

1. Scope

This document specifies the cable assembly processes of DF81 series(DF81※-*P-0.4SD, DF81※-*P-LCH, DF81※-*P-SHL) terminated with micro coaxial cable (AWG#40 to 46).

2. Part Number

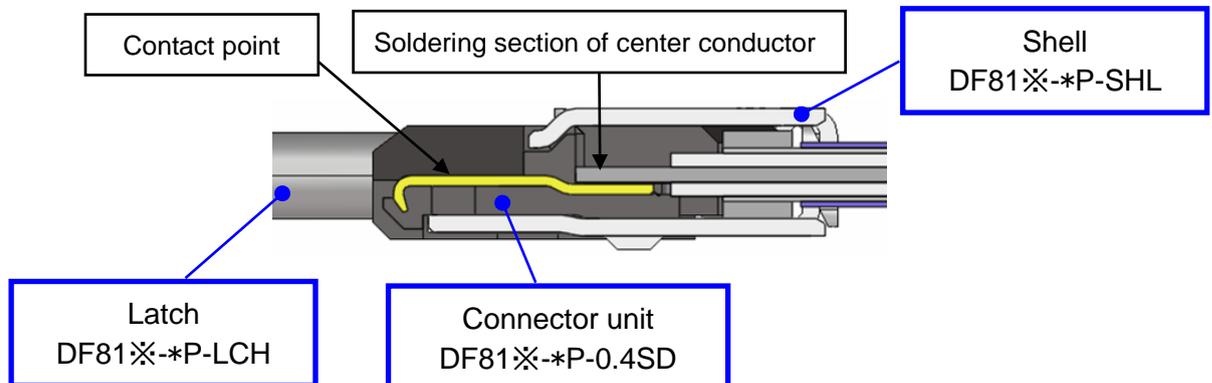
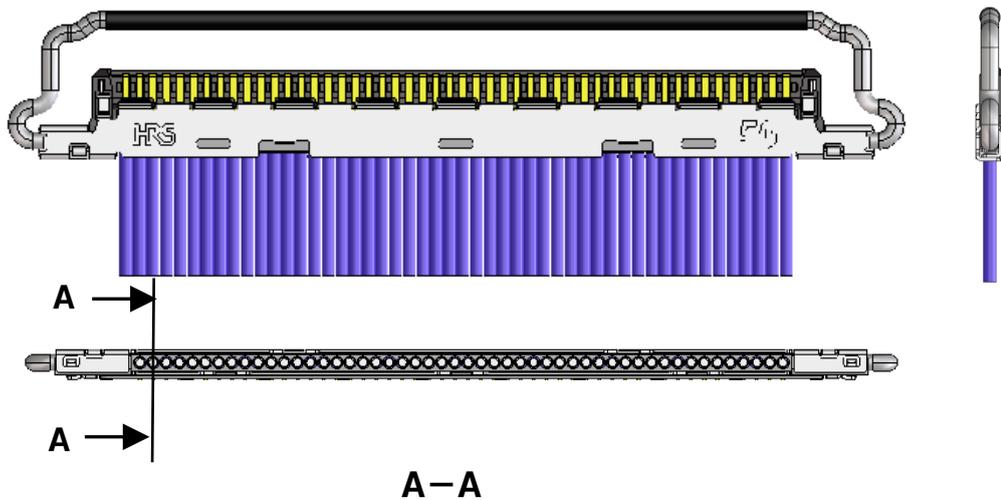
Item	Description
DF81※-*P-0.4SD	Connector unit
DF81※-*P-LCH	Latch
DF81※-*P-SHL	Shell

※: Classification
* : Pin counts

3. Required Components

The connector (DF81 series) consists of a connector unit, a Latch, and a shell.
The assembly process is as follows;

