

CABLINE®-UX II PLUG

Part No. 20531

Assembly Manual

8	S24002	January 12, 2024	R. Minohara	T. Tanigawa	H. Ikari
7	S22437	October 5, 2022	K. Baba	R. Takei	H. Ikari
6	S20185	March 24, 2020	A. Koyanagi	T. Kurachi	Y. Shimada
5	S19431	July 8, 2019	A. Koyanagi	T. Kurachi	H. Ikari
Rev.	ECN	Date	Prepared by	Checked by	Approved by

## 1. Purpose :

This manual provides the soldering method of the cable's center conductor and assembly method of metal cover to CABLINE UX II plug.

## 2. Applicable Connector :

Name : CABLINE UX II plug

Parts No. :

Set P/N	Cable Assembly	20531-0**T-*2
Discrete P/N	Housing Assembly	20532-0**T-*2
	Metal Cover	2799-0**1

## 3. Pulse Heat Condition

### 3.1 Fixtures

- Pulse heater

Name	P/N	Manufacturer
Reflow head	NA-66	Nippon Avionics Co.,Ltd.
Pulse heat power supply	TCW-215	Nippon Avionics Co.,Ltd.

- Heater chip

	30P	34P	40P	50P
Thickness	0.3 <sup>0</sup> <sub>-0.05</sub> mm			
Width	8.4 <sup>0</sup> <sub>-0.03</sub> mm	9.4 <sup>0</sup> <sub>-0.03</sub> mm	10.9 <sup>0</sup> <sub>-0.03</sub> mm	13.4 <sup>0</sup> <sub>-0.03</sub> mm

- Recommended solder bar

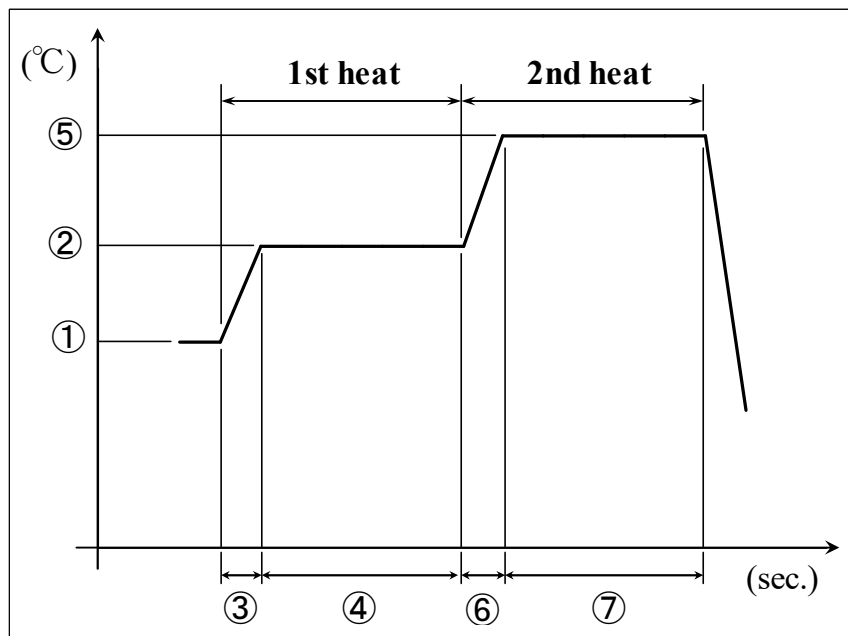
Resin-free solder is used.

Positions	Solder size	Length
30P	φ0.07	8.0mm Ref.
34P		9.0mm Ref.
40P		10.5mm Ref.
50P		13.0mm Ref.

## 3.2 Recommended Pulse Heat Condition

① Idle temp.	150℃
② 1 <sup>st</sup> heat temp.	220℃
③ " rise time	0.5sec.
④ " holding time	3.0sec.
⑤ 2 <sup>nd</sup> heat temp.	350℃
⑥ " rise time	0.5sec.
⑦ " holding time	3.0sec.
Heater tip Pressure	15.0~15.6N

※Temperature : 26.5℃ Humidity : 43.1% (Reference)



※This pulse heat condition was evaluated and confirmed by our pulse heat jig and instruments.

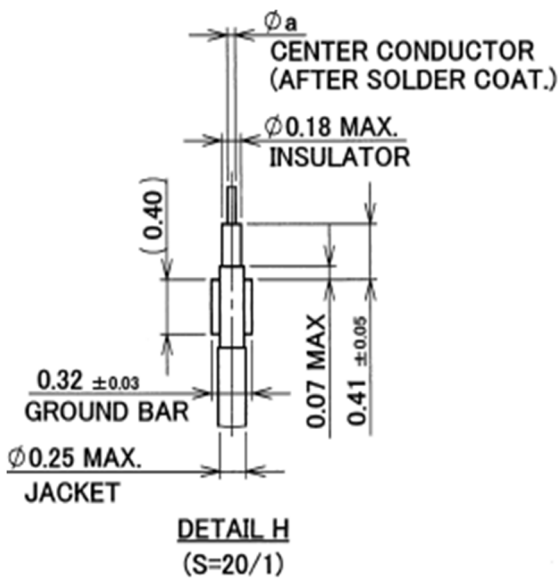
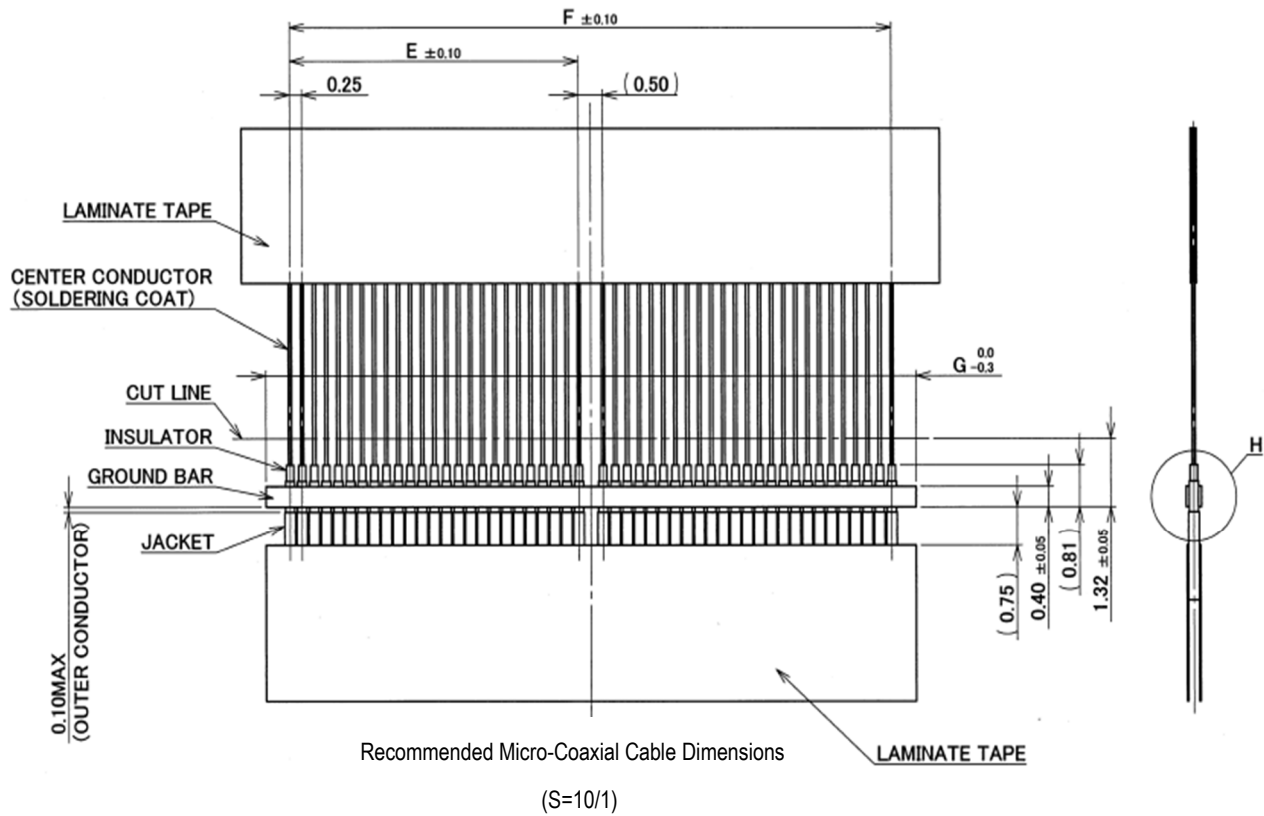
The most optimum condition may change based on the shapes of pulse heat jig and instruments, the environments, or other reason. Therefore, please examine the pulse heat condition adequately in advance of use.

