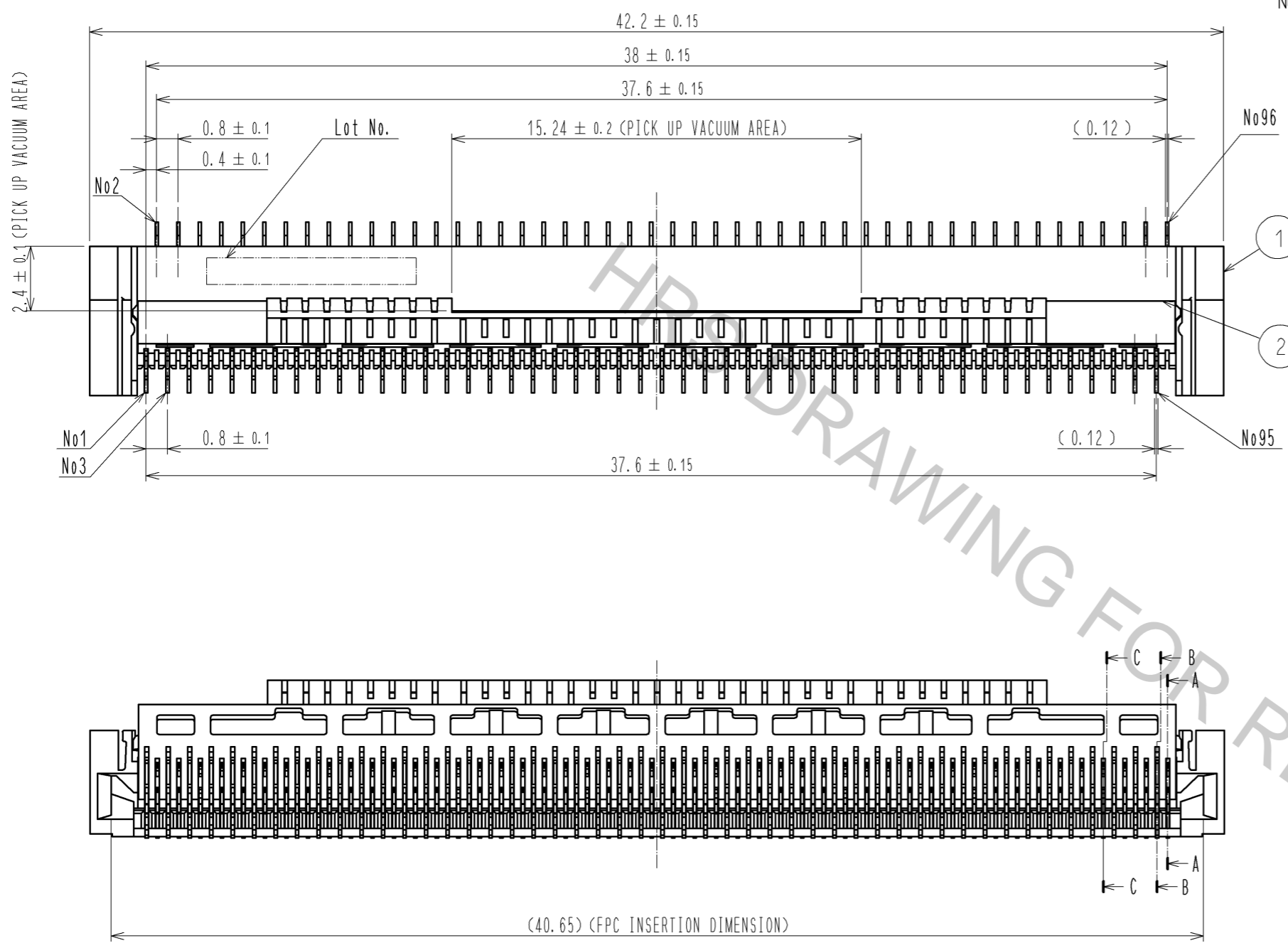
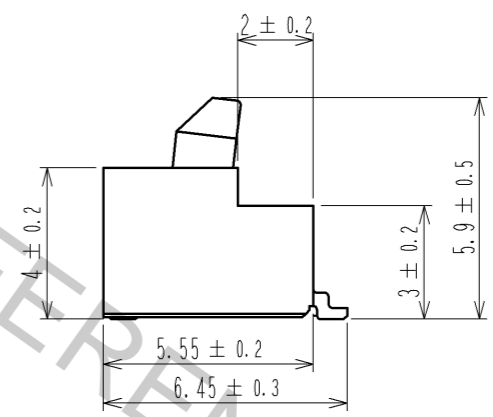
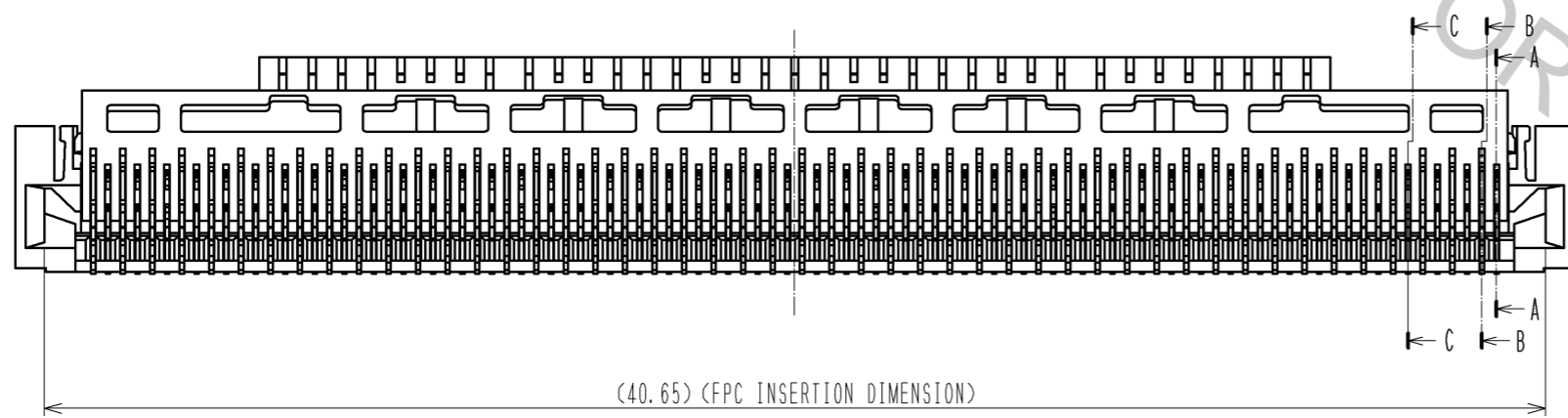


