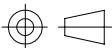
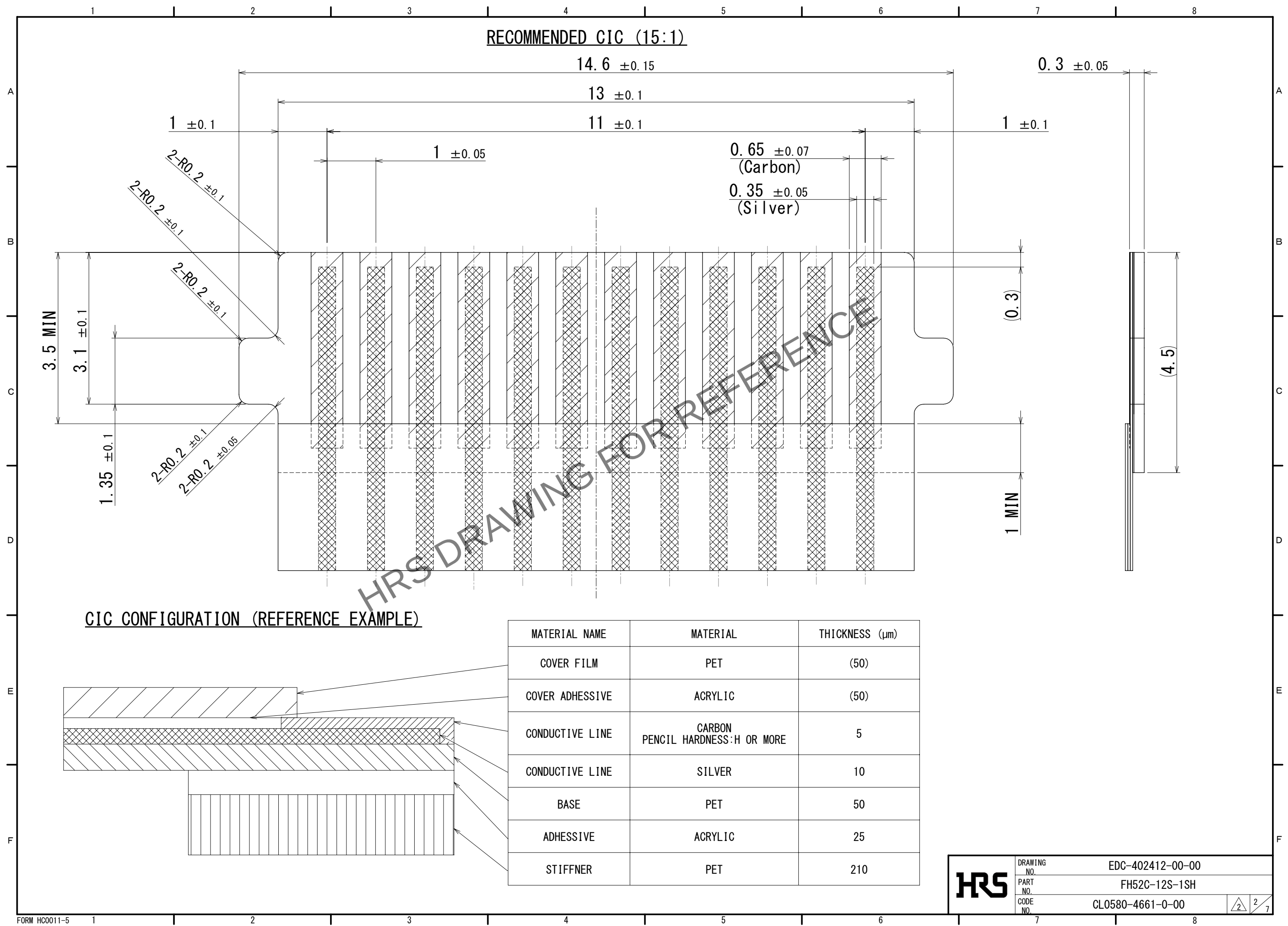


4	BRASS	TIN PLATING 3 μ m MIN OVER NICKEL 1 μ m MIN	8	(CONNECTOR)	
3	COPPER ALLOY	(CONTACT AREA, LEAD) GOLD 0.03 μ m MIN OVER NICKEL 1 μ m MIN (OTHER) NICKEL PLATING	7	POLYSTYRENE	
2	LCP	BLACK	6	PORYESTER	
1	LCP	GRAY	5	POLYSTYRENE	
NO.	MATERIAL	FINISH , REMARKS	NO.	MATERIAL	FINISH , REMARKS

