

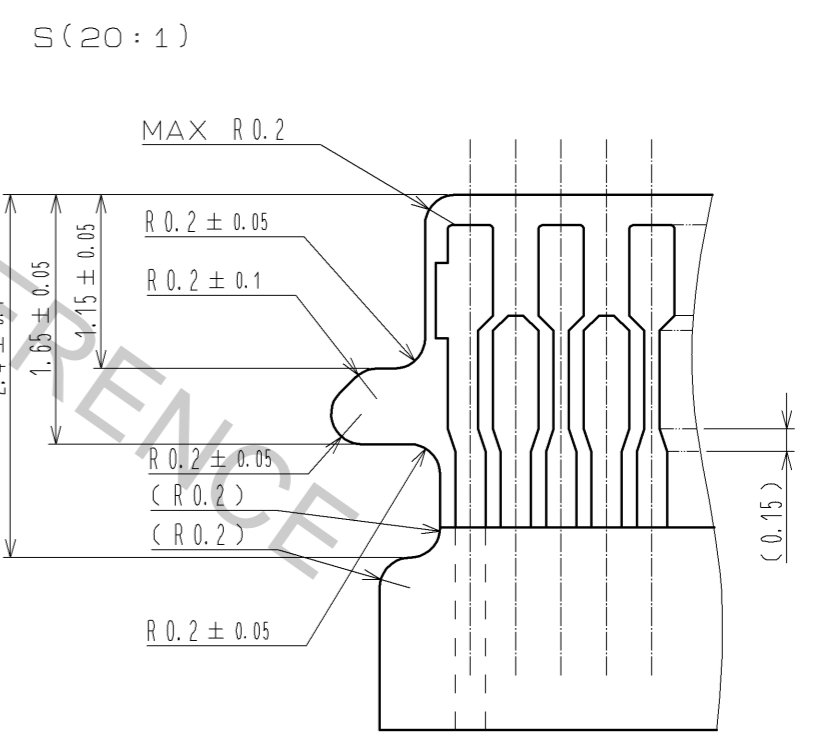
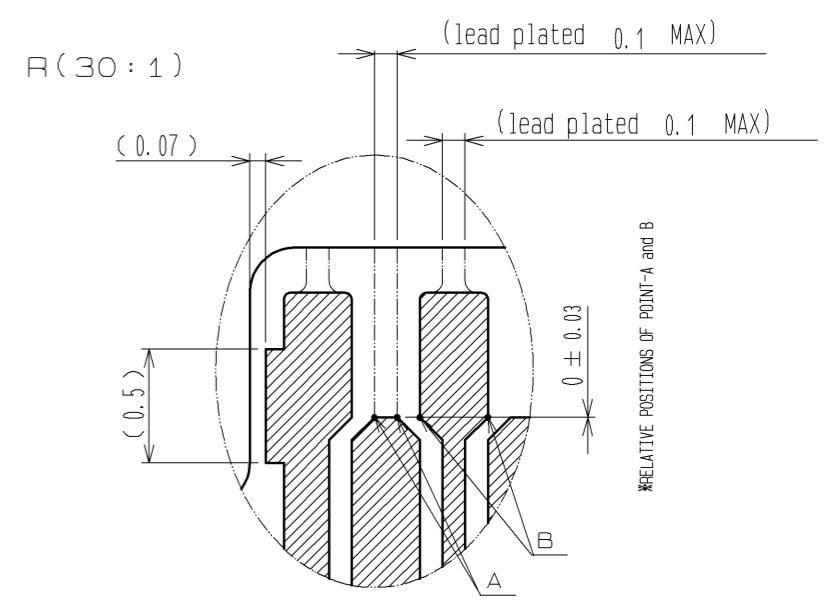
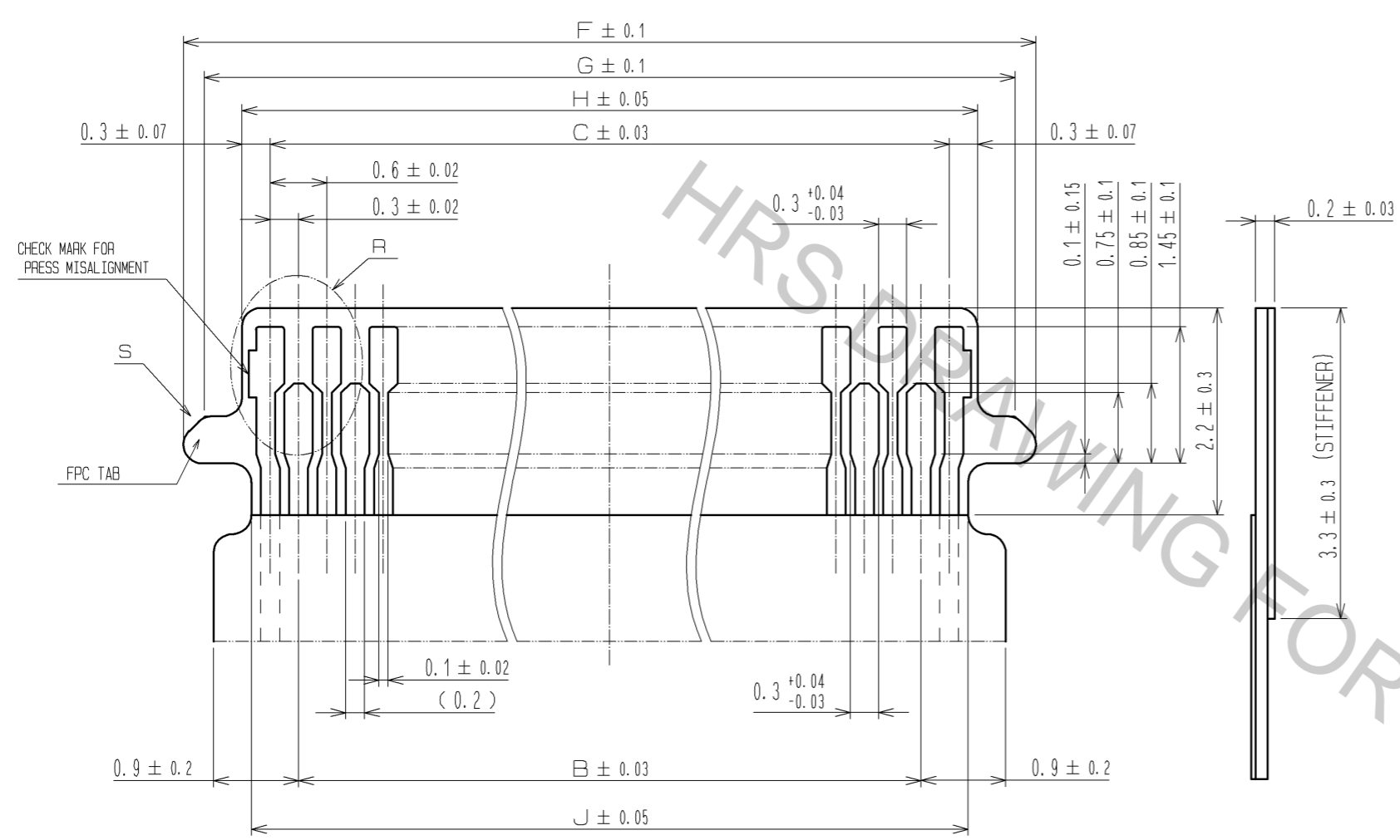
NO.	MATERIAL	FINISH	REMARKS	NO.	MATERIAL	FINISH	REMARKS
4	PHOSPHOR BRONZE	(CONTACT AREA, LEAD) GOLD PLATING 0.05 μm MIN OVER NICKEL 1 μm MIN (OTHER) NICKEL PLATING 1 μm MIN		10	(CONNECTOR)		
3	PHOSPHOR BRONZE	(CONTACT AREA, LEAD) GOLD PLATING 0.05 μm MIN OVER NICKEL 1 μm MIN (OTHER) NICKEL PLATING 1 μm MIN		9	POLYSTYRENE		
2	PA	DEEP BROWN UL94V-0		8	POLYESTER		
1	LCP	BEIGE UL94V-0		7	POLYSTYRENE		
				6	PHOSPHOR BRONZE (PLATED MATERIAL)	TIN PLATING (REFLOW FINISHED) 1 μm MIN COPPER 0.5 μm MIN	
				5	PHOSPHOR BRONZE (PLATED MATERIAL)	TIN PLATING (REFLOW FINISHED) 1 μm MIN COPPER 0.5 μm MIN	