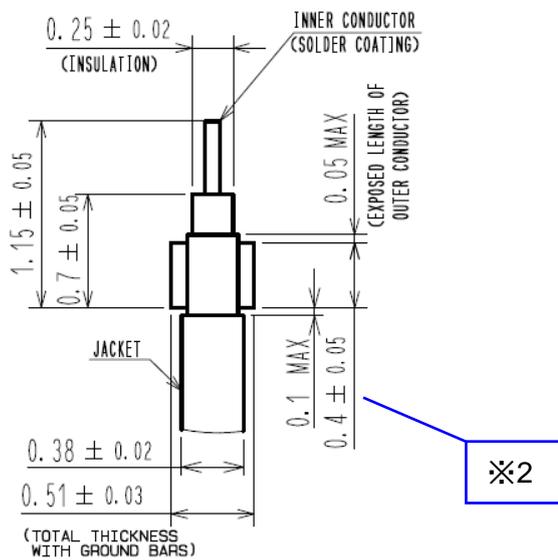
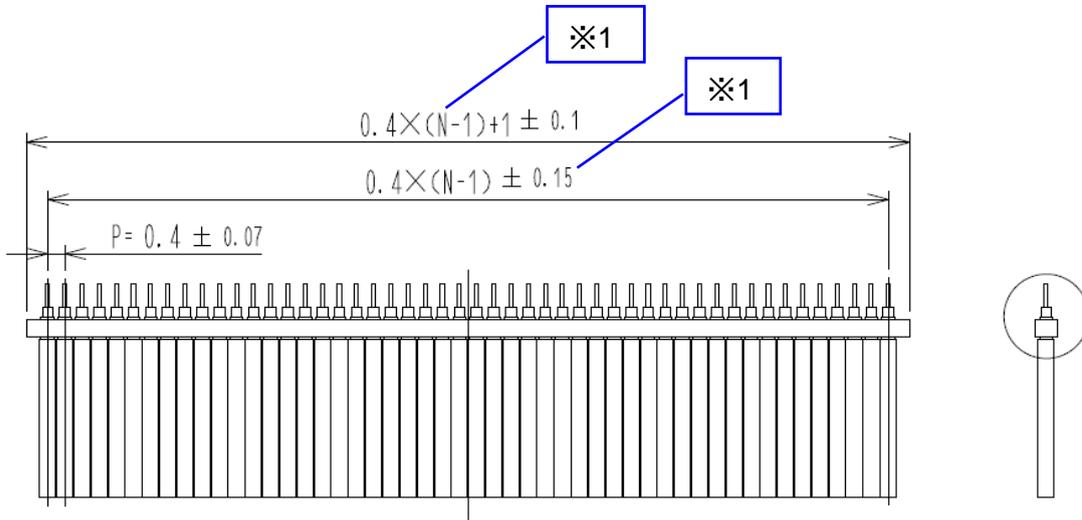
- Solder the center conductor of micro coaxial cables to the connector unit
- Assemble the Latch and the shell to the connector unit



COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE			
△	DIS-D-00017301 (B)	RO. YOKOYAMA	TS. KANEKO	20231116			
名称 TITLE		HIROSE ELECTRIC CO., LTD.					
DF81 Series Assembly Manual							
					APPROVED	TS. SAKATA	20121108
					CHECKED	HS. OZAWA	20121108
		DESIGNED	AH. MIYAZAKI	20121108			
		WRITTEN	AH. MIYAZAKI	20121108			
技術指定書 TECHNICAL SPECIFICATION		ETAD-H0688		△ 1 / 11			

4. Applicable Cable

Cable preparation as shown below is required prior to the cable assembly:
 (Figure below shows an example of alignment before cut.)



- **Note : ※1** N means pin counts.
- **Note : ※2** The dimension 0.4 ± 0.05 is the condition after bonding the ground bars.

5. Cable Assembly Procedure

An example of cable assembly process is shown below.

5-1. Cable Assembly Procedure

Procedure1: Soldering / Cable Placement



Procedure2: Soldering of the Center Conductor



Procedure3: Latch Assembly



Procedure4: Shell Assembly



Procedure5: Application of Solder Paste to The Shell



Procedure6: Soldering Shell and Connector Unit
(Pulse Heater Soldering)

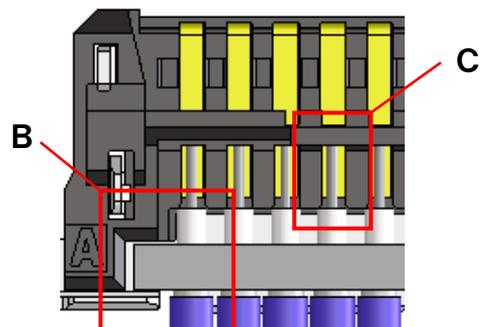
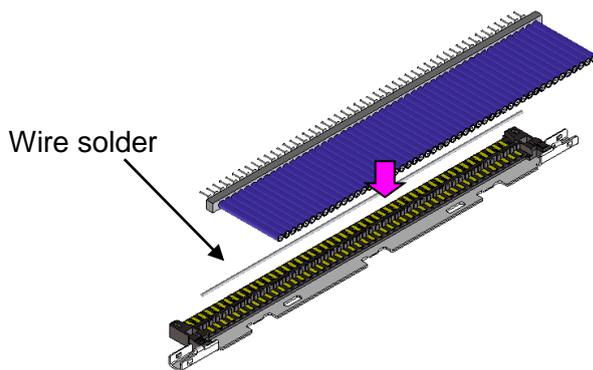
6: Soldering Shell and Connector Unit
(Manual Soldering)



Procedure7: Inspection

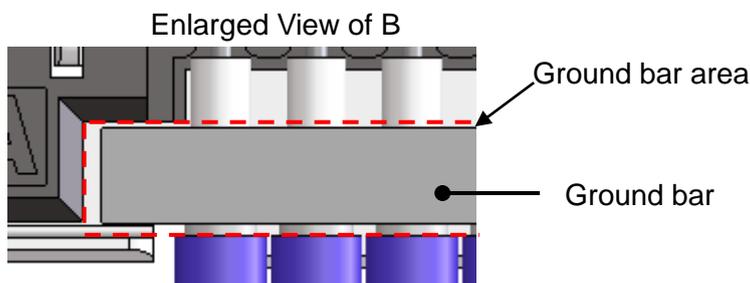
5-2. Procedure1: Soldering / Cable Placement

Place a wire solders and cables on the connector unit.