4. Work Procedures :

4-1. Soldering of Center-Conductor

① First, process the cable end as shown below.

【Micro coaxial cable】

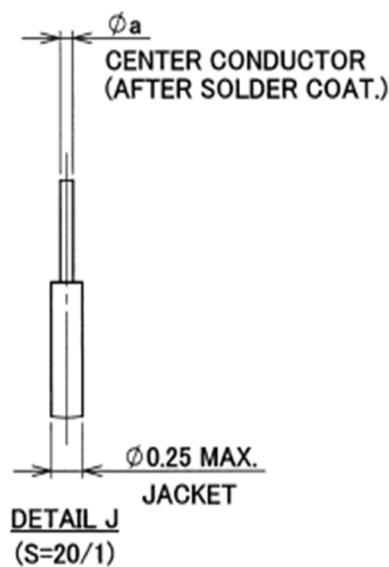
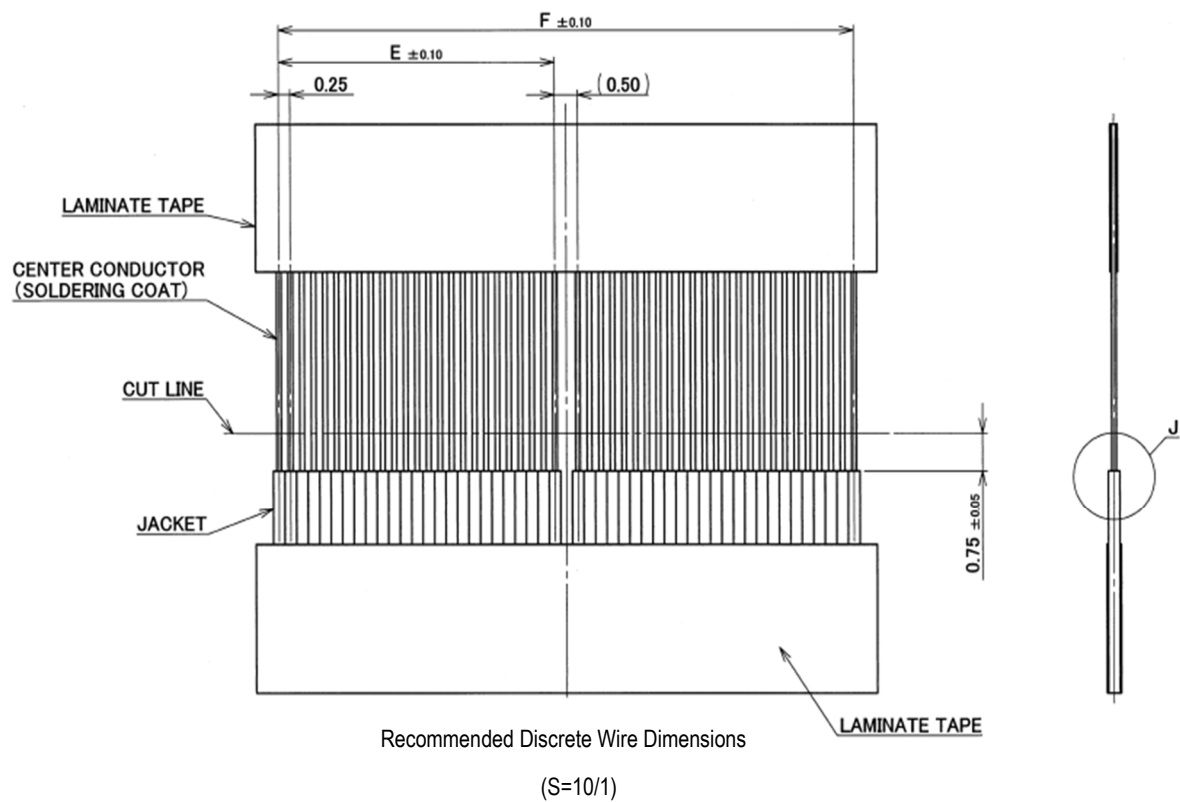


• Cable Dimensions Unit:mm

Part No.	E	F	G
20531-030T-*2	3.50	7.50	8.50
20531-034T-*2	4.00	8.50	9.50
20531-040T-*2	4.75	10.00	11.00
20531-050T-*2	6.00	12.50	13.50

	a
AWG#44	$\phi 0.063$
AWG#46	$\phi 0.048$

【Discrete wire】



• Cable Dimensions Unit:mm

Part No.	E	F
20531-030T-*2	3.50	7.50
20531-034T-*2	4.00	8.50
20531-040T-*2	4.75	10.00
20531-050T-*2	6.00	12.50

	a
AWG#39	$\phi 0.102$

- ② Apply flux to contact.