UNITS	SCALE	COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
mm	7 : 1	5	DIS-F-006665	NM. SANPEI	HS. SAKAMOTO	13.03.12

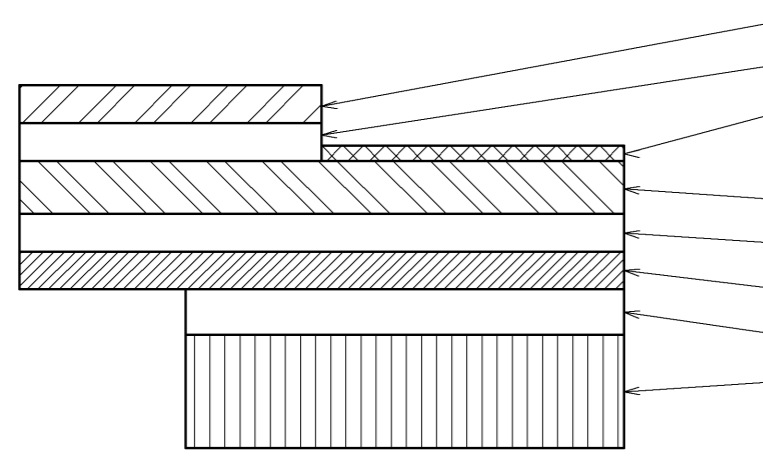
APPROVED	CHECKED	DESIGNED	DRAWN	DRAWING NO.	PART NO.	CODE NO.
RI. TAKAYASU	FN. TAMURA	HH. MURAKAMI	HK. OSHIKIRI	EDC3-156643-06	FH36-**S-0.3SHW(50)	CL580
09.12.22	09.12.22	09.12.22	09.12.21			

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RECOMMENDED FPC(FREE) (SCALE:FREE)