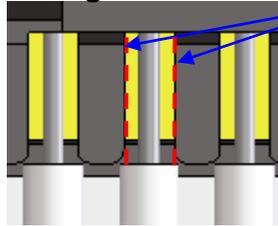
Recommended wire solder size : ϕ 0.1mm Length: $N \times 0.4$ mm (N=Pin counts)

● **Note : *3** Place a ground bar to be in the area shown below.



- **Note : * 4** Cable assembly with the center conductor extending from the contact width could cause short circuit by solder bridge and/or deterioration of withstanding voltage performance. Carry the withstanding voltage check and make sure that the result satisfies the performance specified by Hirose.

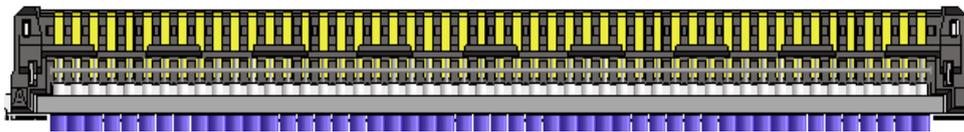
Enlarged View of C



Withstanding voltage failure could occur if the center conductor extends from these lines.

5-3. Procedure2: Soldering of the Center Conductor

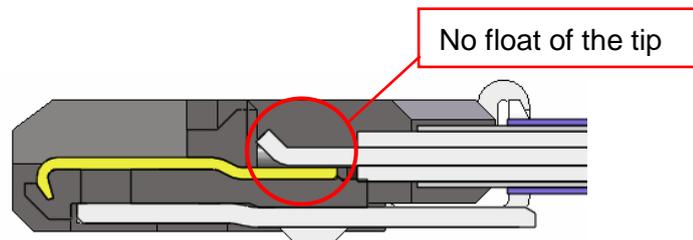
Solder all the center conductors at the same time with pulse heater.



- **Heat conditions for soldering**

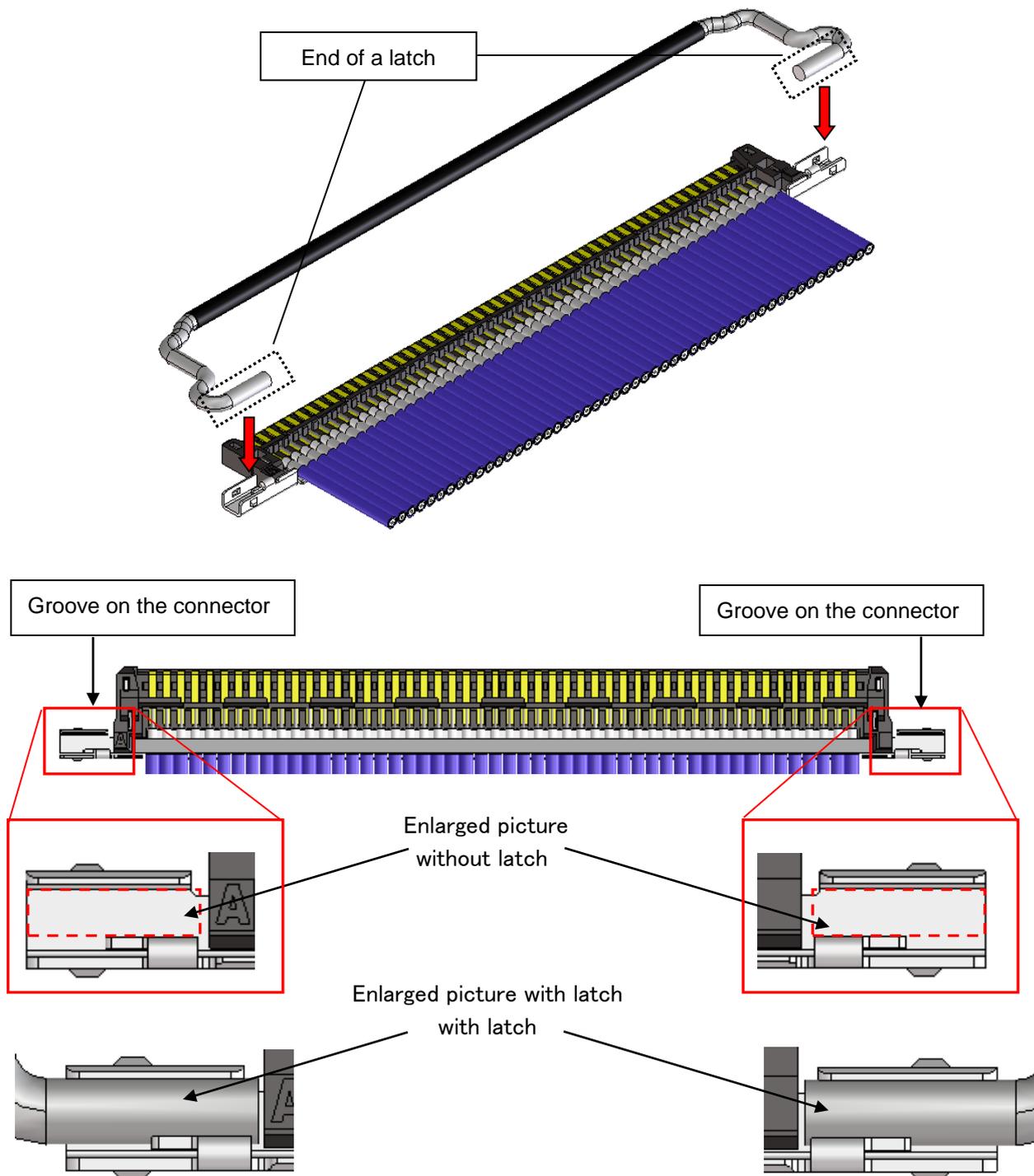
Method: Max 270 degree C up to 5 seconds / over 200 degree C up to 30 seconds
Requirement: No melting of the insulator