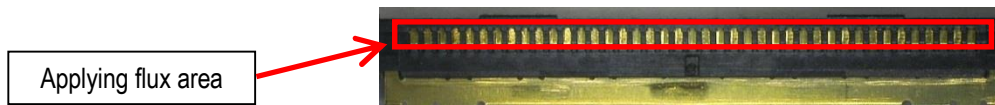


Photo.1 Applying Flux Area

- ② Please confirm all contacts were applied flux.

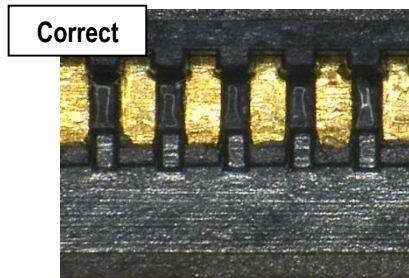


Photo.2 After Applying Flux

※Please do not apply flux too much like Photo.3. It can cause flux splash or leak to the mating area.

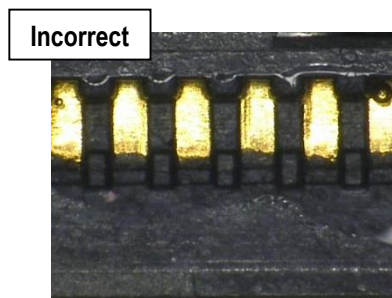


Photo.3 Extra Flux

※Washer must not be used to take flux off because it may cause flux attached to mating area.

- ④ Place a solder bar at center of connector (Housing assembly)

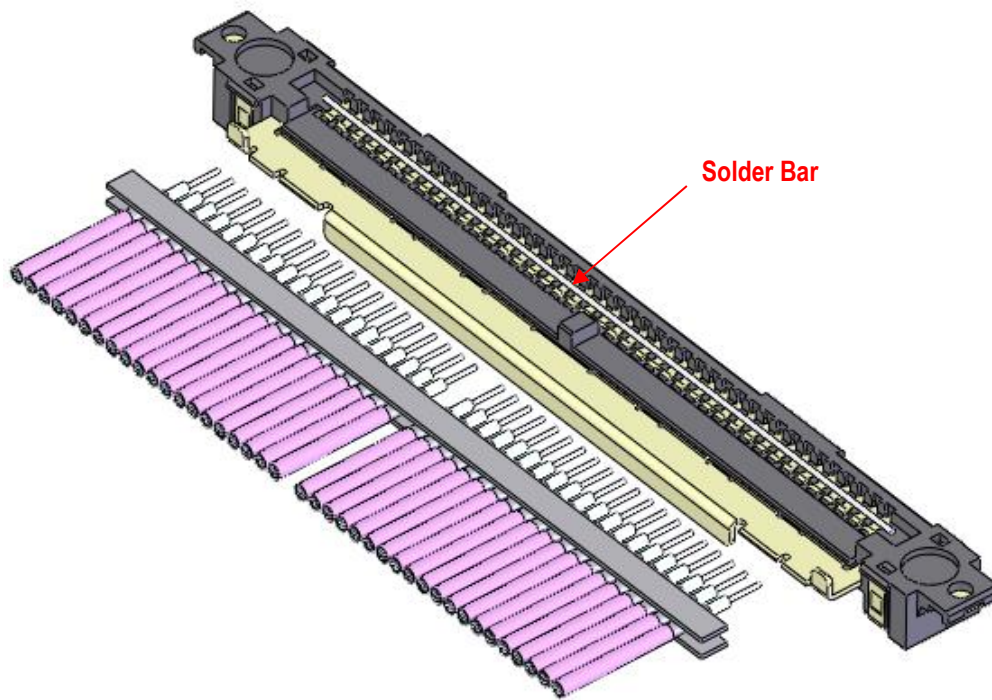


Fig.1 Placing Solder Bar

- ⑤ Set the cable.

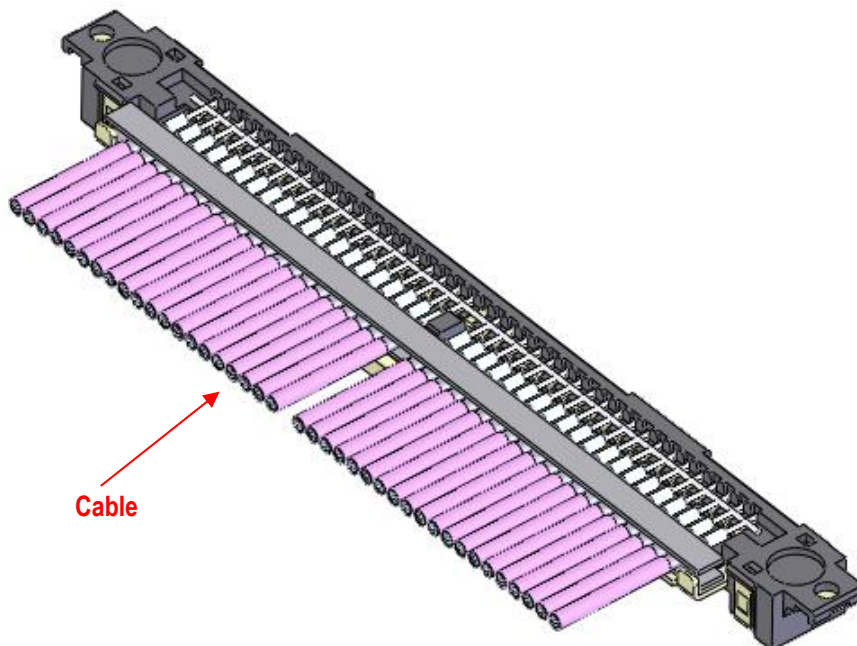
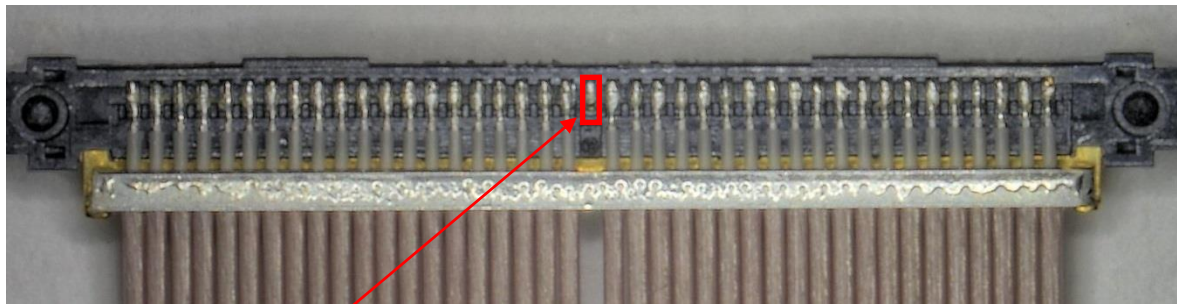


Fig.2 Setting Cable



- ⑥ Solder center conductors with a pulse heater. For soldering condition, see photo.4 and 5.