UNITS mm		SCALE 5 : 1		COUNT 2	DESCRIPTION OF REVISIONS DIS-F-00021401	DESIGNED GT. TSURUMAKI	CHECKED HS. HIRAHARA	DATE 2024. 09. 30
 HIROSE ELECTRIC CO., LTD.		APPROVED : KN. SHIBUYA	2023. 12. 05	DRAWING NO. EDC-402412-00-00				
		CHECKED : HS. HIRAHARA	2023. 12. 05	PART NO. FH52C-12S-1SH				
		DESIGNED : TA. SUZUKI	2023. 12. 05	CODE NO. CL0580-4661-0-00				
		DRAWN : TA. SUZUKI	2023. 12. 05	 				

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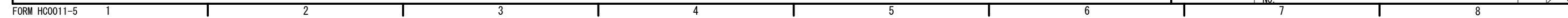


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CODE NO.	CL0580-4661-0-00

2

2

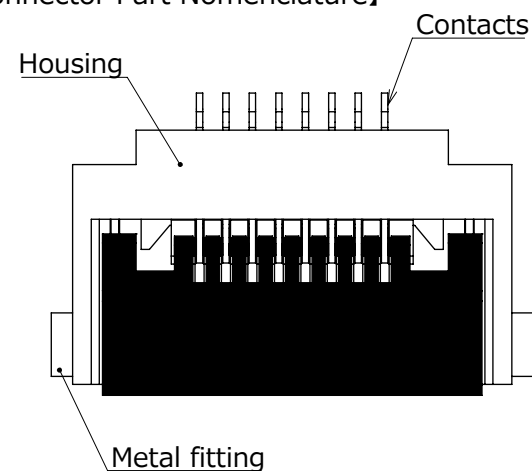
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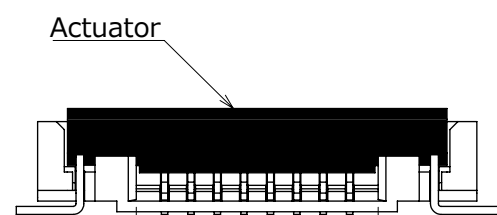
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Indicates connector usage for a typical Front-flip structure.
To prevent connector/CIC breakage and contact failure (mating failure, CIC pattern breakage, etc),
read through the instructions shown below and handle the connector properly.
Although this instruction manual is applicable to usage with CIC.

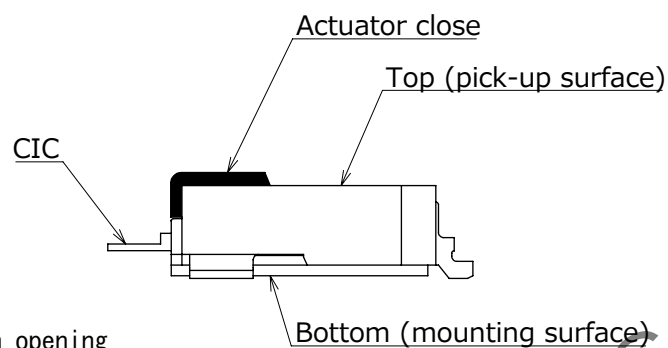
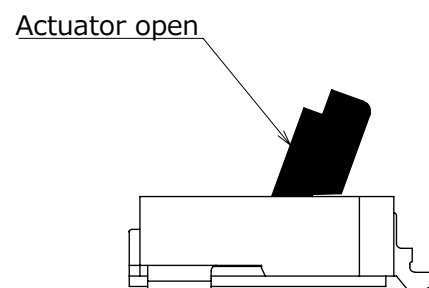
【Connector Part Nomenclature】



- Top view -



- Front view -

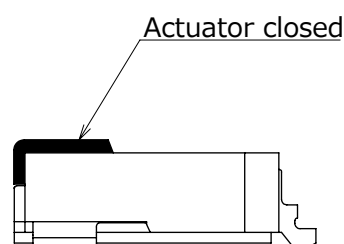


- Side view -

【Operation and cautions】

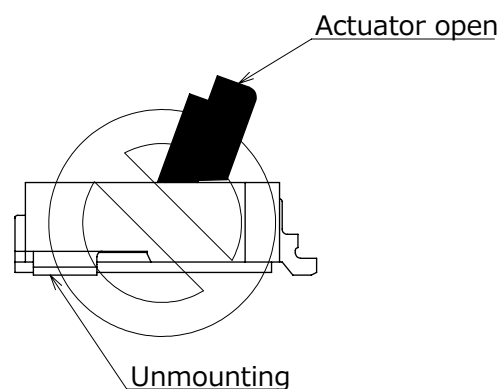
1. Initial condition

The connector is delivered with the actuator closed.



