



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



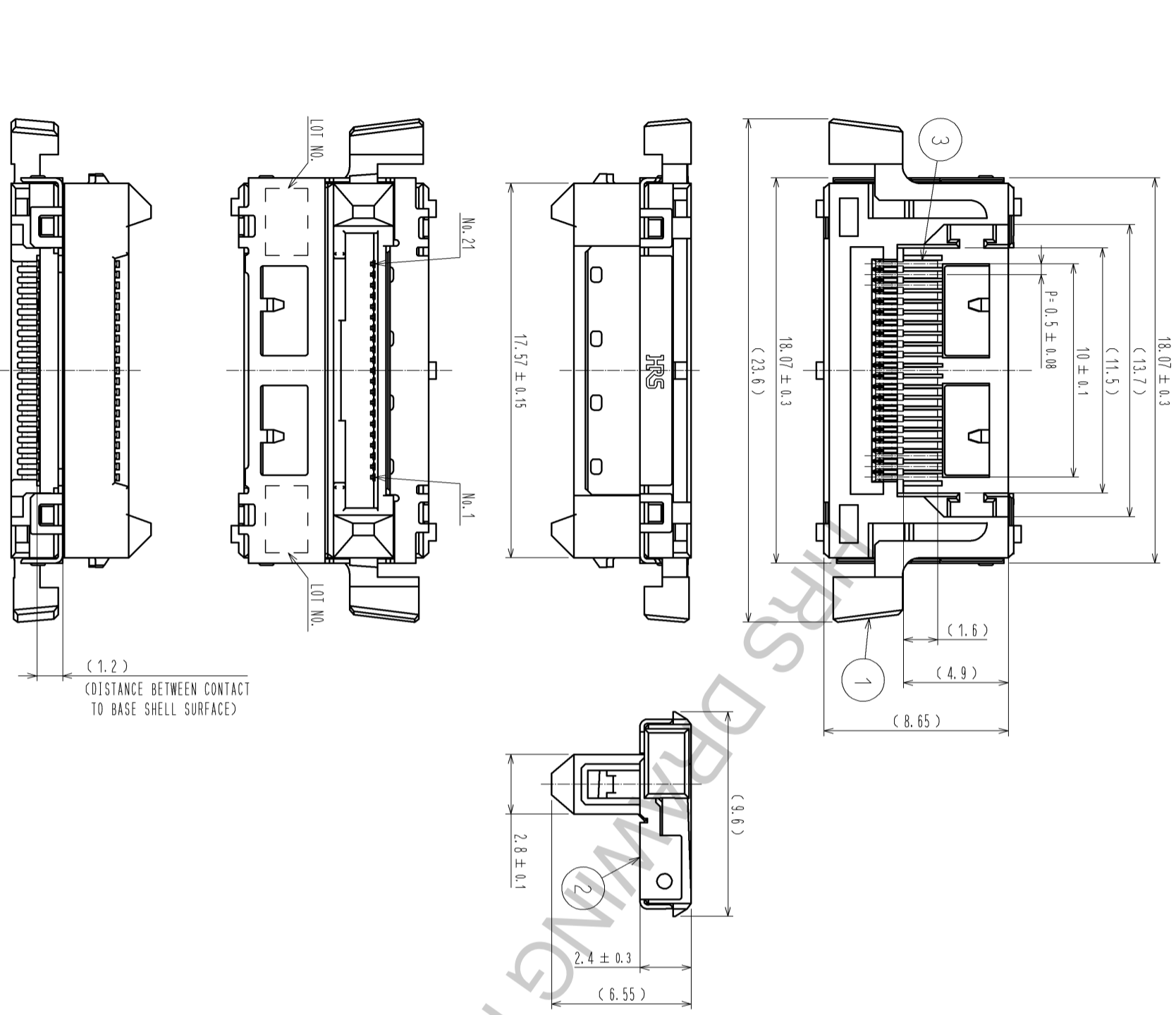
## Contact us