- **Note : * 5** Make sure that the tip of the center conductor will not float as described in the following figure in order to prevent the short circuit after the shell assembly.

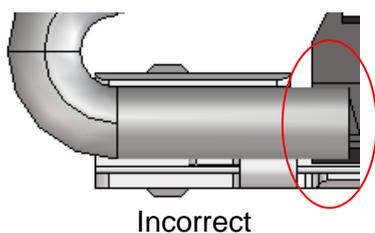


5-4. Procedure3: Latch Assembly

Assemble the latch on the connector unit - No tool is require.
Insert the both end of the latch into each groove of the connector unit.



● **Note : * 6** Do not assemble a latch of which arm distance is narrowed down, or it could damage the connector unit.



Incorrect

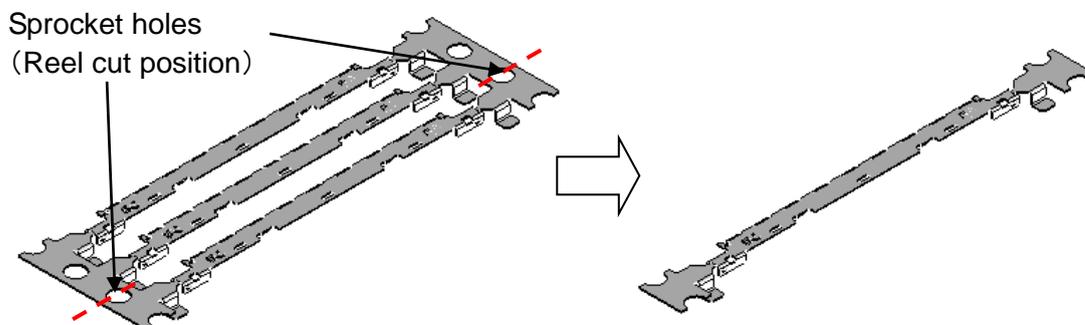
5-4. Procedure4: Shell Assembly

Assemble the shell on the connector unit - No tool is require

5-5-1. Cut the reel into pieces for easier management of carrier removal process.

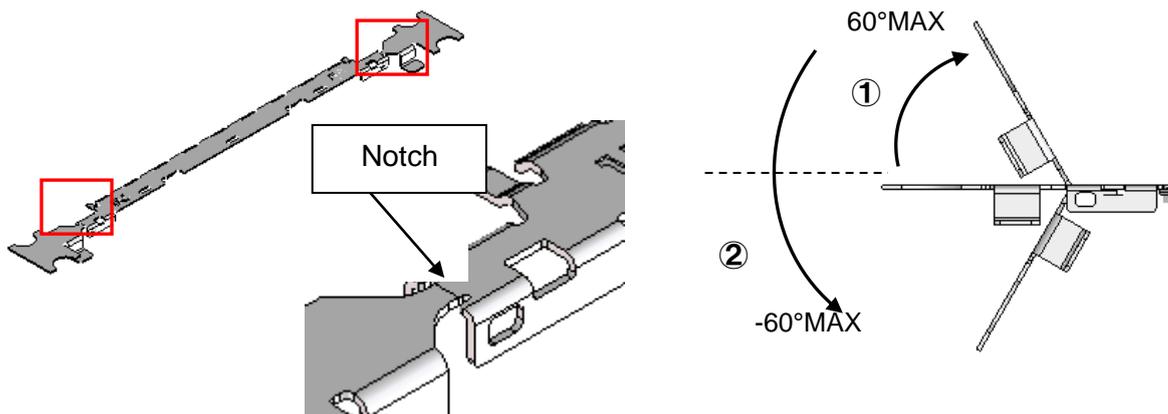
Single piece is the most recommended.

For the reel cut, use a nipper at sprocket holes.



5-5-2. Break the shell off from the carrier by bending up and down at the notches.