- When delivered -

NG
Operate actuator unmounting



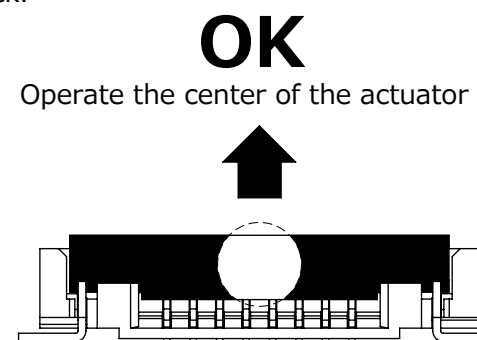
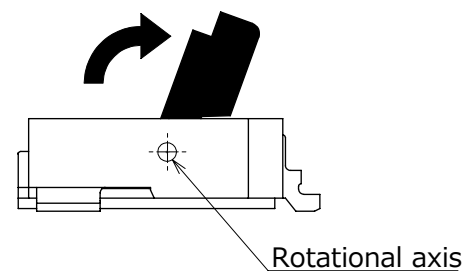
2. How to lock and unlock

The actuator rotates around the rotational axis.

Lock : Apply load to rotate the actuator after inserting the CIC.

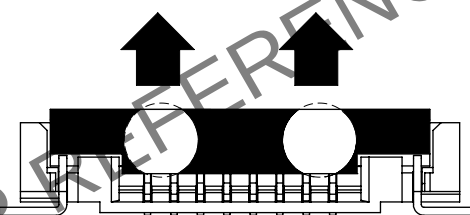
Unlock : Slowly flip up the actuator to release the lock.

OK



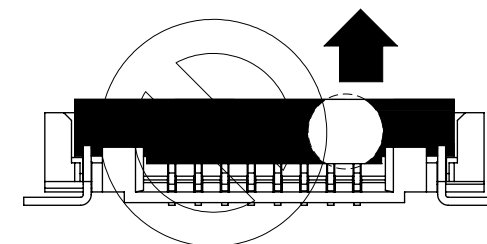
OK

Operate near both-ends of the actuator at the same timing moment.