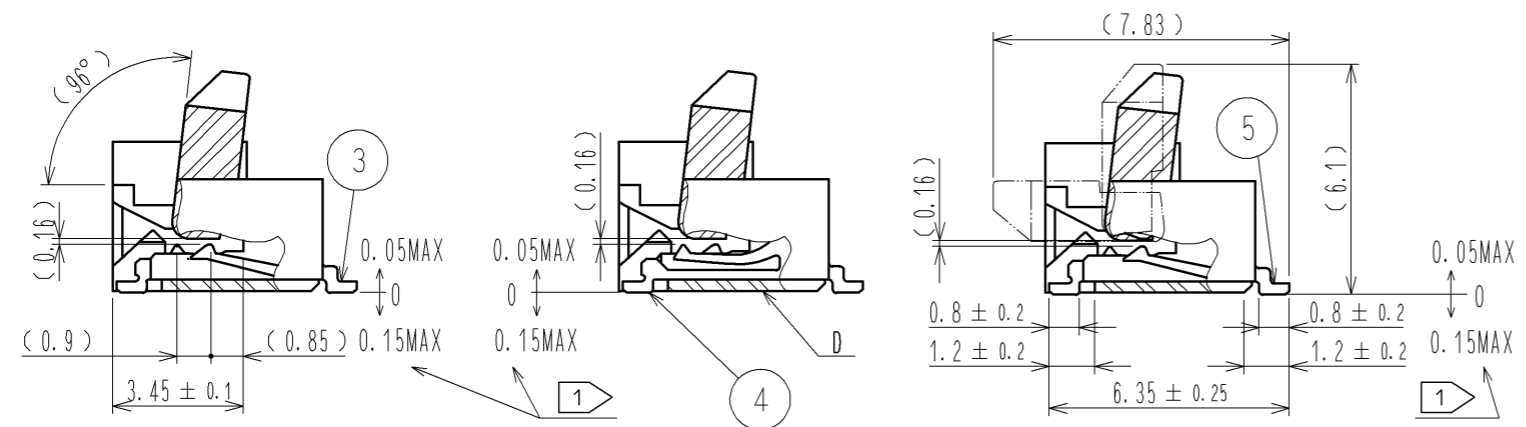
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 In case that the application demands a high level of reliability, such as automotive,  
 please contact a company representative for further information.



- NOTE
- ① DIMENSION: FROM REFERENCE D.
  - ② LEAD CO-PLANARITY SHALL BE 0.1 MAX.
  - ③ SLIGHT DARK SPOTS OR MATERIAL DISCOLORATION WILL NOT AFFECT FORM, FIT OR FUNCTION.
  - ④ THIS PRODUCT SATISFIES HALOGEN FREE REQUIREMENTS DEFINED AS 900 PPM MAXIMUM CHLORINE, 900 PPM MAXIMUM BROMINE, AND 1500 PPM MAXIMUM TOTAL OF CHLORINE AND BROMINE.
  - ⑤ CONTACT AREA GOLD 0.05 μm MIN  
 LEAD AREA GOLD 0.05 μm MIN  
 UNDER PLATING NICKEL 1 μm MIN
  - ⑥ POSITION 2, 4, 8, 10 · · 94, 96 OF THE ③ (EVEN NUMBER OF CONTACT EXCEPT ⑤)  
 POSITION 6, 18 · · 78, 90 OF THE ⑤ (PIN No. 12n-6 n:1~8)