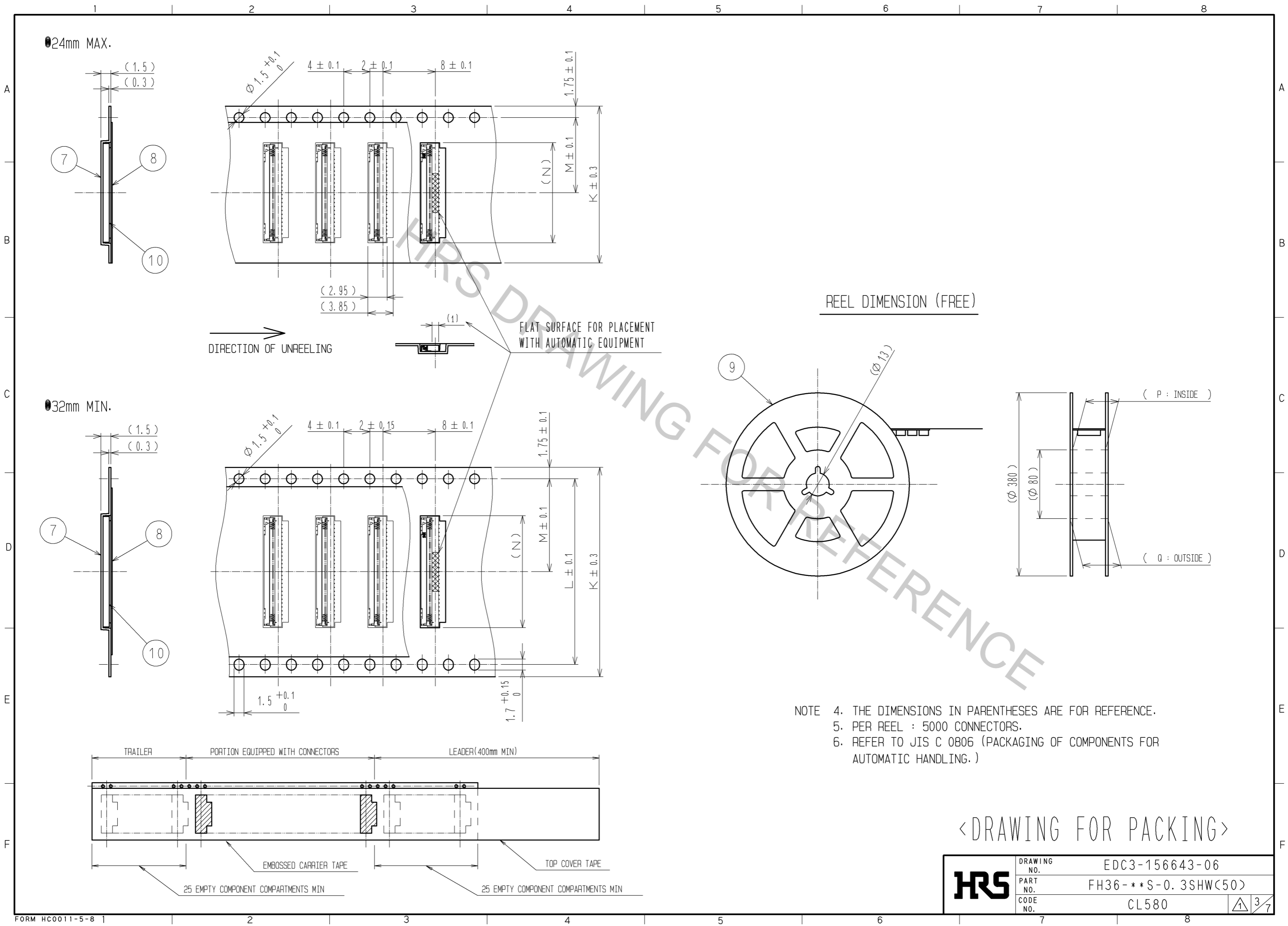


FPC CONSTRUCTION Recommended Specifications



MATERIAL NAME	MATERIAL	THICKNESS(μm)
COVERING FILM LAYER.	POLYIMIDE 1mil thick.	25
COVER ADHESIVE		25
SURFACE TREATMENT	1μm to 5μm NICKEL UNDERPLATED 0.2μm 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	40
STIFFENER	POLYIMIDE 3mil thick	75

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REEL DIMENSION (FREE)

- NOTE 4. THE DIMENSIONS IN PARENTHESES ARE FOR REFERENCE.
 5. PER REEL : 5000 CONNECTORS.
 6. REFER TO JIS C 0806 (PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING.)

<DRAWING FOR PACKING>

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PART NUMBER	CODE NUMBER	NUMBER OF CONTACT	DIMENSION OF CONNECTOR, FPC, LAND PATTERN AND METAL MASK										DIMENSION OF DRAWING FOR PACKING					
			A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	
FH36-15S-0.3SHW(50)	CL580-1618-8-50	15	6.1	3.6	4.2	4.83	5.59	6.04	5.6	4.8	4.6	16	-	7.5	6.3	17.4	21.4	
FH36-17S-0.3SHW(50)	CL580-1606-9-50	17	6.7	4.2	4.8	5.43	6.19	6.64	6.2	5.4	5.2	16	-	7.5	6.9	17.4	21.4	
FH36-19S-0.3SHW(50)	CL580-1607-1-50	19	7.3	4.8	5.4	6.03	6.79	7.24	6.8	6	5.8	16	-	7.5	7.5	17.4	21.4	
FH36-25S-0.3SHW(50)	CL580-1619-0-50	25	9.1	6.6	7.2	7.83	8.59	9.04	8.6	7.8	7.6	24	-	11.5	9.3	25.4	29.4	
FH36-29S-0.3SHW(50)	CL580-1613-4-50	29	10.3	7.8	8.4	9.03	9.79	10.24	9.8	9	8.8	24	-	11.5	10.5	25.4	29.4	
 FH36-33S-0.3SHW(50)	CL580-1615-0-50	33	11.5	9	9.6	10.23	10.99	11.44	11	10.2	10	24	-	11.5	11.7	25.4	29.4	
FH36-35S-0.3SHW(50)	CL580-1604-3-50	35	12.1	9.6	10.2	10.83	11.59	12.04	11.6	10.8	10.6	24	-	11.5	12.3	25.4	29.4	
FH36-45S-0.3SHW(50)	CL580-1617-5-50	45	15.1	12.6	13.2	13.83	14.59	15.04	14.6	13.8	13.6	24	-	11.5	15.3	25.4	29.4	
FH36-51S-0.3SHW(50)	CL580-1601-5-50	51	16.9	14.4	15	15.63	16.39	16.84	16.4	15.6	15.4	32	28.4	14.2	17.1	33.4	37.4	
FH36-61S-0.3SHW(50)	CL580-1600-2-50	61	19.9	17.4	18	18.63	19.39	19.84	19.4	18.6	18.4	32	28.4	14.2	20.1	33.4	37.4	