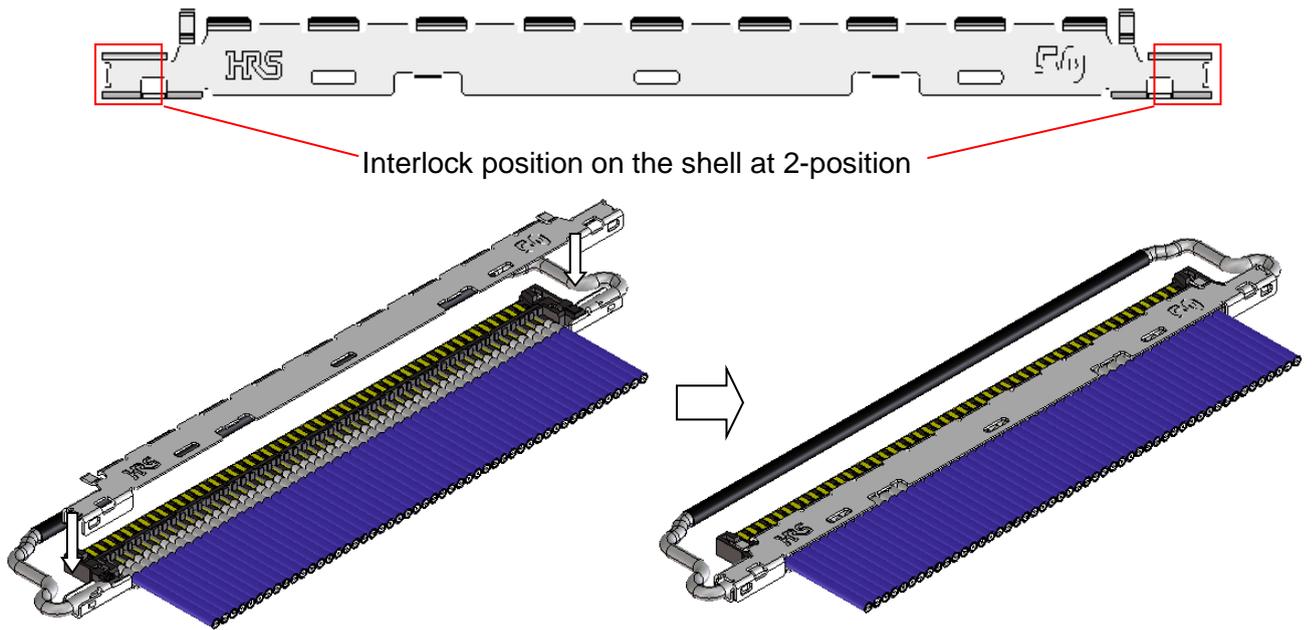
(0°⇒ 60°MAX ⇒ -60°MAX)



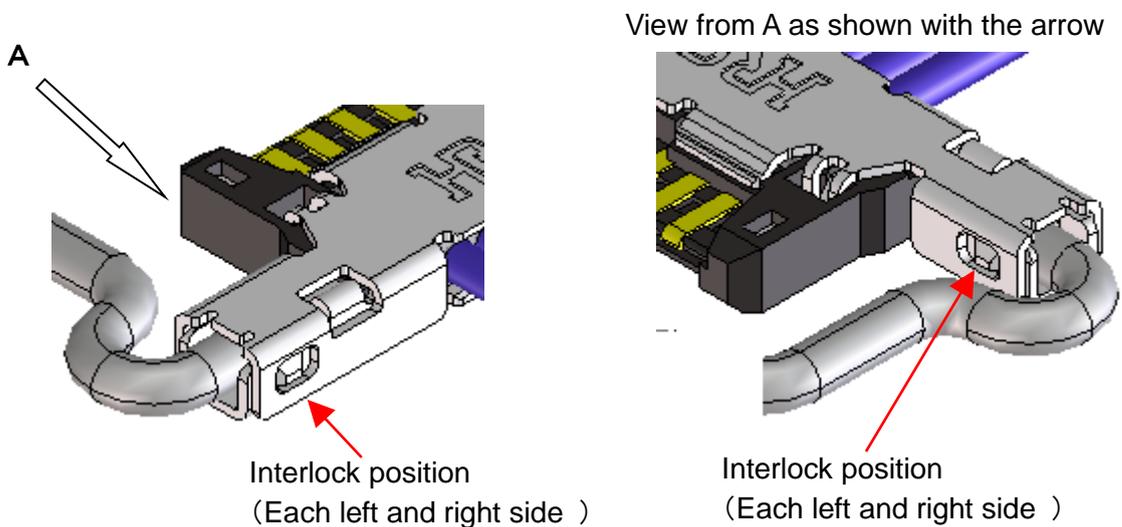
● **Note : * 7** Hold the shell as close as to the notch for the removal, in order not to deform the shell.

● **Note : * 8** Do not bend over 60°, as breaking the notches of the shell by bending over 60° could generate burr at the broken edge. In addition, if breaking the shell by bending over 60°, please confirm there is no burr.

