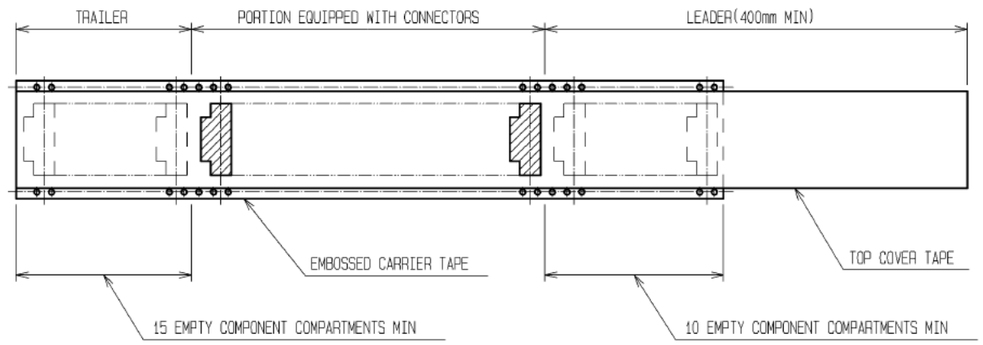
DRAWING NO.	EDC3-346494-01
PART NO.	FH52-10(4)SA-1SH
CODE NO.	CL580-3330-0-00

DRAWING FOR REFERENCE: This is subject to change without notice
05/31/2013

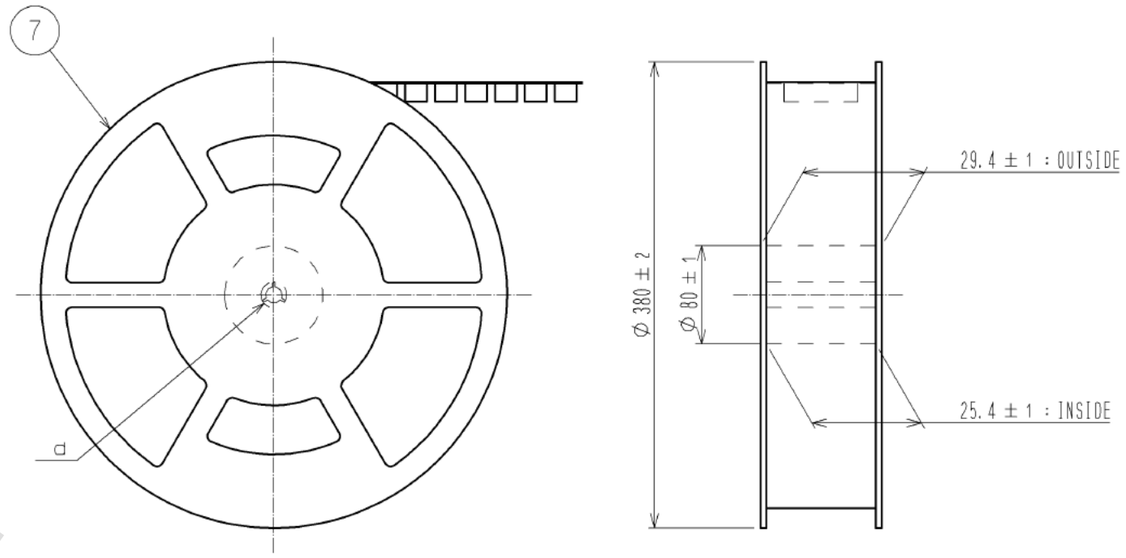
EMBOSSED CARRIER TAPE DIMENSION (2:1)



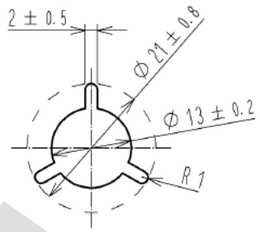




REEL DIMENSIONS(No scale)



a (1 : 1)



NOTES 8. The dimension in parentheses are for reference.
9. 1 reel : 3000 connectors.
10. Refer to JIS C 0806.(Packaging of components for automatic handling.)

DRAWING FOR REFERENCE

<DRAWING FOR PACKING>

HRS	DRAWING NO.	EDC3-346494-01
	PART NO.	FH52-10(4)SA-1SH
	CODE NO.	CL580-3330-0-00 △ 2/4

DRAWING FOR REFERENCE: This is subject to change without notice
05/31/2013

HRS DRAWING FOR REFERENCE

This connector 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.