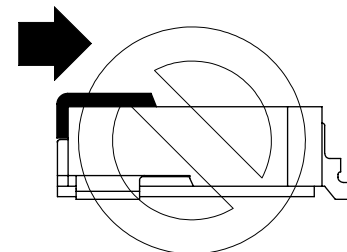
NG

Operate at one end of the actuator

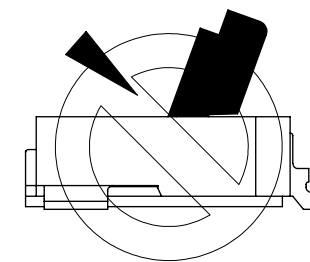


NG

Operation to push the actuator into connector

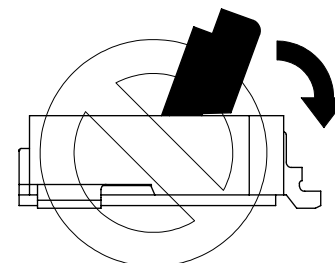


Insertion of fingernails or any tool inside the connector



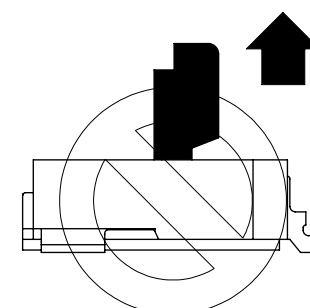
NG

Excessive load on actuator



NG

Pick the actuator to lift



<Instruction manual(1)>

HRS

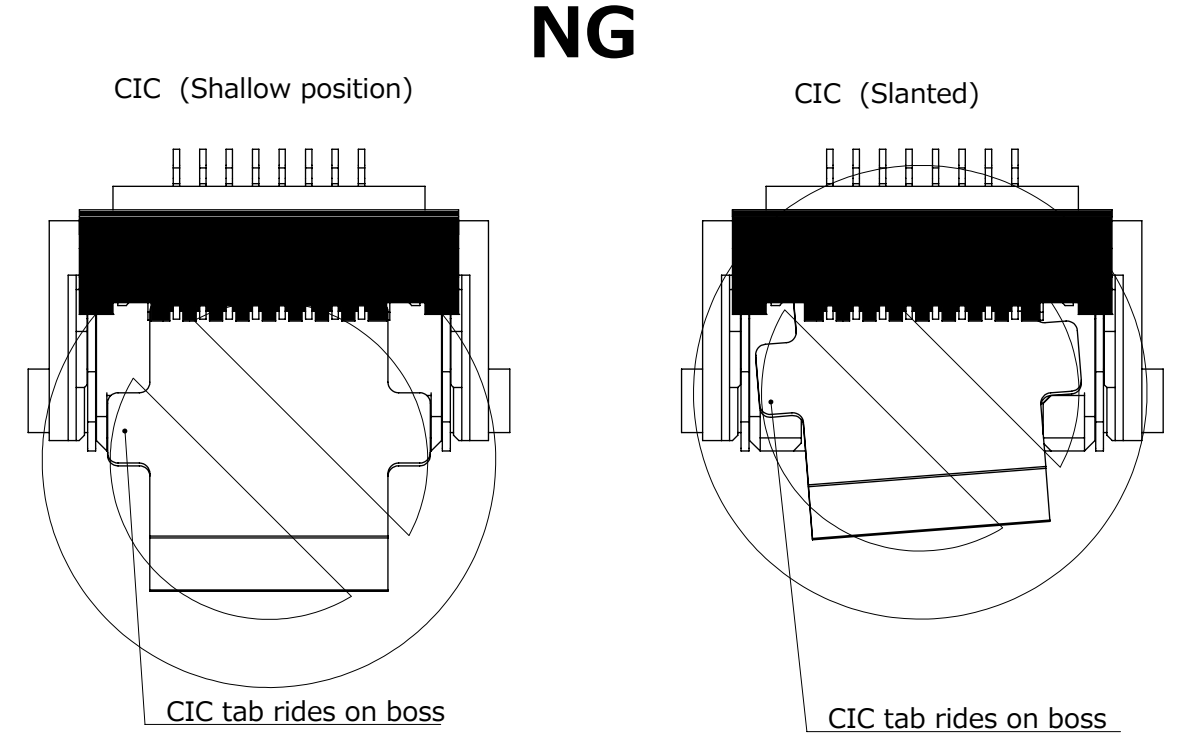
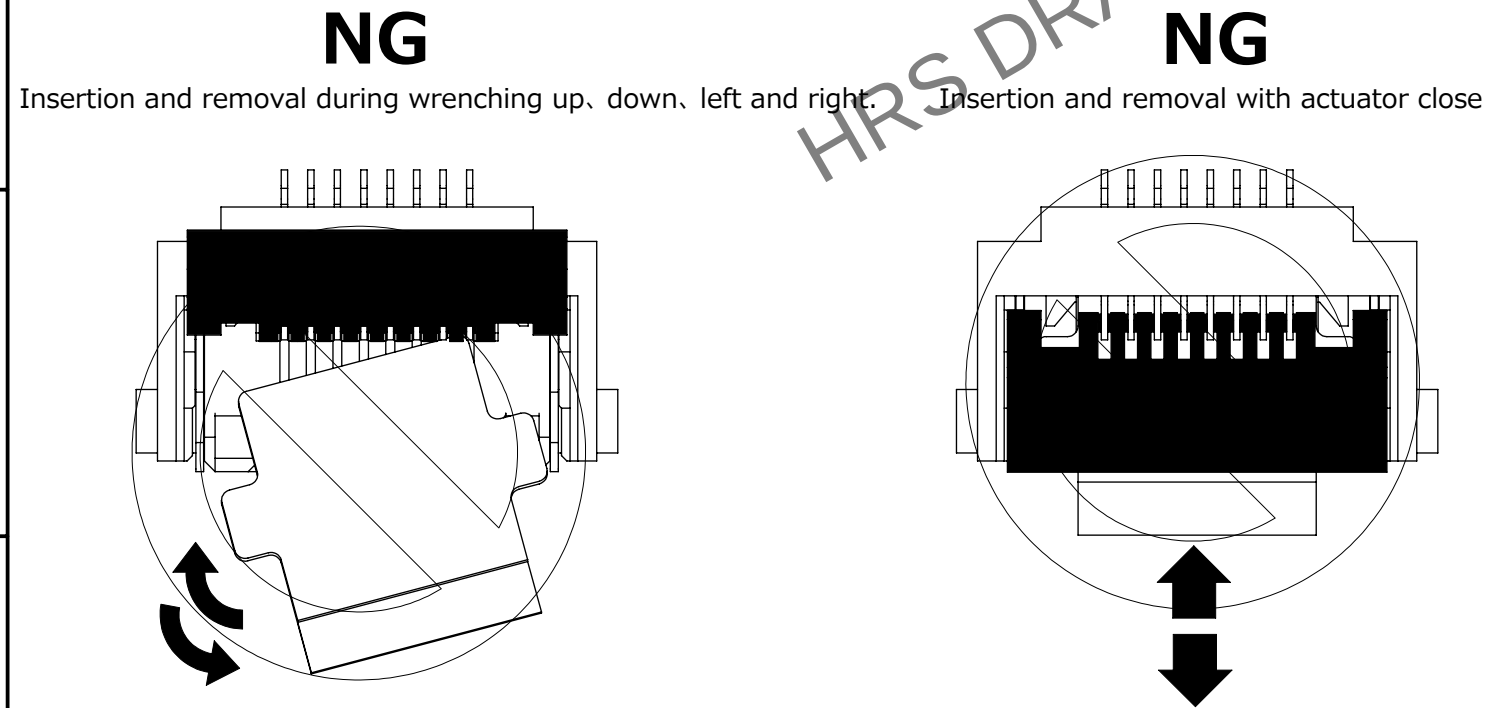
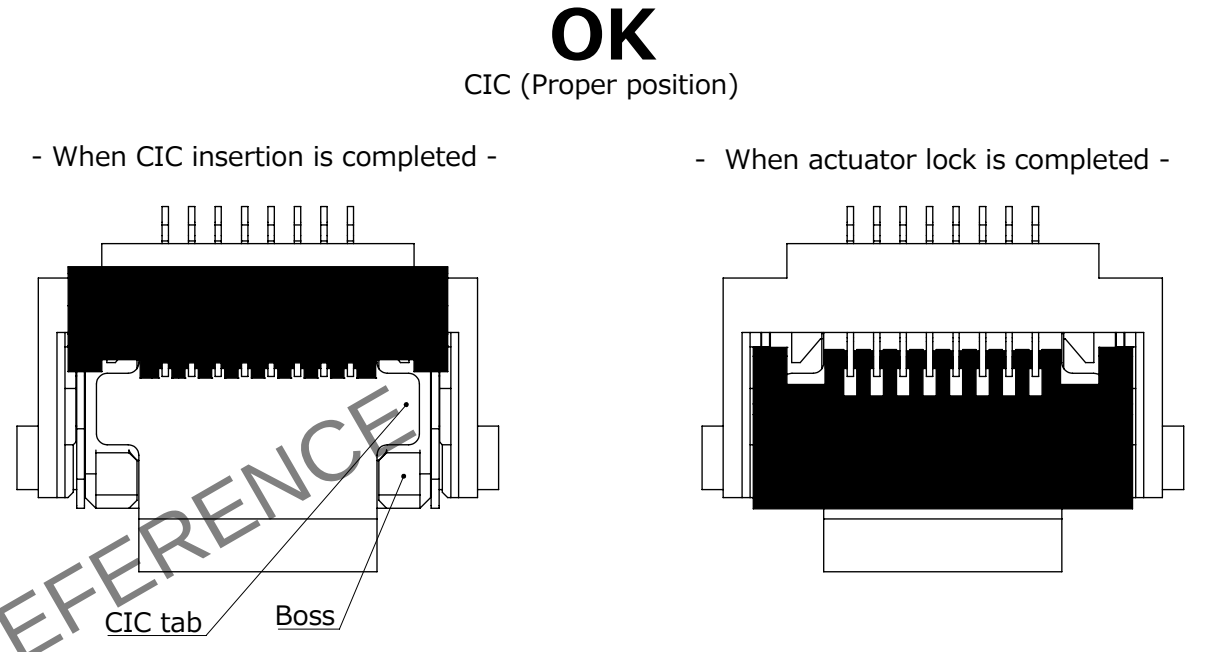
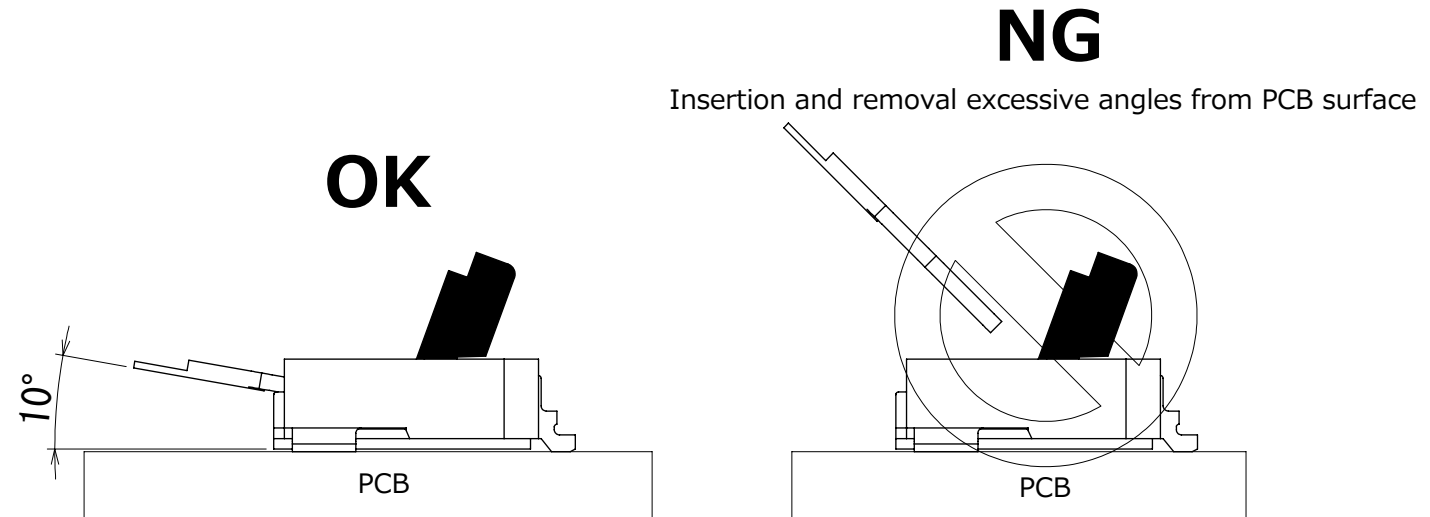
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3. How to insert and remove CIC
This connector has contacts on the bottom, insert the CIC with the exposed conductors face down.
This connector has boss for positioning CIC, insert the CIC at about 10 degree angle to the PCB mounting surface.
In case of using CIC without tabs, insert the CIC horizontally along the surface.
After rotating the actuator to the fully opened position carefully withdraw the CIC
pulling out at about 10 degree angle to the PCB mounting surface.
In case of using CIC without tabs, pull out the CIC horizontally along the surface.