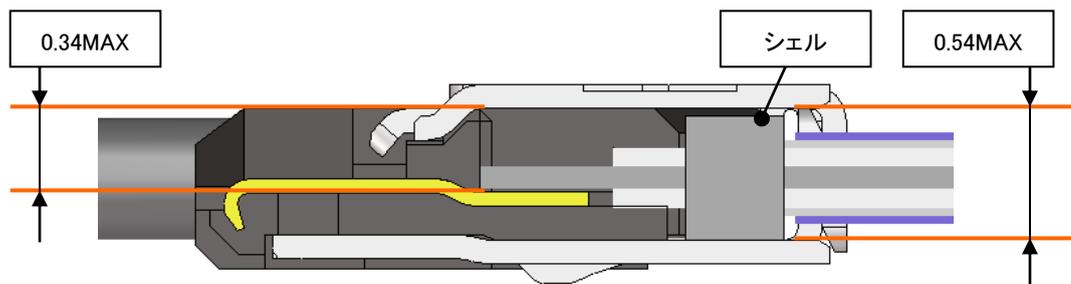
5-5-3. Assemble the shell on the connector unit - No tool is require.



●Note : *9 Make sure that the connector unit and the shell are assembled properly as below pictures.



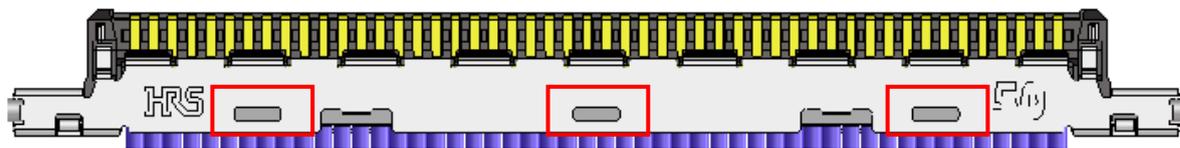
●Note : *10 Maximum total thickness of enclosed materials is as shown below. Thickness exceeding the range does not allow the shell to be completely fit into the connector.



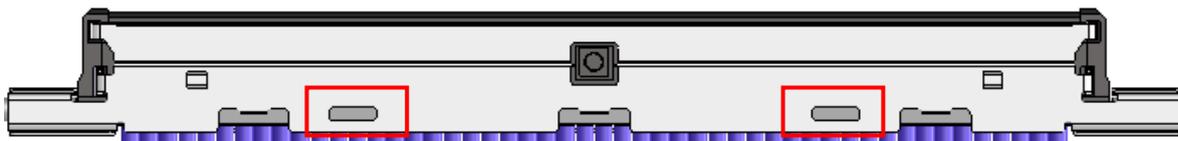
5-6. Procedure5: Application of Solder Paste to The Shell

Coat the opening of the shell with solder paste.

Connector top surface : 3 positions (for 50 pos. connector)



Connector bottom surface : 2 positions (for 50 pos. connector)



5-7. Procedure 6: Soldering Shell and Connector Unit (Pulse Heater Soldering)

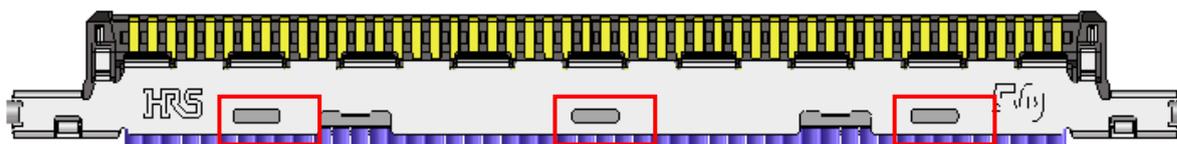
Solder the metal portions of the shell and the connector unit.

It is recommended solder the connector bottom surface at 2 positions first , and then top surface at 3 positions.

Connector bottom surface : 2 positions (50 pos.)



Connector top surface : 3 positions (50 pos.)

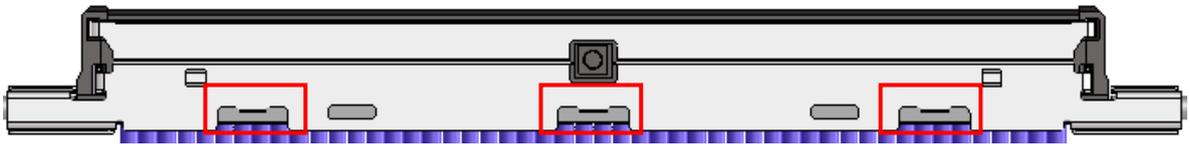


5-8. Procedure 6: Soldering Shell and Connector Unit (Manual Soldering)

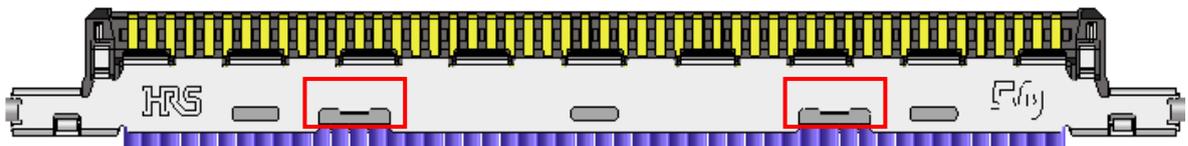
Solder the metal portions of the shell and the connector unit.