Blank pin

Photo.4 AWG#44

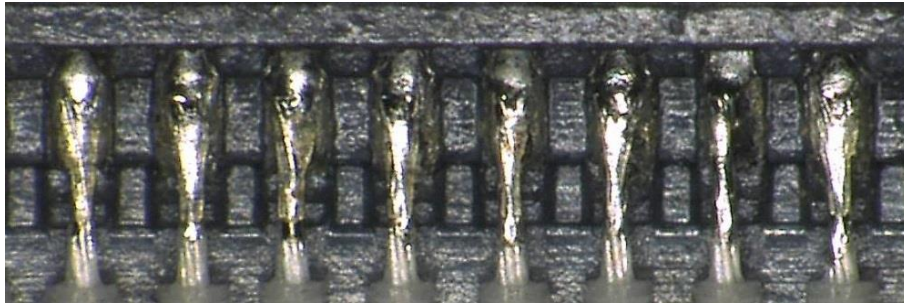


Photo.5 Expansion Part



※In case short circuit occurred or there was any unmelted solder (See photo.7 below),  
wash the heater tip and heat again with pulse heater only one time. (Several heating can damage the product.)  
If the short circuit can't be repaired, use the soldering iron and repair it (Incorrect point only).  
Please take measure for blank pin as well. (Refer to Photo.4)

Condition of Soldering iron : 50W  
Operating temperature : 350℃～380℃  
Application time of soldering iron : Within 5sec.

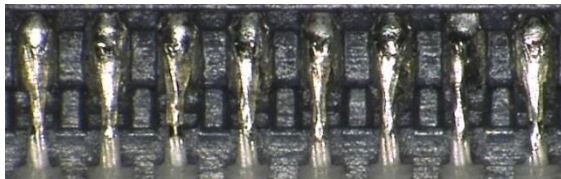


Photo.6 Melted Solder

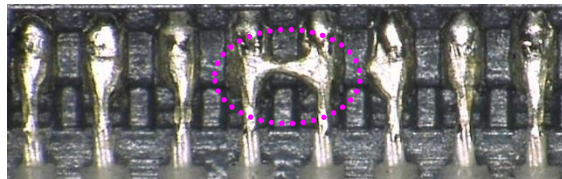


Photo.7 Unmelted Solder

※The setting temperature of 2nd heat and the pressure shall not be too high. Housing has possibility to melt.  
Please refer to Photo.9.

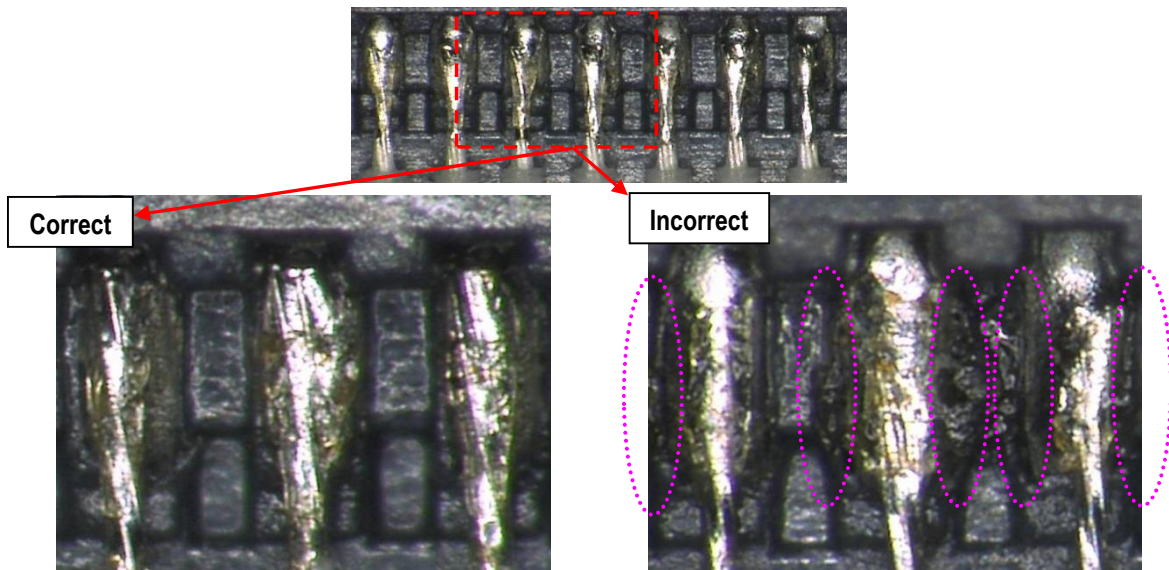


Photo.8 Unmelted Housing

Photo.9 Melted Housing

※When using a discrete wire, please apply an insulating tape to the connection before assemble metal cover.