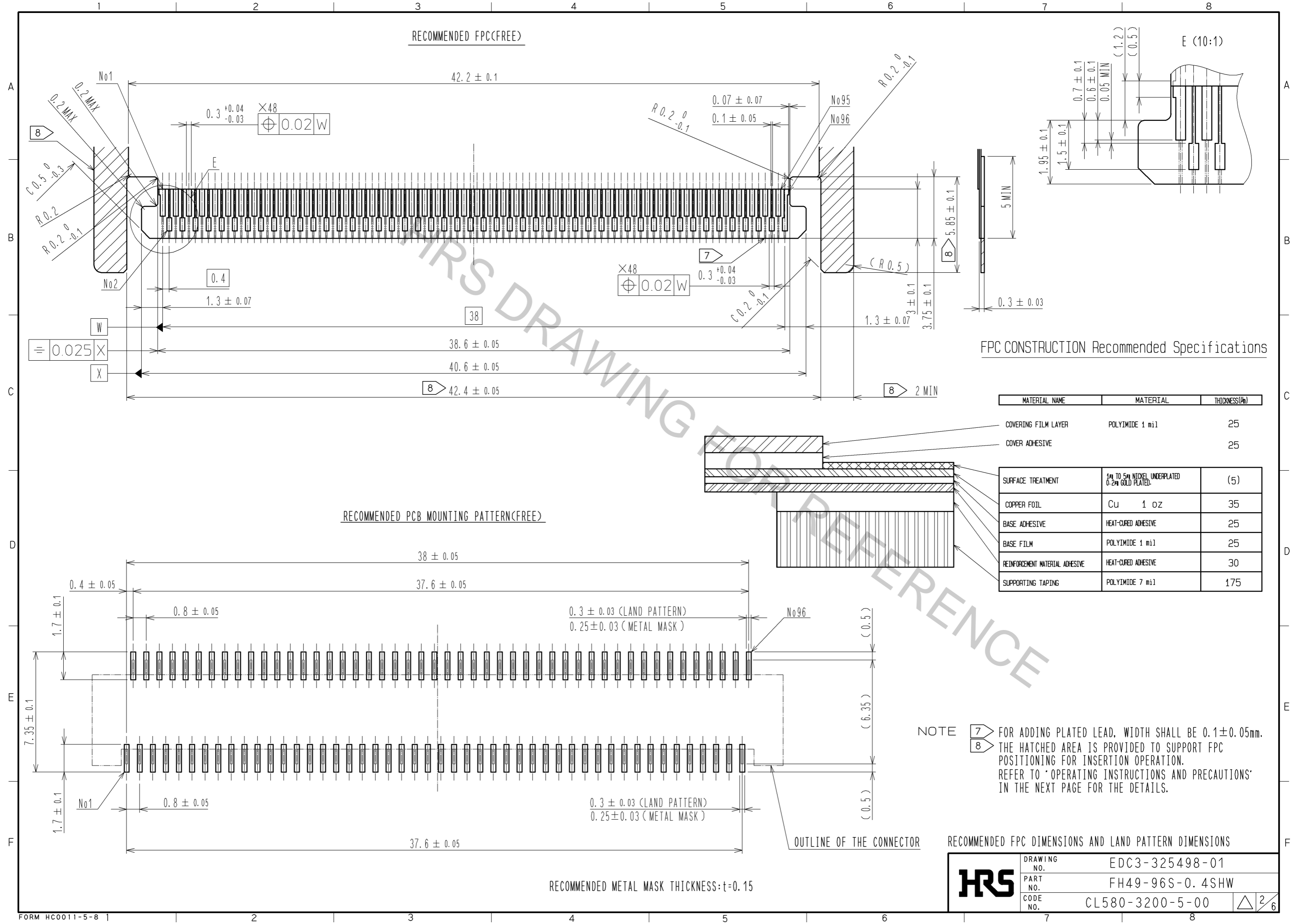


⑥ A-A (PART OF EVEN NUMBER OF CONTACT)      B-B (ODD NUMBER CONTACT)      ⑥ C-C (PART OF EVEN NUMBER OF CONTACT)



5	PHOSPHOR BRONZE	⑤	10	(CONNECTOR)			
4	PHOSPHOR BRONZE	⑤	9	PS			
3	PHOSPHOR BRONZE	⑤	8	PS			
2	LCP	(BEIGE)	7	POLYESTEL			
1	LCP	(GRAY)	6	PS			
NO.	MATERIAL	FINISH	REMARKS	NO.	MATERIAL	FINISH	REMARKS
UNITS mm		①	SCALE 5 : 1	△	COUNT		
		DESCRIPTION OF REVISIONS			DESIGNED	CHECKED	DATE
<b>HRS</b> HIROSE ELECTRIC CO., LTD.		APPROVED : NM. NISHIMATSU	10.11.10	DRAWING NO. EDC3-325498-01			
		CHECKED : HS. SAKAMOTO	10.11.09	PART NO. FH49-96S-0.4SHW			
		DESIGNED : RT. IKEDA	10.11.05	CODE NO. CL580-3200-5-00			①/6
		DRAWN : RT. IKEDA	10.11.05				

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RECOMMENDED FPC(FREE)

FPC CONSTRUCTION Recommended Specifications

MATERIAL NAME	MATERIAL	THICKNESS(μm)
COVERING FILM LAYER	POLYIMIDE 1 mil	25
COVER ADHESIVE		25
SURFACE TREATMENT	1μ TO 5μ NICKEL UNDERPLATED 0.2μ GOLD PLATED.	(5)
COPPER FOIL	Cu 1 oz	35
BASE ADHESIVE	HEAT-CURED ADHESIVE	25
BASE FILM	POLYIMIDE 1 mil	25
REINFORCEMENT MATERIAL ADHESIVE	HEAT-CURED ADHESIVE	30
SUPPORTING TAPING	POLYIMIDE 7 mil	175

RECOMMENDED PCB MOUNTING PATTERN(FREE)