It is recommended to solder the connector bottom surface at 3 positions first, and then top surface at 2 positions.

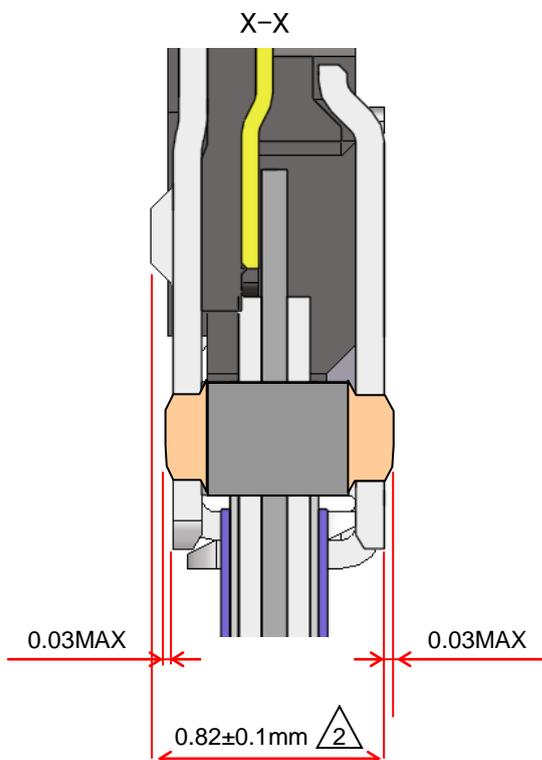
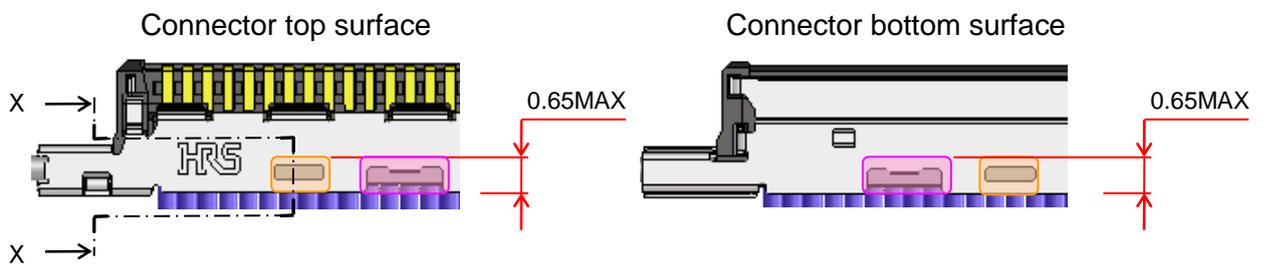
Connector bottom surface : 3 positions (50 pos.)



Connector top surface : 2 positions (50 pos.)

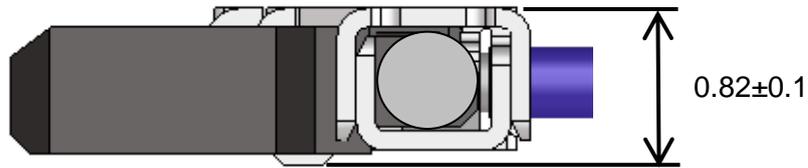


● **Note : *11** Control soldering within the range of below dimension at part of shell and connector unit.



5-9. Procedure7: Finished Dimension

Finished dimension is shown below.



5-10. Procedure7: Inspection

Check the continuity and the voltage proof to verify that the product satisfies the performance as specified in our specification sheet.

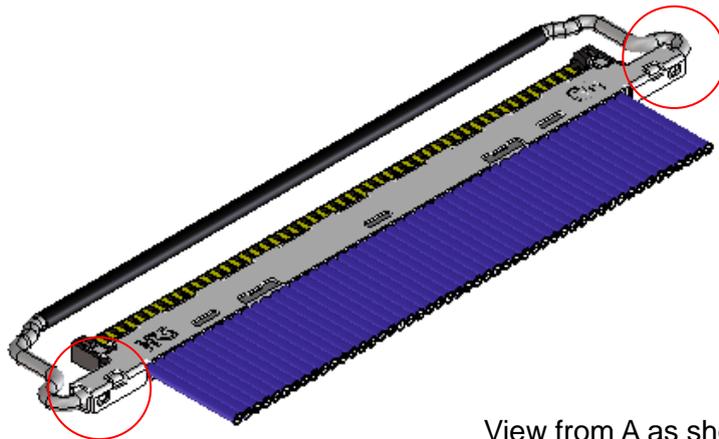
■ SPECIFICATION SHEET ELECTRIC CHARACTERISTICS

INSULATION RESISTANCE	50MΩ MIN
VOLTAGE PROOF	NO FLASHOVER OR BREAKDOWN UNDER AC300 V, FOR 1 MINUTE.