4. CIC insertion check and mating confirmation of the CIC
Boss for positioning CIC guide the CIC tabs to the correct position.
Make sure that the CIC tabs are located in correct position as shown
in the figure below after CIC insertion.



<Instruction manual(2)>

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【Instructions for PCB layout】

Please design a PCB layout not to apply load to connector and CIC.

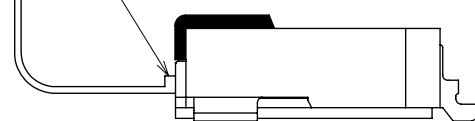
【Cautions】

- If the CIC has to be curled/bended in your cabling design, please keep enough degree of freedom in your design to keep the CIC tension free. In this regard, the stiffener is parallel to the PCB.
- Do not mount other components underneath the CIC stiffener which may interfere with the connection.
- Please consult with the CIC manufacturer about CIC bending performance and wire breakage strength while making design.
- Keep enough space for the rotation of the actuator during PCB and component layout design.
- Please consult with our sales representative if you are using CIC with different configuration from our recommendation.

OK

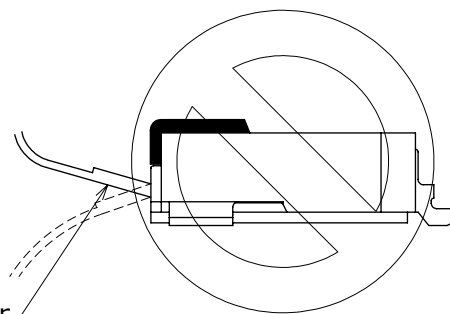
No load applied to stiffener

Stiffener
(Horizontal)



NG

Load applied to stiffener

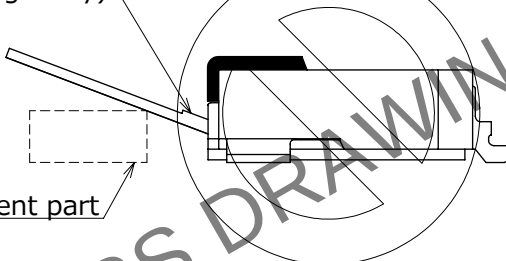


Stiffener
(Diagonally)