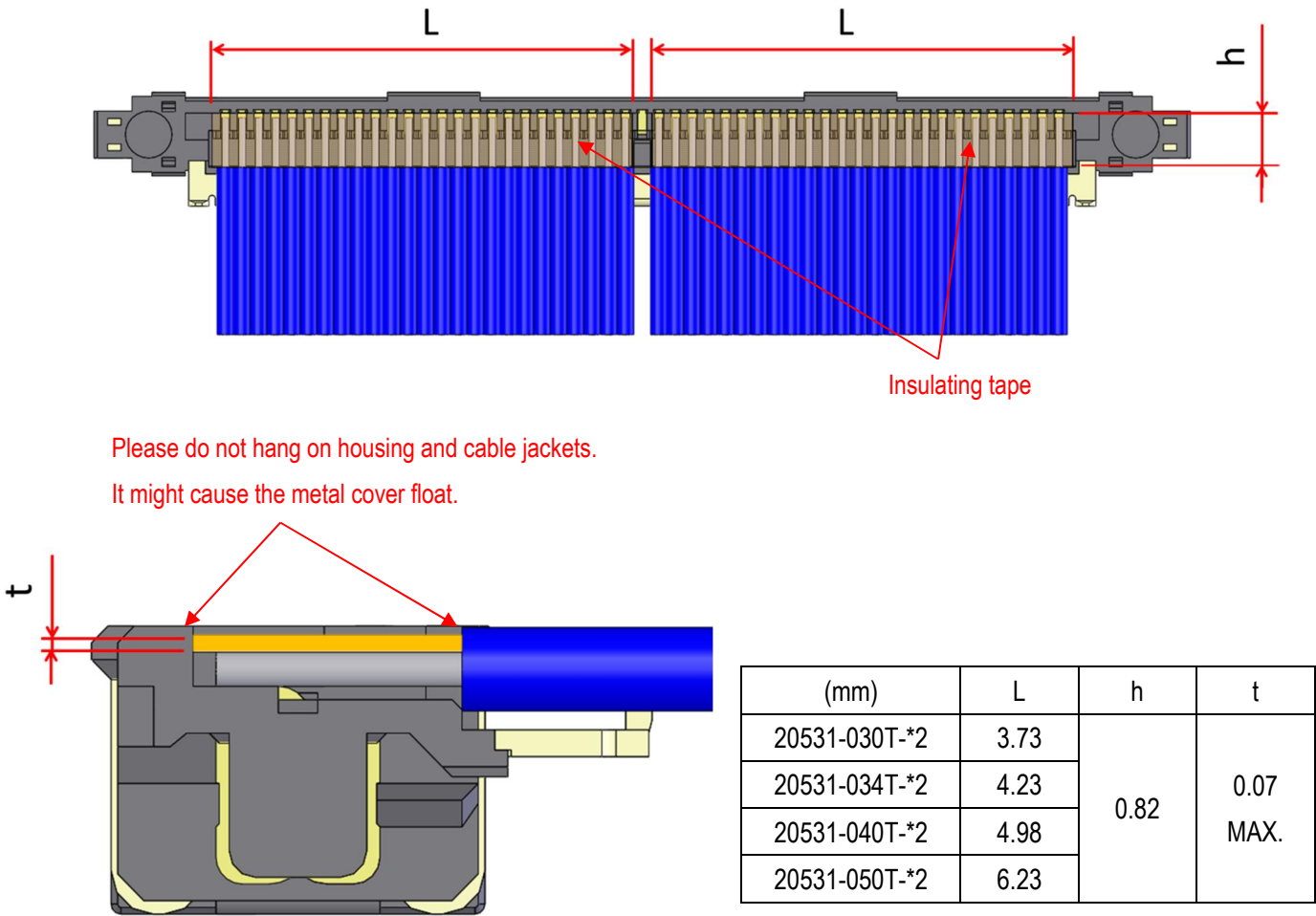


Fig. 3 Insulating Tape Position

## 4-2. Metal Cover is Delivered in the Reel with a Carrier.

The following is the method to cut metal cover from carrier.

- ① Cut carrier on the cut line of a lower left picture (Green line) by a scissors for metal.

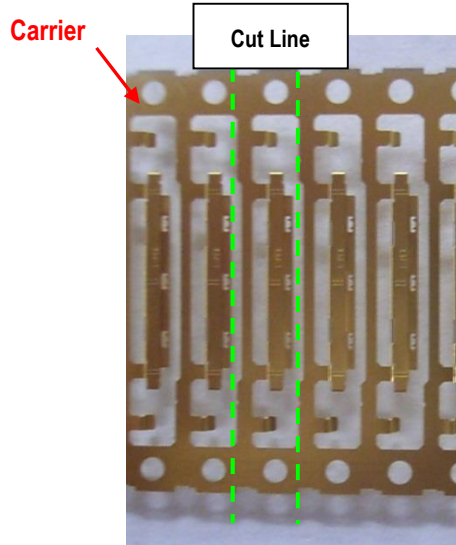


Photo.10 Before Cut

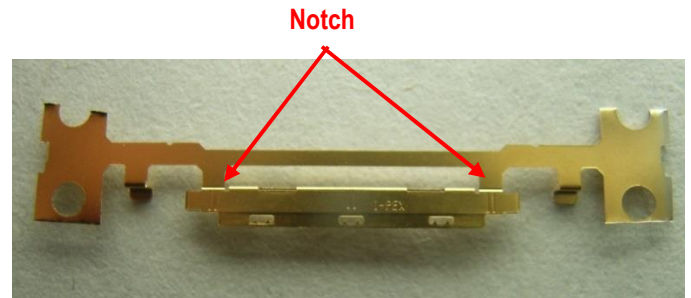


Photo.11 After Cut

- ② Hold the center of metal cover and bend it 45 deg back and forth to cut it from notch.

When it does not be cut, bend it again. (Photo.12)

After separated, check there is no burr around the cut part. (Photo.13)