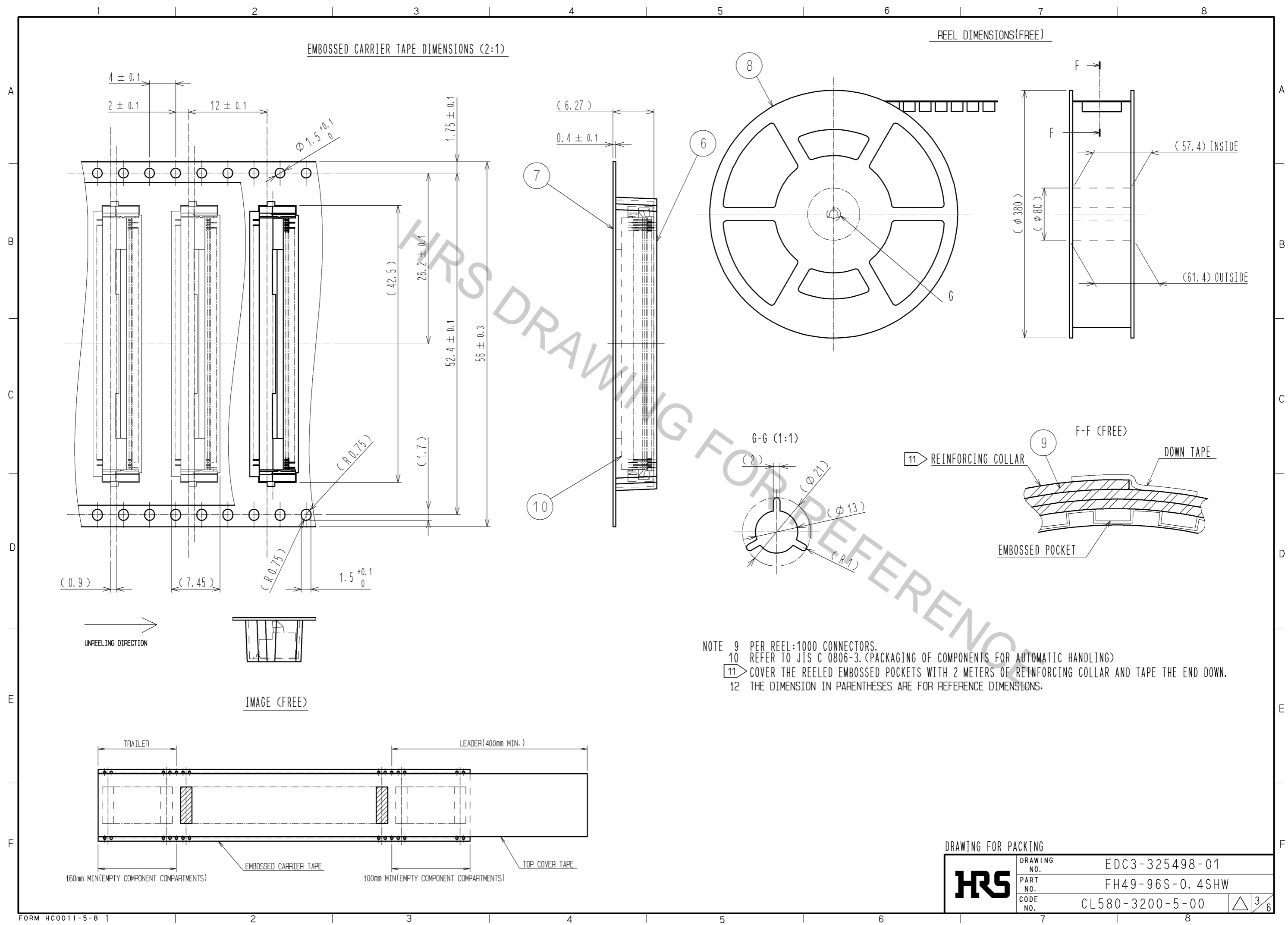
NOTE  
 7 FOR ADDING PLATED LEAD, WIDTH SHALL BE 0.1±0.05mm.  
 8 THE HATCHED AREA IS PROVIDED TO SUPPORT FPC POSITIONING FOR INSERTION OPERATION.  
 REFER TO 'OPERATING INSTRUCTIONS AND PRECAUTIONS' IN THE NEXT PAGE FOR THE DETAILS.

RECOMMENDED FPC DIMENSIONS AND LAND PATTERN DIMENSIONS

<b>HRS</b>	DRAWING NO.	EDC3-325498-01
	PART NO.	FH49-96S-0.4SHW
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		△ 2/6

RECOMMENDED METAL MASK THICKNESS:t=0.15

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DRAWING FOR PACKING

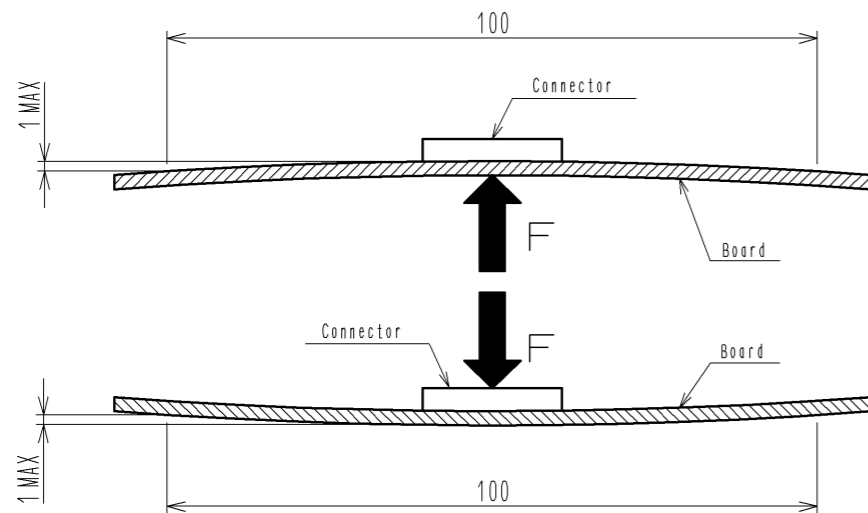
DRAWING NO.	EDC3-325498-01
PART NO.	FH49-96S-0.4SHW
CODE NO.	CL580-3200-5-00

3/6

This connector requires careful handling.  
 Follow recommendations given below.  
 The numerical values shown are not part of the connector specification.