NG

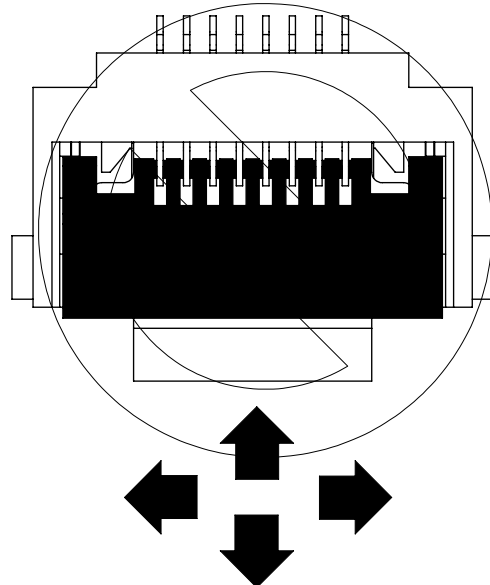
Housing or parts interfering with the CIC

Stiffener
(Diagonally)



NG

Load applied to CIC



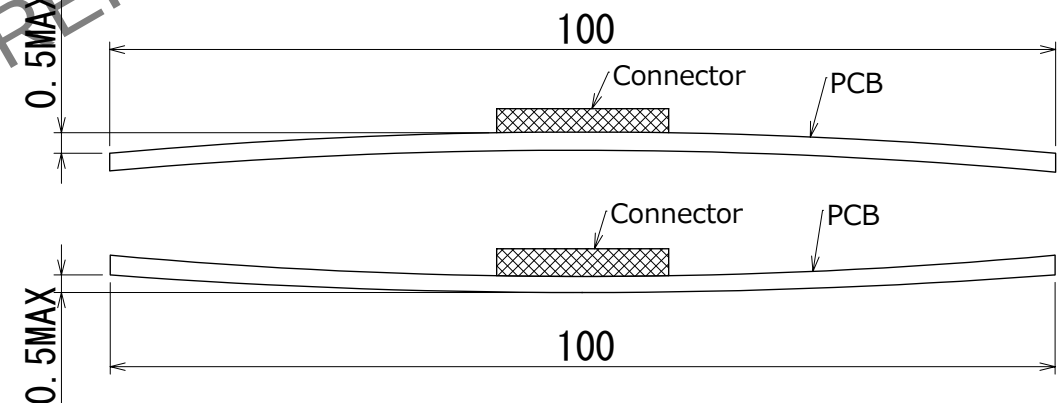
【Instructions for mounting on the PCB】

- Refer to recommended layouts for PCB, stencil pattern and CIC dimension. Please inspect the size of solder fillet and flux climbing height of the mounted connector while using different land/stencil pattern from our recommendation.
- Please verify your solder resist/silk screening design carefully before implementing the design.
- Apply reflow temperature profile within the specified conditions. For specific applications, the recommended temperature may vary depending on type/volume/thickness of solder paste and size/thickness of PCB. Please consult with your solder paste and equipment manufacturer for specific recommendations.
- Please try to minimize the warpage of the PCB. Soldering failure could still occur due to the PCB warpage even if the coplanarity of the connector is under 0.1mm.
- Do not apply 1N or greater external force on the connector when unreeling or handling the connector before mounting. Excessive mechanical stress may damage the connector before mounting.

【Instructions for PCB handling after mounting the connector】

The warpage of PCB may apply excessive stress on the connector and damage the connector.

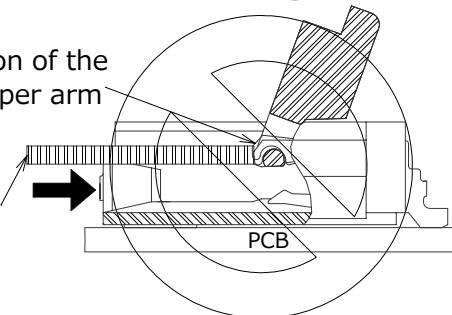
- During the assembly processes described below, care shall be taken so as not to give any stresses of deflection or twisting to the PCB.
 - Splitting a large PCB into several pieces
 - Installing mounting screw on PCB
- The warpage of a 100mm wide PCB should remain within 0.5mm.
- Please perform conduction check with caution. Conductivity probe may damage the connector contacts.