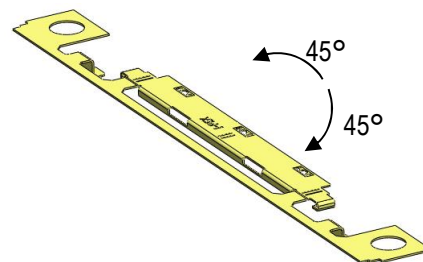
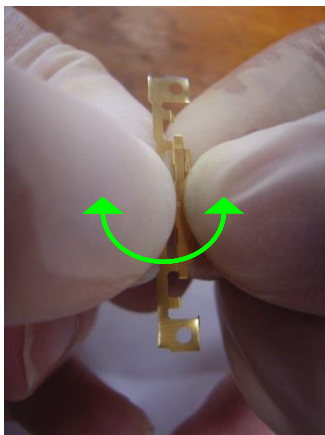
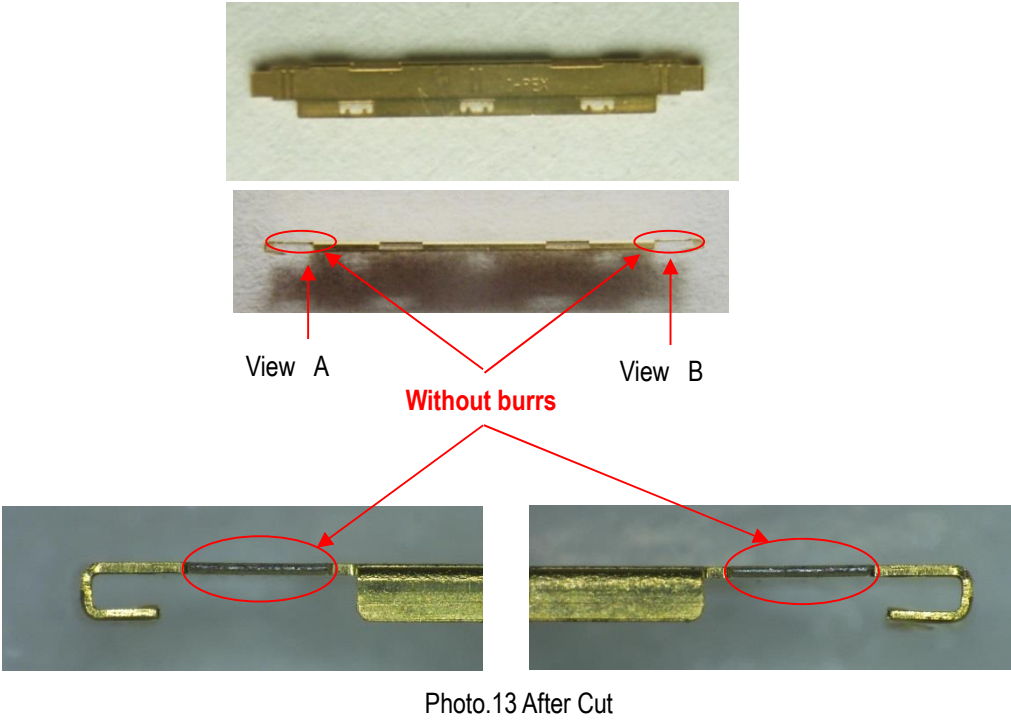


Photo.12 Cut Condition



Metal cover (Detail of notch)

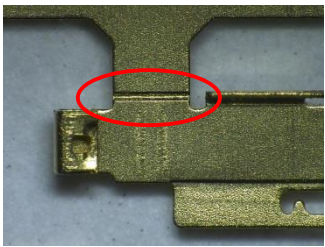


Photo.14 Bottom Side View

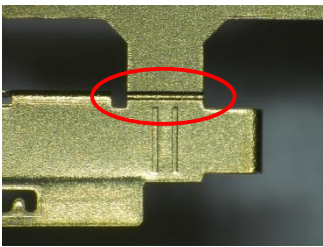


Photo.15 Upper Side View

Caution: By pulling like a lower photo to cut off by force (Red arrow direction), burrs and transformation can be caused.

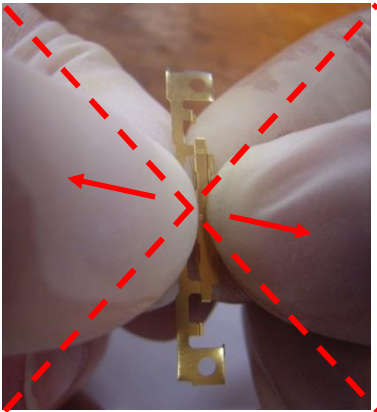


Photo.16 Cut by Force (Bad example)

## 4-3. Assembly of Metal Cover

- ① From the front side of the housing assembly, align shapes of the housing assembly and the plug cover circled in the following figure, then slide the both sides of plug cover in the direction of the blue arrow for assembly.

Do not add the load to part ※ so that there is a possibility of transforming.

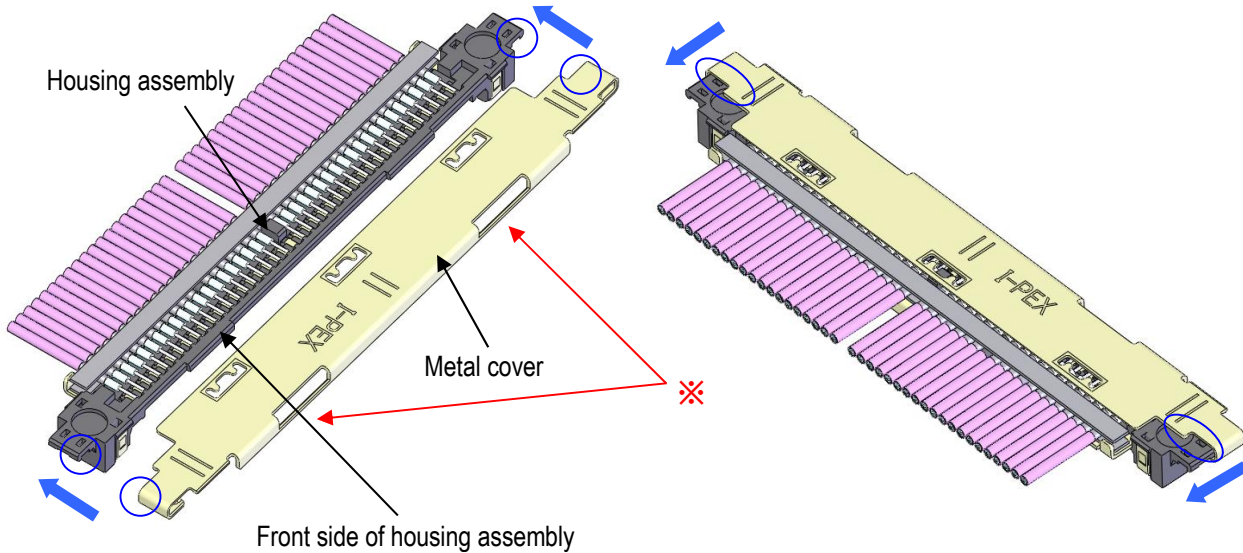


Fig.4 Assembly of Metal Cover

- ② Confirm whether plug cover is properly assembled or not.