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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 0.5N 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.

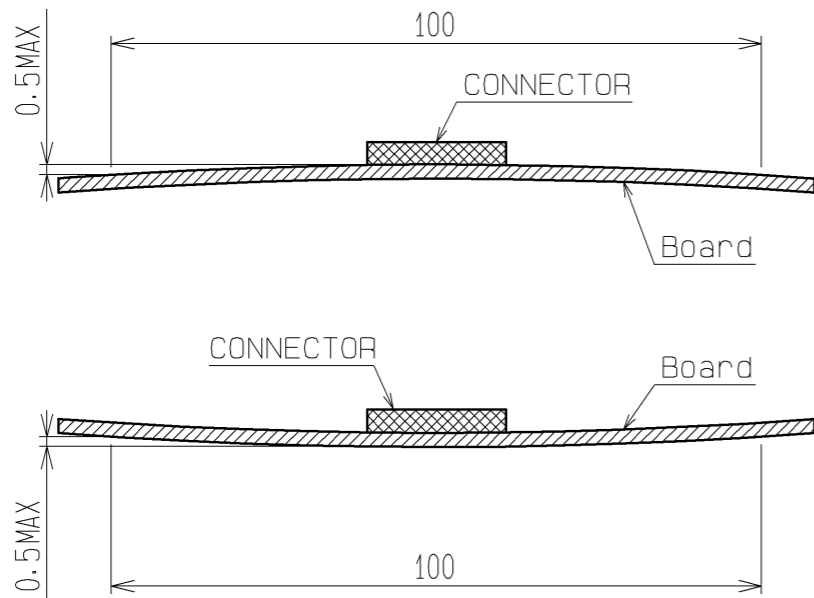
⚠ [INSTRUCTIONS FOR PCB HANDLING AFTER MOUNTING THE CONNECTOR]

◆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

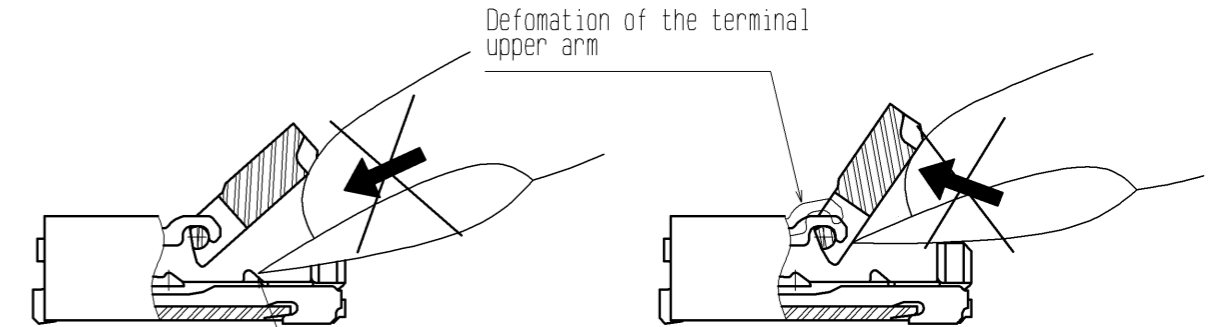
The warp of a 100-mm wide board should be 0.5 mm or less. The warp of board suffers stress on connector and the connector may become defective.