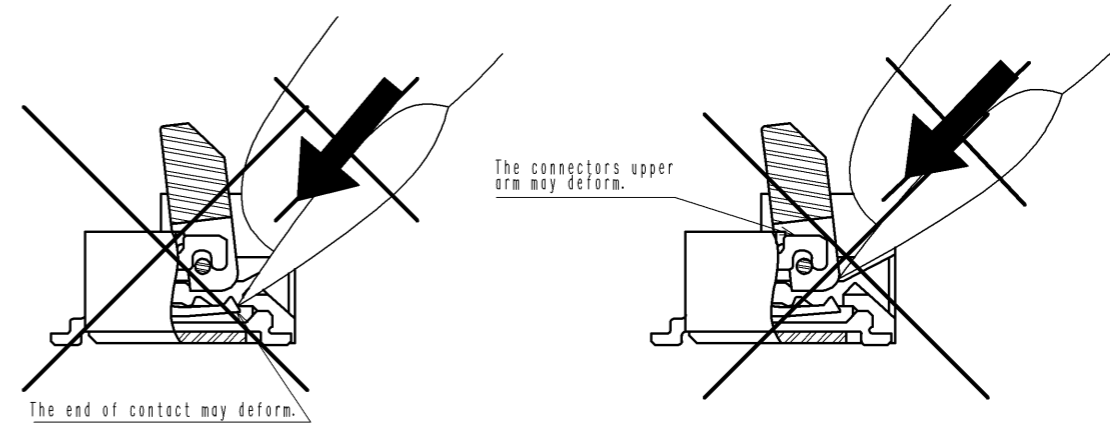
[MOUNTING ON THE PCB]

- ◆Warp of Board  
 Minimize warp of the board as much as possible.  
 Lead co-planarity is 0.1 mm max.  
 Excessive warp of the board may result in solder joint failures.
- ◆Forces on the connector  
 Do not apply a force of 1 N or more to the connector before mounting it on the board.  
 Do not insert the FPC or operate the connector before mounting it on the board.
- ◆Forces on the board  
 When breaking-up large board into smaller one exercise caution a NOT to apply forces to the mounted connectors.  
 When mounting the boards in the device with the screws exercise caution as NOT to apply forces to the mounted connectors.
- ◆Bending of the board  
 The bend of the 100 mm wide board should be 1 mm or less(as shown below).  
 Excessive bending of the board may cause malfunction or damage of the connector.



[INSERTION OF THE FPC AND ROCK]

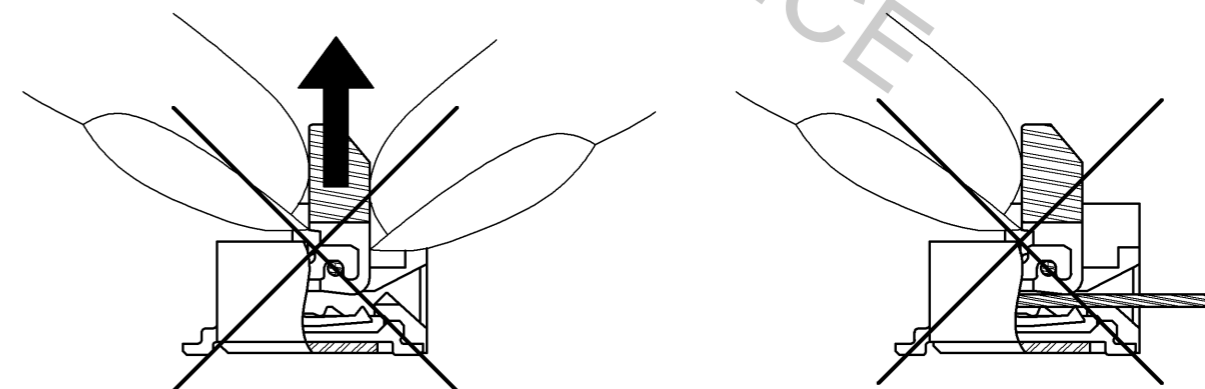
- ◆Use of the actuator  
 When using fingernails to use the actuator exercise caution NOT to damage or deform the contacts.



The actuator is designed to rotate on its axis as shown in the figure below.  
 Make sure to use rotating motion when operating it.  
 The actuator is designed to open 96 degrees max.  
 Do not push it back further than this.  
 This may deform contacts, break-off the actuator or damage the connector.



Operate the actuator only as instructed.  
 Do not attempt to dislodge the open actuator as shown below.



<ADDITIONAL RECOMMENDATIONS 1>

<b>HRS</b>	DRAWING NO.	EDC3-325498-01
	PART NO.	FH49-96S-0.4SHW
	CODE NO.	CL580-3200-5-00
		△ 4/6

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◆ Contact point orientation  
 This is a bottom contact point connector.  
 FPC must be inserted with the exposed contact surfaces facing down.