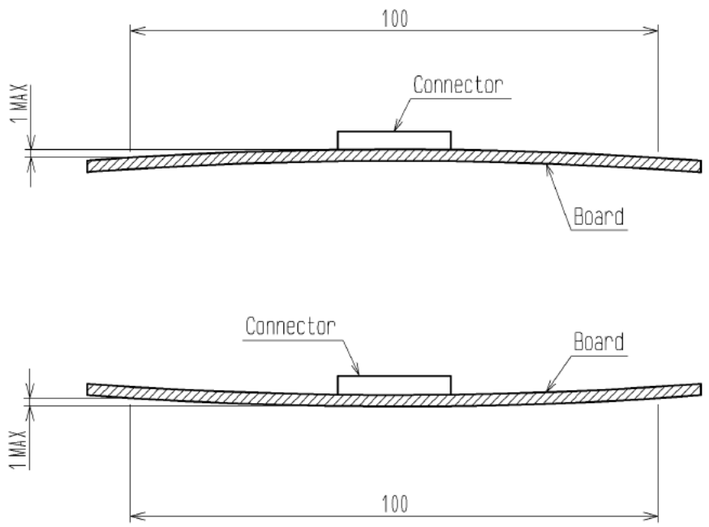
♦Flexible board design
Please make sure to put a stiffener on the backside of the flexible board.
We recommend a glass epoxy material with the thickness of 0.3mm MIN.

♦Load to Connector
Do not add 1N 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]

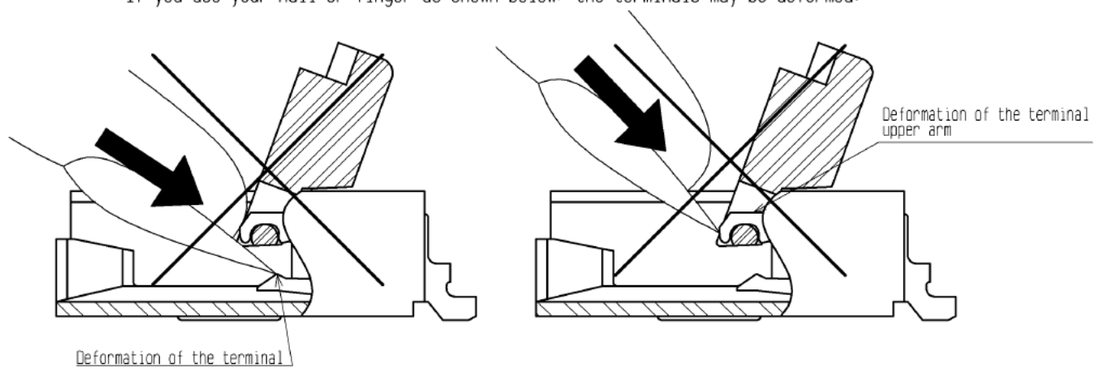
♦ Lord to Board
·Splitting a large board into several pieces
·Screwing the board
Avoid the handling described above so that no force is exerted on the board during the assembly process.
Otherwise, the connector may become defective.

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

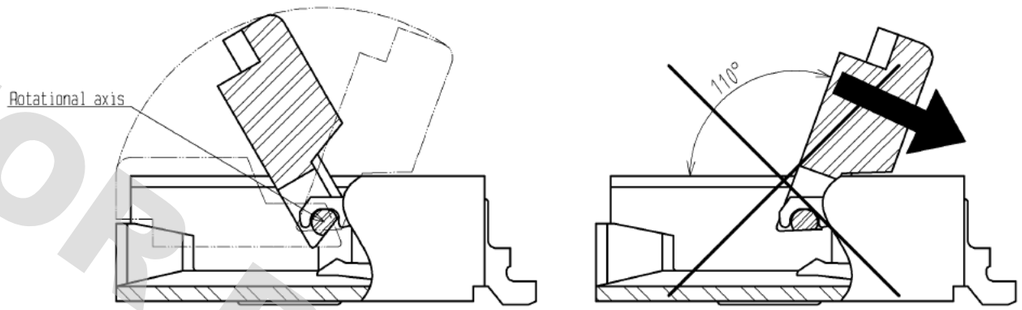


[INSTRUCTIONS ON INSERTING FFC/FPC AND CONNECTION]

♦ Use of the Actuator
1. Be very careful not to apply excessive force when releasing the actuator in the initial position.
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 110°.
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.
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.)