[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.

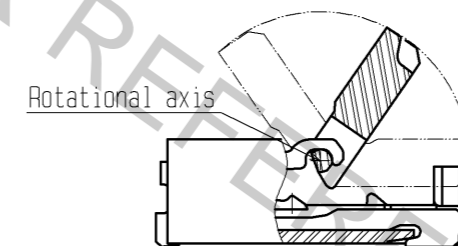


Deformation of the terminal

Example 1

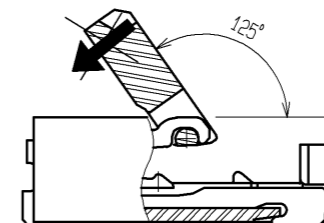
Example 2

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



Rotational axis

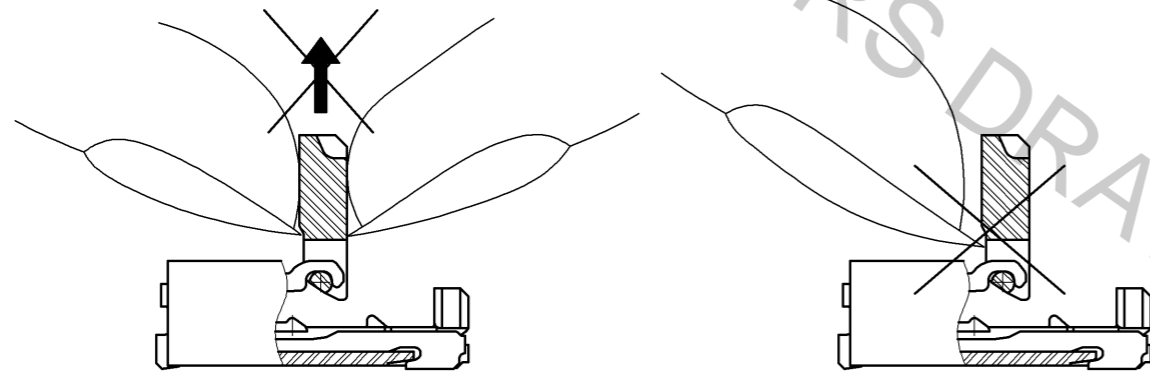
3. The actuator will not open more than 125°. Do not apply any force backward beyond this point. Otherwise, the actuator may come off or break.



<INSTRUCTION MANUAL 1>

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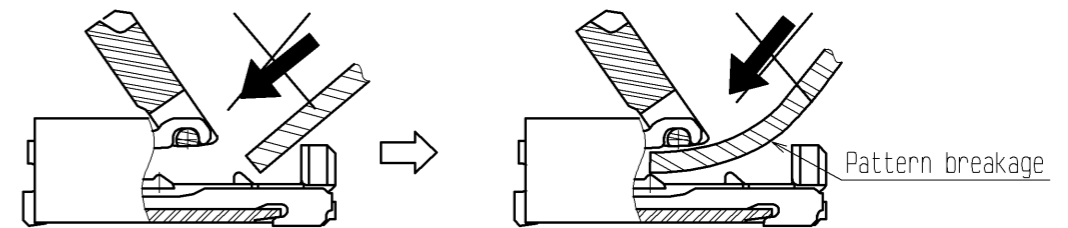
4. Move the actuator at approximately the center.
5. Do not pinch or pick the actuator to lift it as shown below. Otherwise, it may break.
(Do not carry out any operation other than rotating the actuator as shown in 2 above.)