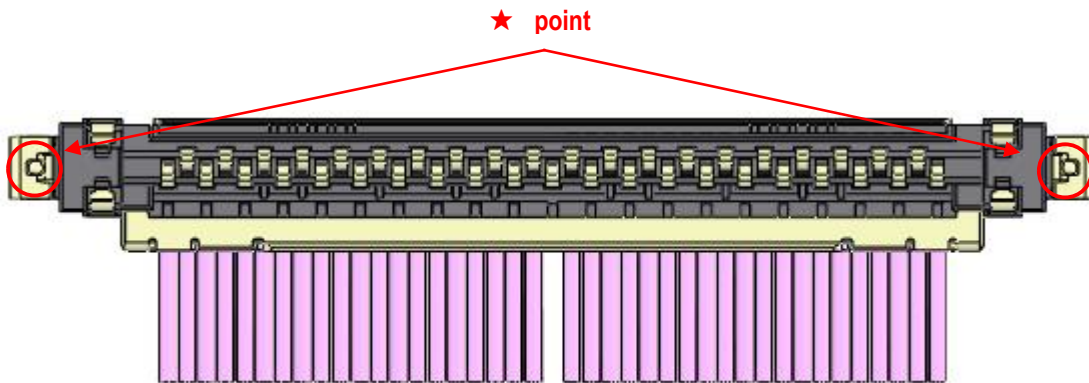


Fig.5 The Assembly Confirmation of Metal Cover



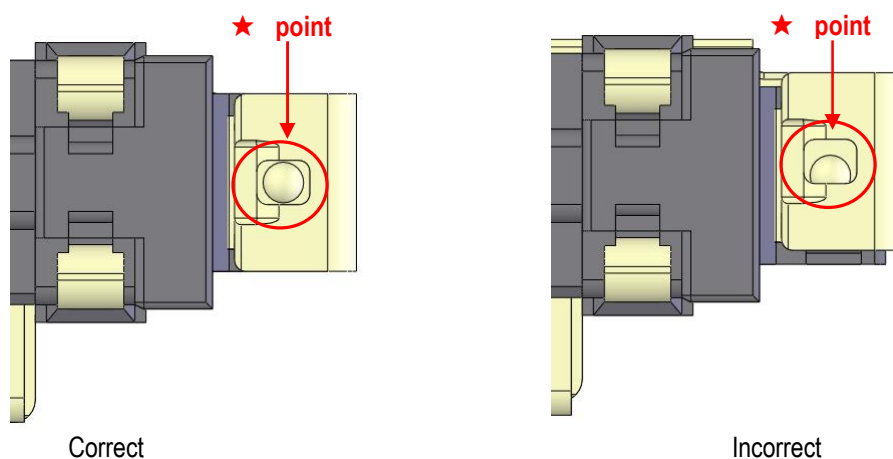


Fig.6 Detail of ★ point

※From the connector bottom side, confirm whether the pimple of housing insert shell fitted into center of the hole of metal cover or not.

- ③ Soldering holes of metal cover 3 positions (2 positions only 30P) and ground bar with the soldering iron at all designated points is recommended. (Fig.7 ◆ point)

Refer to Fig.8 for a limit of the solder height. For conditions of soldering iron, refer to sheet 8.

Please solder while suppressing it in the assembly direction when there is a space in the assembly direction.

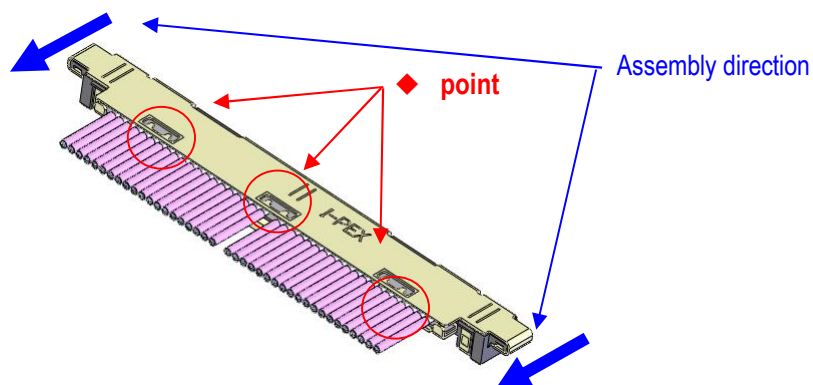


Fig.7 Soldering of Metal Cover and Ground Bar

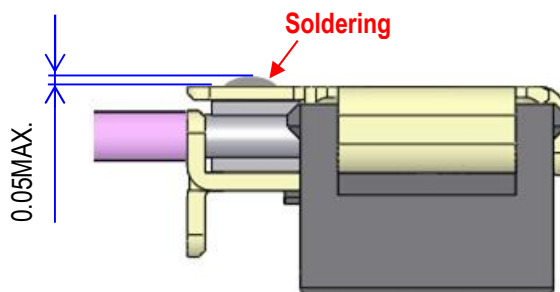


Fig.8 Soldering

## 4-4. Cable Fixation

To protect the cable, it is recommended to fix the cable terminal part with bond.