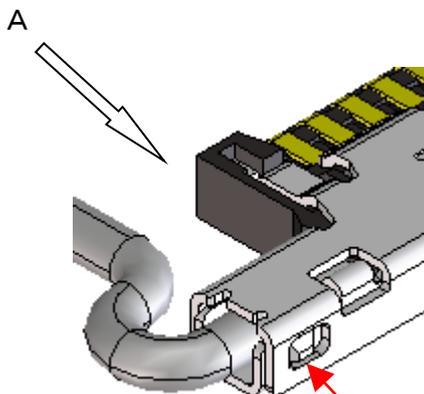
5-11. Supplementary notes

5-11-1. Increasing Robustness by Soldering shell

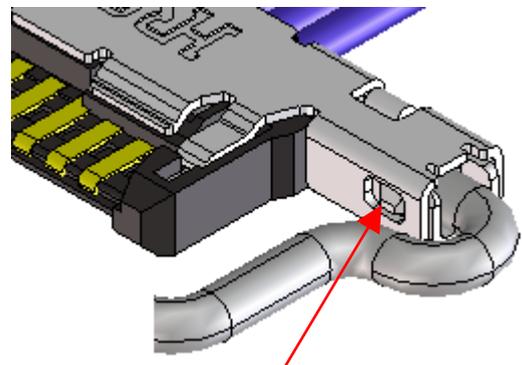
Below indicated positions are provided for soldering between the shell and the shell on the connector unit when soldering is specified by the customer.



View from A as shown with the arrow



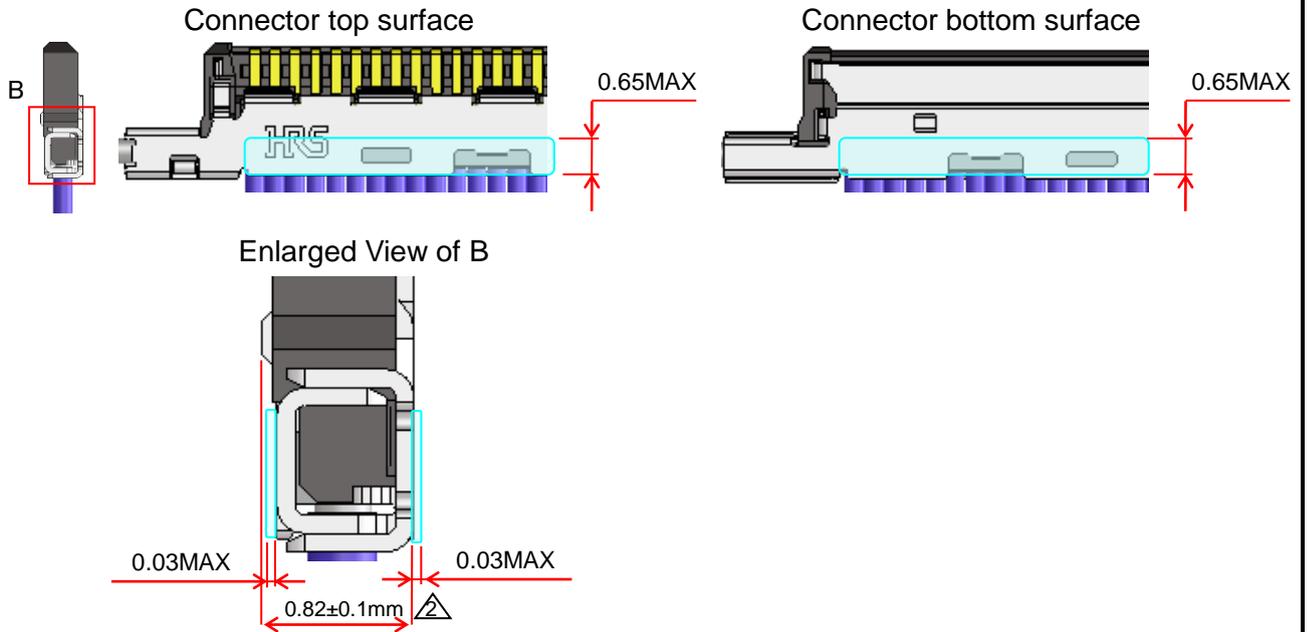
Soldering position each Left and right



Soldering position each Left and right

5-11-2. Potting (adhesives application)

No problem in case adhesives put on shell and connector unit within the below range. Please note that in case over the shown range at connector bottom surface, there is possibility that adhesives interfere shell of receptacle side.



5-11-3. Insulation of Soldering Area

In case of maintaining insulation between termination area and the shell by applying resin sealing and/or kapton tape, keep the area as shown below. Exceeding the area could cause floating of the shell. Control the connector thickness as shown in the cut section as well.