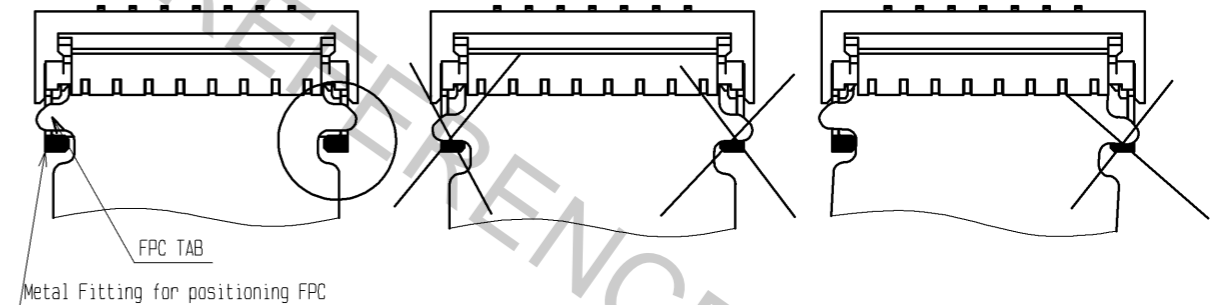
2. Do not insert the FPC diagonally from above.
If the FPC is inserted at a slant (incorrectly) as shown below in the FPC insertion process, the FPC may bend and patterns may break or the FPC may not insert completely, resulting in improper conduction.

※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.



3. Do not rotate the actuator when FPC TAB is on Metal Fittings.
Make sure the position of FPC TAB and Metal Fittings before rotate the actuator.

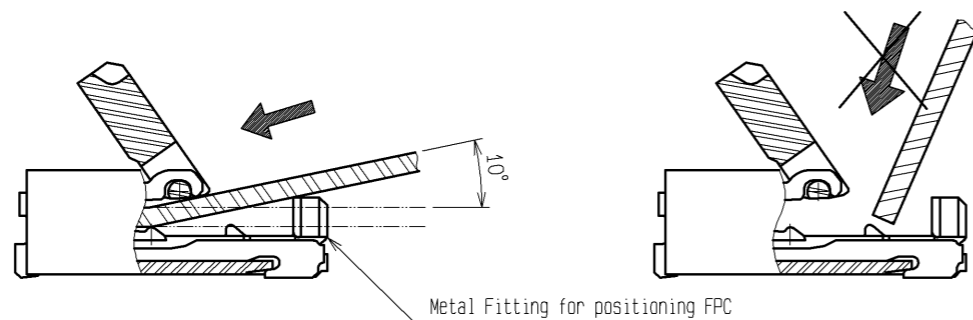


◆Direction of Contacts

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

◆Inserting the FPC

1. Insert the FPC by about 10 degrees 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.



◆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)

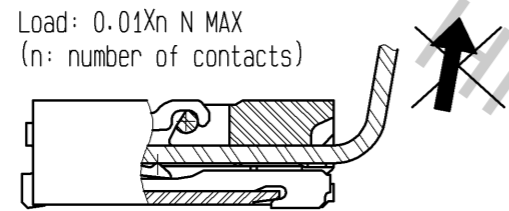
<INSTRUCTION MANUAL 2>

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[INSTRUCTIONS ON FPC LAYOUT AFTER CONNECTION]

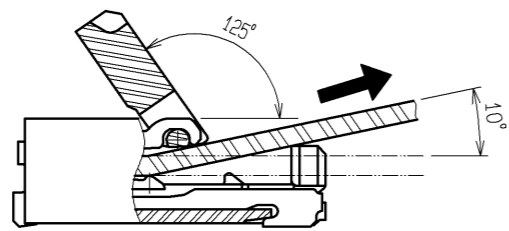
◆Load to FPC

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.



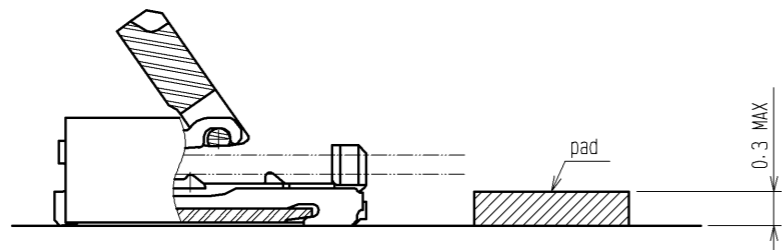
[INSTRUCTIONS ON REMOVING FPC]

◆Release the actuator to remove the FPC.



[OTHER INSTRUCTIONS]

In case a pad to support FPC is set in front of connector, that pad needs to be 0.30 MAX.



◆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.

<INSTRUCTION MANUAL 3>

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