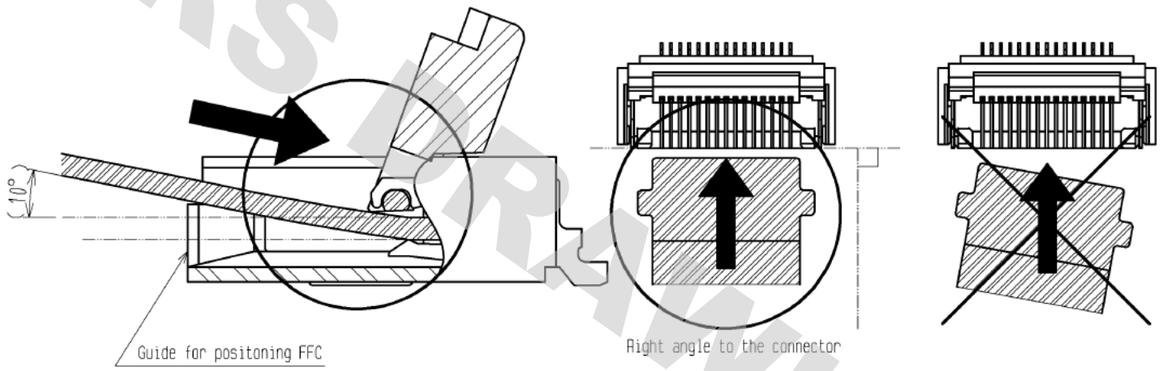


<INSTRUCTION MANUAL(1)>

DRAWING NO.	EDC3-346494-01
PART NO.	FH52-10(4)SA-1SH
CODE NO.	CL580-3330-0-00

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

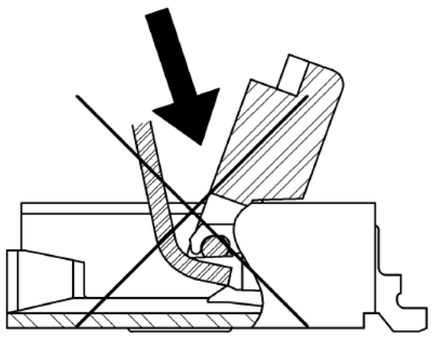
♦ Inserting the FFC/FPC
1. Insert the FFC/FPC by about 10 degrees along the surface and at a right angle to the connector.
Insert it properly to the very end.



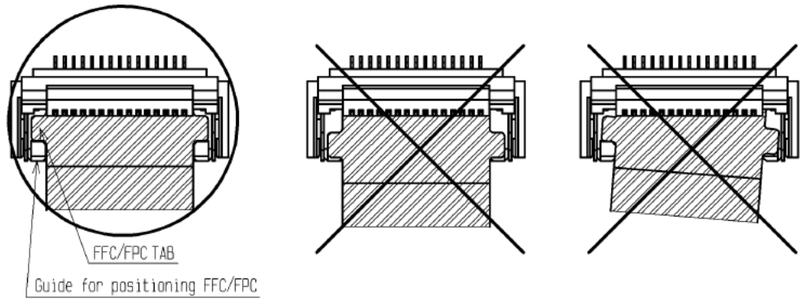
2. Do not insert the FFC/FPC diagonally from above.
If the FFC/FPC is inserted at a slant (incorrectly) as shown below in the FFC/FPC insertion process, the edge of the FFC/FPC may catch in the terminals, resulting in deformation of the terminals. The FFC/FPC may bend and patterns may break or the FFC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

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

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



3. Do not rotate the actuator when FFC/FPC TAB is on right and left guides for positioning FFC/FPC.
Make sure the position of FFC TAB and guides before rotate the actuator.

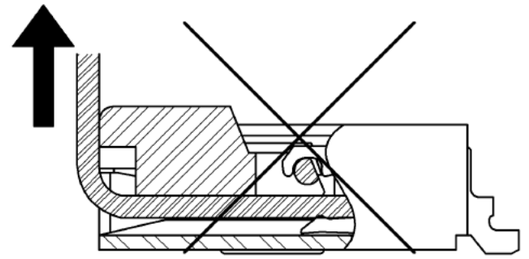


♦ Checking the Locking Condition
In the locked condition, make sure that the actuator is horizontal on the board surface.
Do not apply excessive force to it near the 0° position of the actuator.
Otherwise, the terminals may be deformed.

【INSTRUCTIONS ON FFC/FPC LAYOUT AFTER CONNECTION】

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

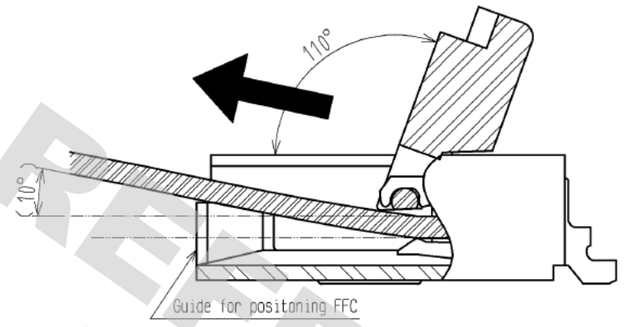
Load:0.10Xn N MAX
(n:number of contacts)



【INSTRUCTIONS ON REMOVING FFC/FPC】

♦ Move the actuator at approximately the center.

♦ Release the actuator to remove the FFC/FPC.
Remove the FFC/FPC by about 10 degrees along the surface.



【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 FFC 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

DRAWING FOR REFERENCE: This is subject to change without notice
05/31/2013

<INSTRUCTION MANUAL(2)>

HRS	
DRAWING NO.	EDC3-346494-01
PART NO.	FH52-10(4)SA-1SH
CODE NO.	CL580-3330-0-00 △ 4/4