Recommended bond: LOCTITE 352

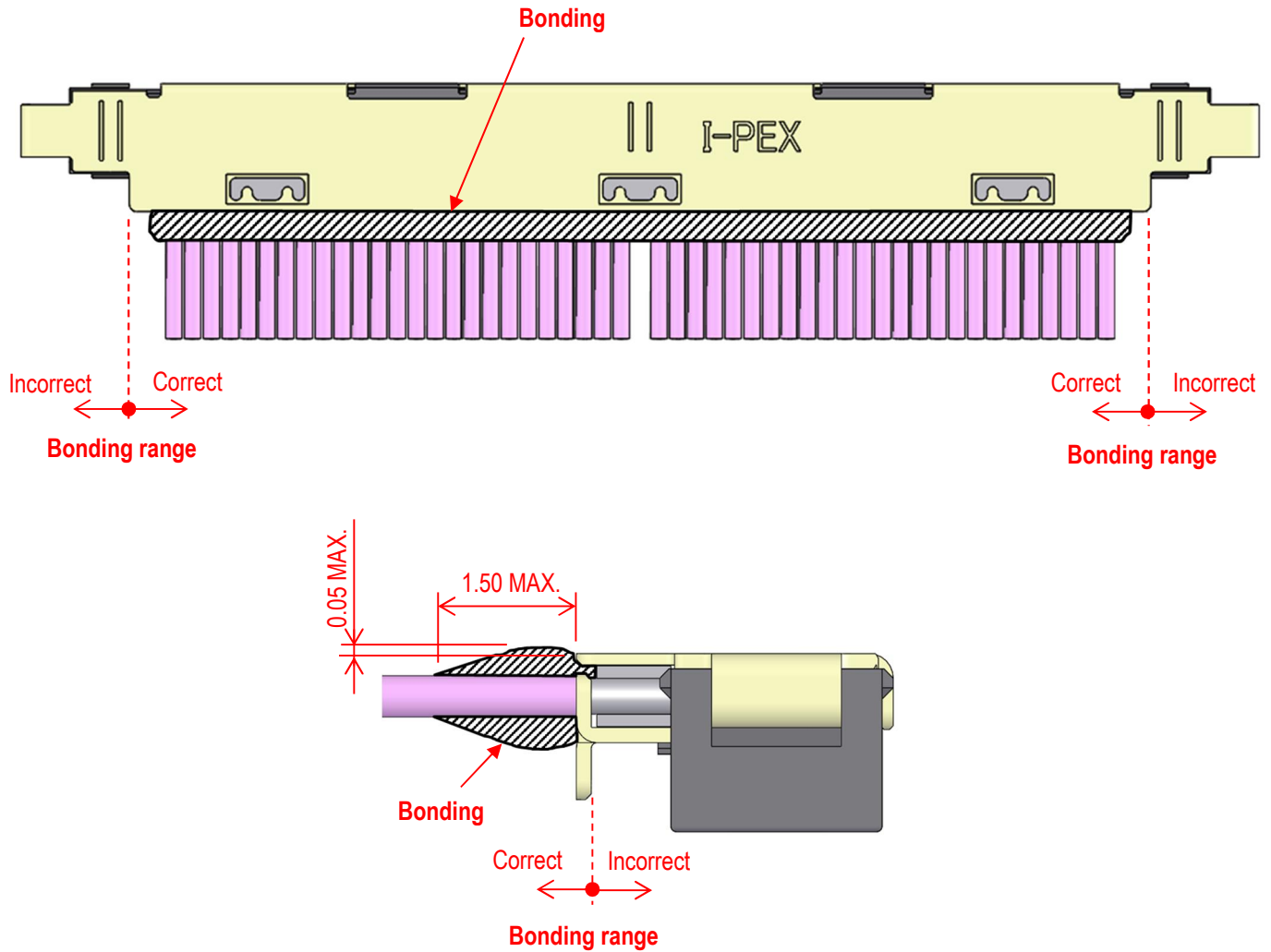


Fig.9 Bonding



## 5. Cautions and Methods in Opening and Closing the Package

※ There is possibility to cause damage to products. Please pay attention.

- ① Unfold the folded air bubble sheet at the top.



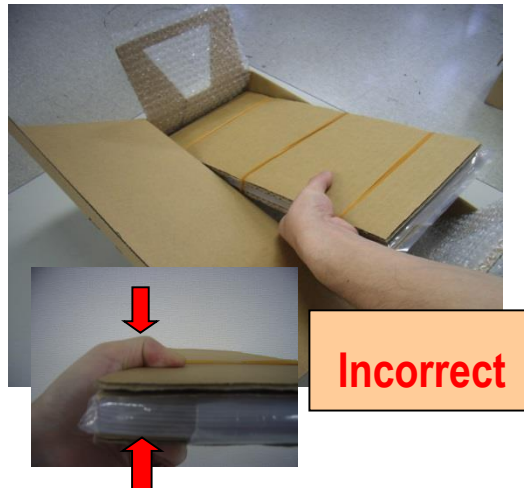
Air bubble sheet

- ② Pull up Air bubble sheet to take out from the carton.

Hold the carton by one hand.



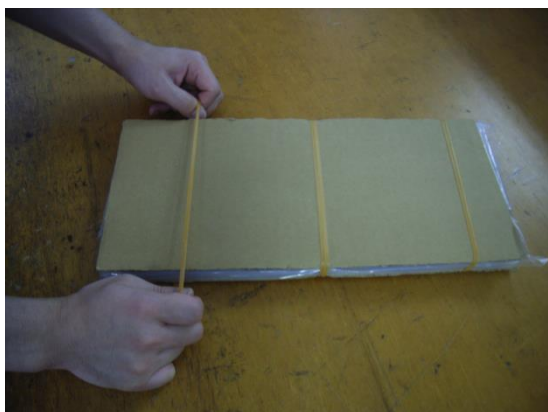
- ③ How to take out from the carton.



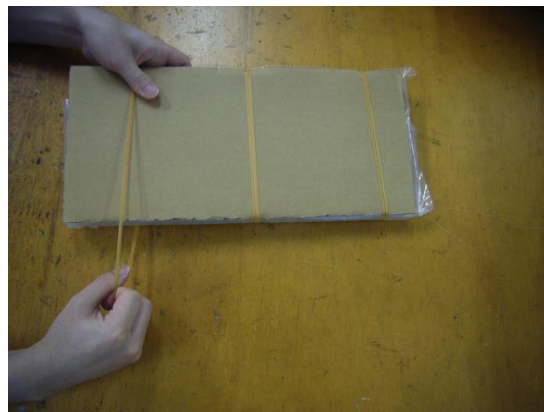
※When opening the package, please pay attention not to apply load in the tray-thickness-direction.

※When returning the tray into the carton, please return the cushioning material to the original condition.

④ How to remove the rubber band.



**Correct**



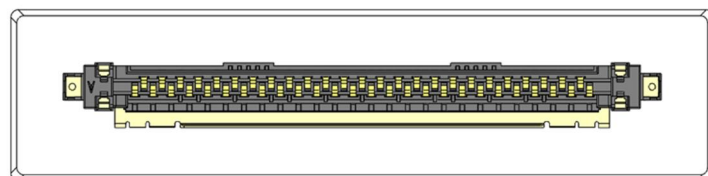
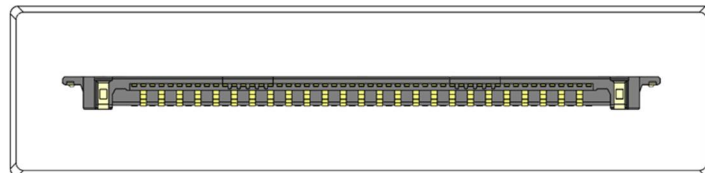
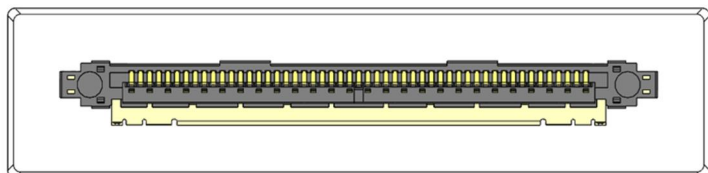
**Incorrect**

※When opening the package, please pay attention not to apply shock to products by rubber band.

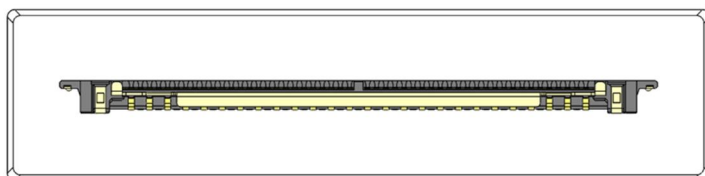
Cautions in closing the package

When piling a tray on another tray, please check the direction of the products in the lower tray.

(Please check they are correctly packed in pockets.)



**Correct**



**Incorrect**