◆ Insertion of FPC

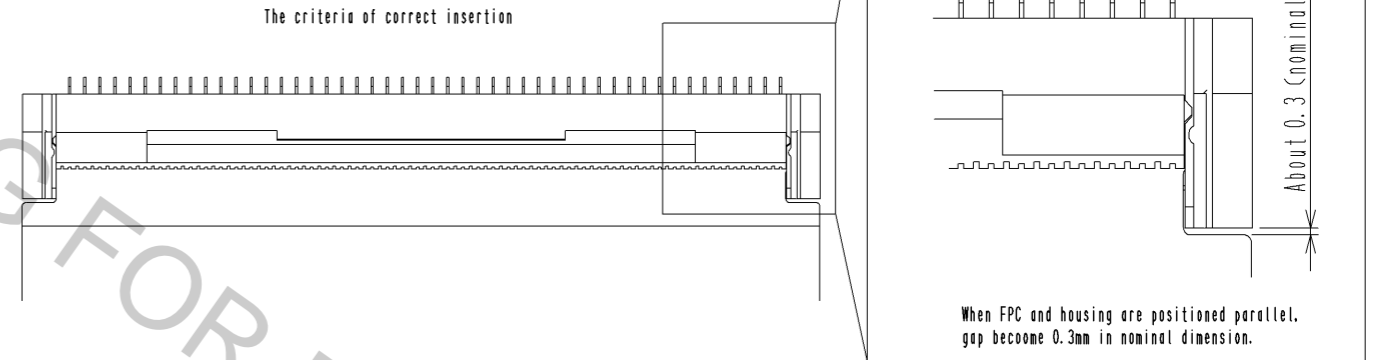
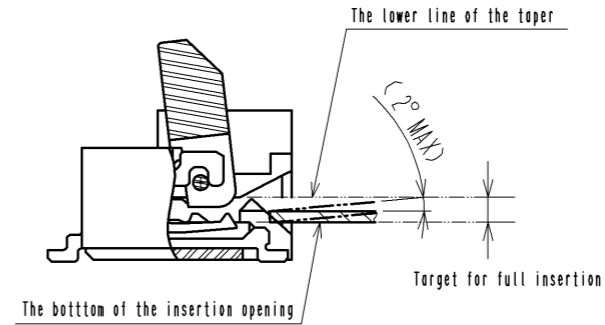
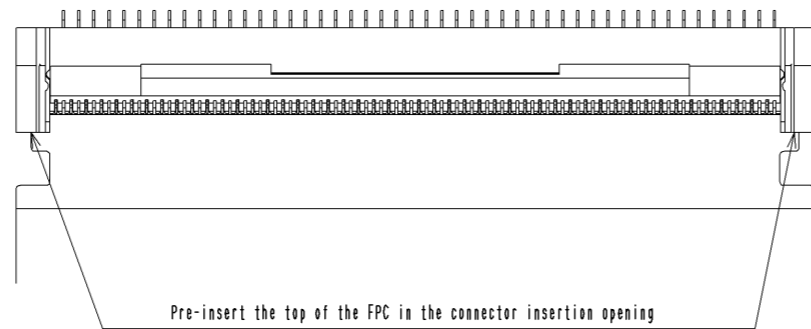
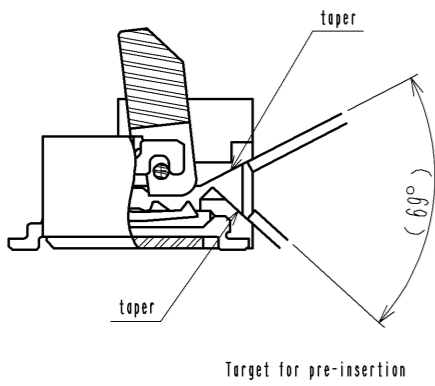
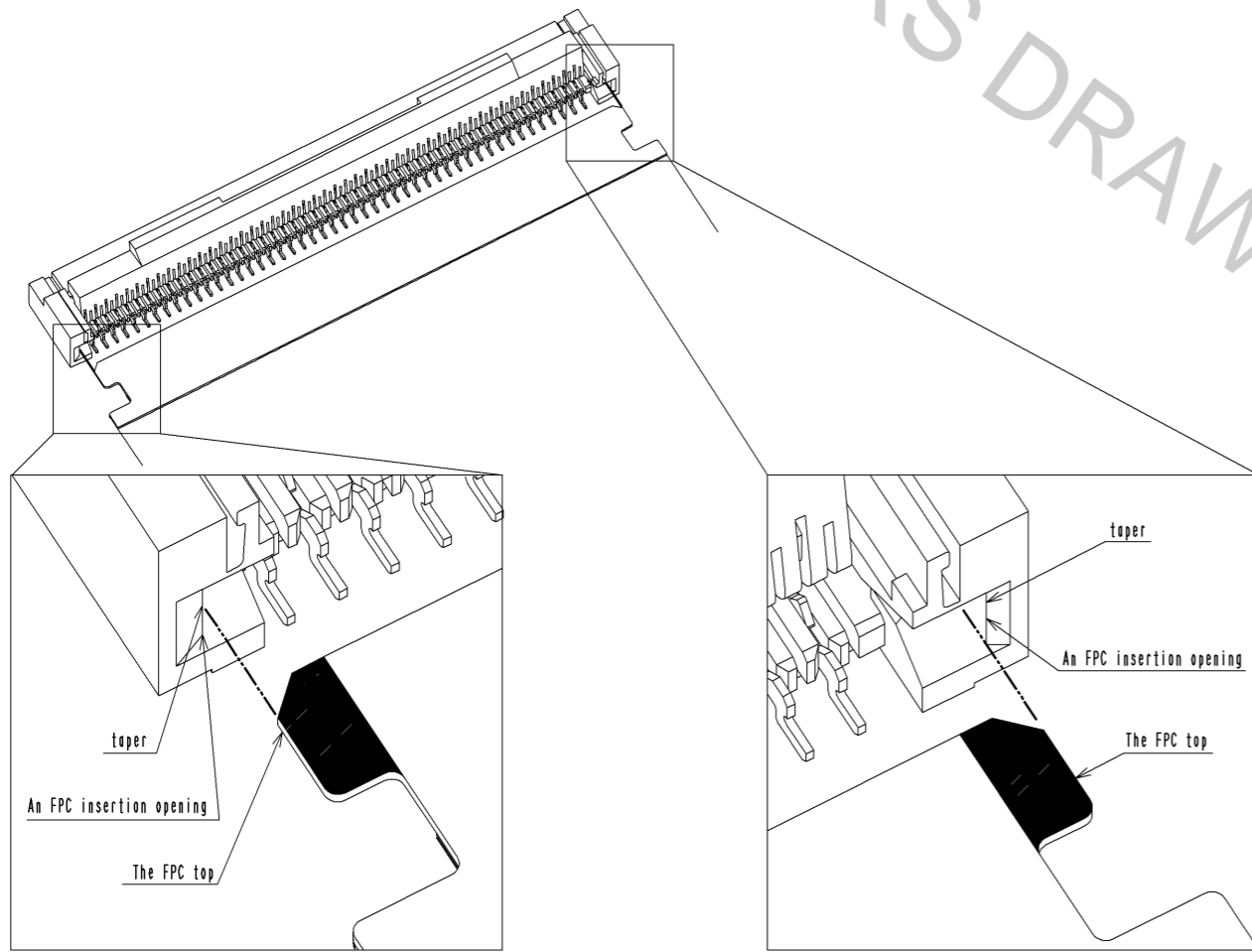
① Pre-insertion