NG

Deformation of the contact upper arm

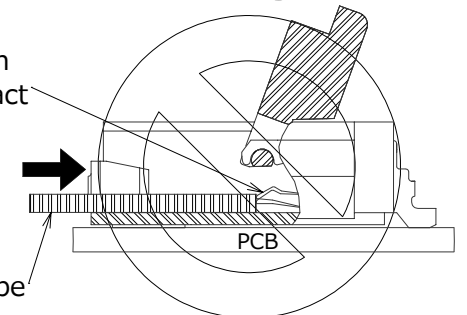
Conductivity probe



NG

Deformation of the contact

Conductivity probe



【Instructions of manual soldering】

- Do not perform hand soldering with the CIC inserted into the connector.
- Do not apply excessive heat. And soldering iron must not touch connector except terminal leads area.
- Do not supply excessive solder (flux).

<Instruction manual(3)>

HRS

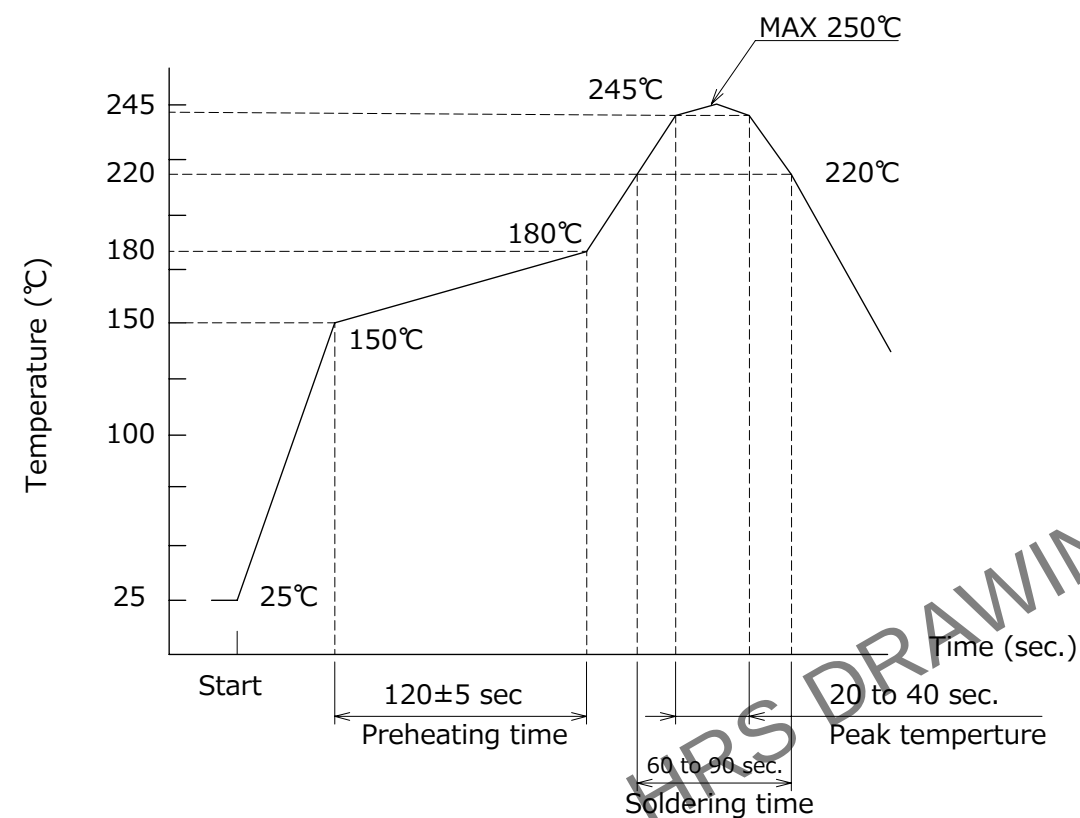
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[Recommended reflow temperature profile]

The temperatures mentioned above refer to the PCB surface temperature near the connector leads.
For specific applications, the recommended temperature may vary depending on type/volume/thickness of solder paste and size/thickness of PCB.
Please consult with your solder paste and equipment manufacturer for specific recommendations.

- Reflow method:IR reflow
- Number of reflow cycles:2 cycles MAX.



[Others]

- Attachment of foreign particles with the connector contact may lead to conduction failure.
In this particular case, the conduction failure may be fixed by re-inserting the CIC.

<Recommended reflow temperature profile>

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