Position the FPC with the actuator fully open, aligning the both FPC ends to connector taper until the FPC end is inserted to the FPC insertion opening.

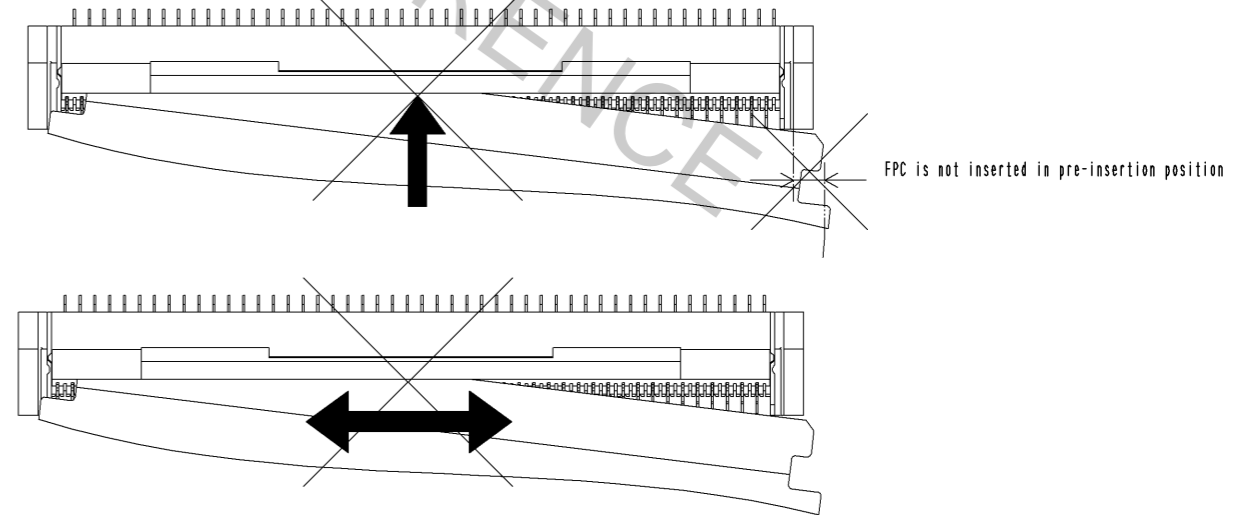
※ If operation or routing condition does not allow straight insertion, optional FPC guide could prevent angled FPC insertion.  
 (Refer to the FPC dimensions on page 2 for the details.)

② Full insertion

After FPC tops are inserted to FPC opening, insert the FPC in the connector opening, targeting between the lower line of the taper and the bottom of the insertion opening, parallel to the PCB and vertical to FPC insertion opening, until the FPC end reaches to the opening end. Make sure not to bend the FPC during insertion.



Do not move the FPC to the side direction when above operation is not achieved.  
 Remove the FPC at first, confirm there is no damage on the FPC and connector, and then start the insertion operation from the beginning.



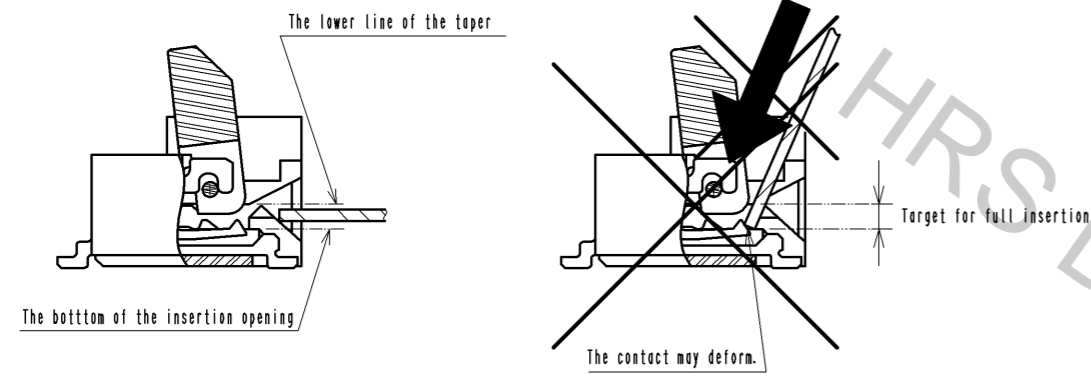
<ADDITIONAL RECOMMENDATIONS 2>

<b>HRS</b>	DRAWING NO.	EDC3-325498-01
	PART NO.	FH49-96S-0.4SHW
	CODE NO.	CL580-3200-5-00
		△ 5/6

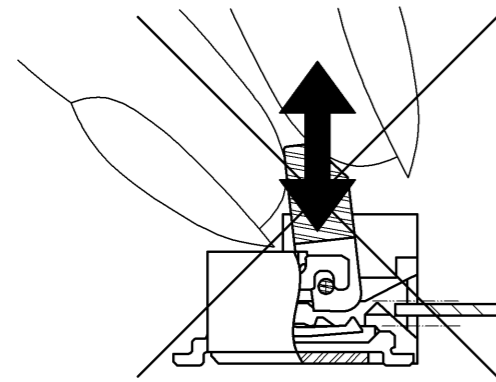
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Do not insert the FPC off the specified angle for full FPC insertion, as this may cause contact deformation and/or FPC damage by FPC end nocking the contacts.  
Also, this may cause pattern breakage by FPC bent and/or conduction failure by insufficient insertion.

- ※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.

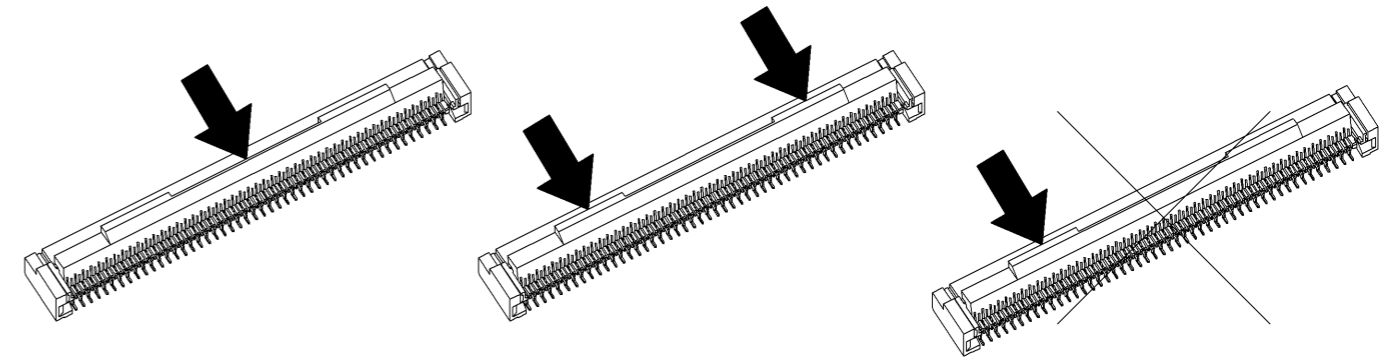


Do not apply force to the actuator during FPC full insertion procedure.  
FPC insertion could become stiff and/or difficult for wiping.

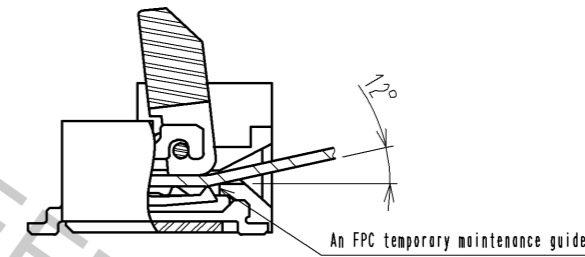


**[ Instructions on removing FPC ]**

- ◆ Do not apply forces only at one end (right figure below) as this may cause damage to the actuator.

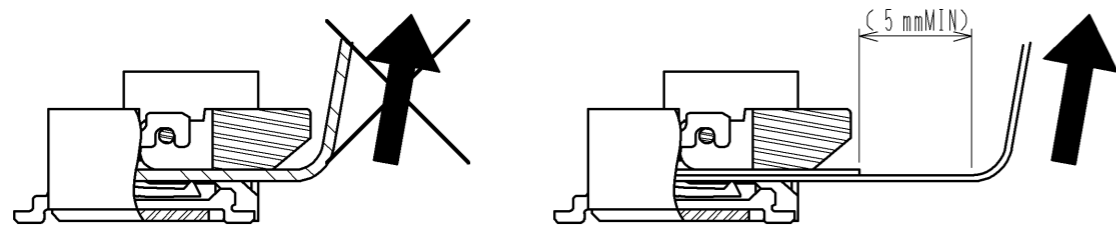


- ◆ Release the actuator to remove the FPC.



**[ 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.  
Please take 5mm MIN from the reinforcement taping.



**[ Other recommendations ]**

- ◆ Manual soldering
  1. Do not perform soldering operations with the FPC inserted in the connector.
  2. The soldering iron must contact only the terminals.  
Do not touch any other part of the connector with the soldering iron.
  3. Do not apply excessive solder (or flux).  
If excessive solder (or flux) is applied on the terminals, solder (or flux) may adhere to the contacts or rotating parts of the actuator resulting in the poor contact or rotation failure of the actuator.

<ADDITIONAL RECOMMENDATIONS 3>

<b>HRS</b>	DRAWING NO.	EDC3-325498-01	△ 6/6
	PART NO.	FH49-96S-0.4SHW	
	CODE NO.	CL580-3200-5-00	



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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