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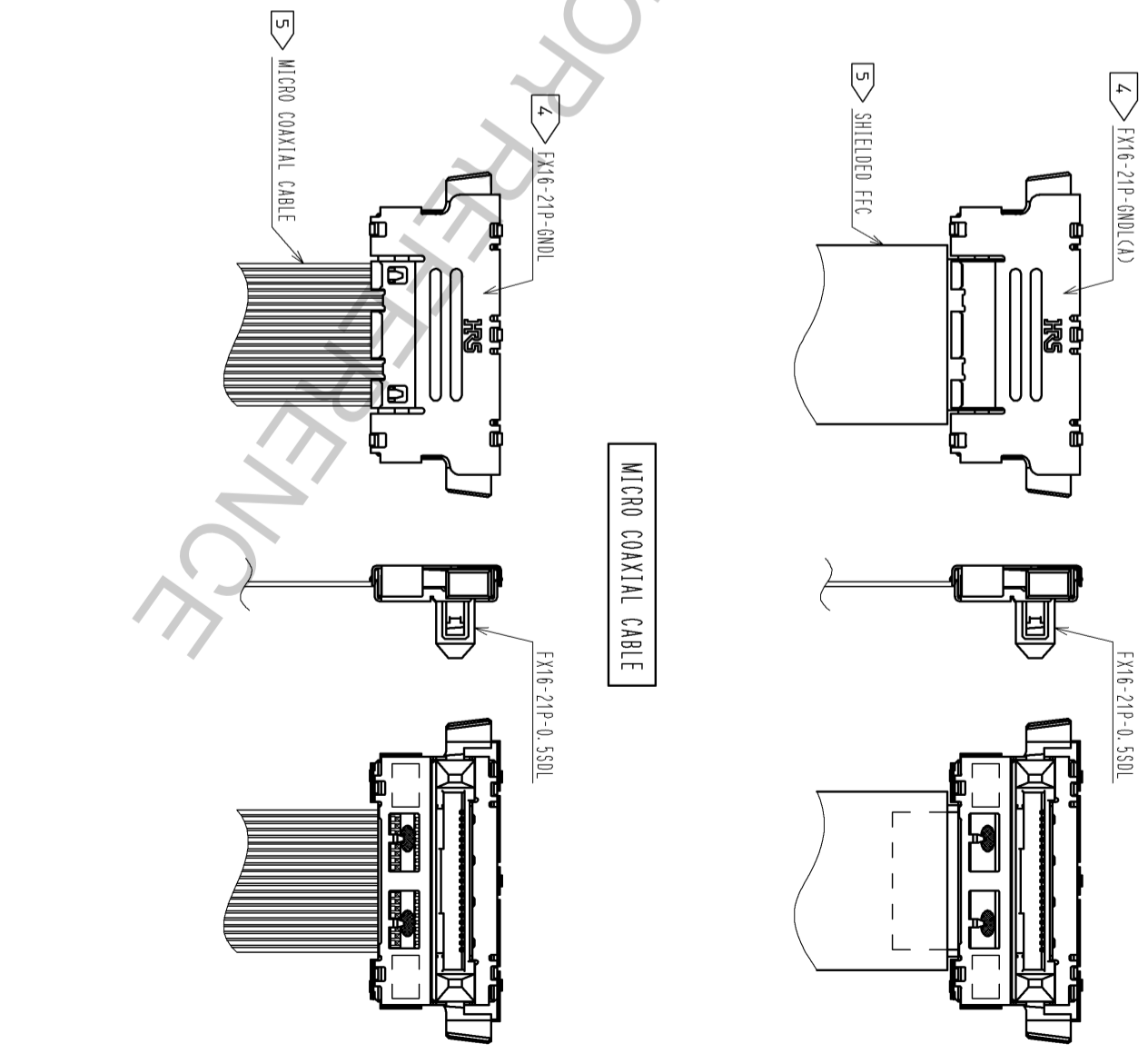
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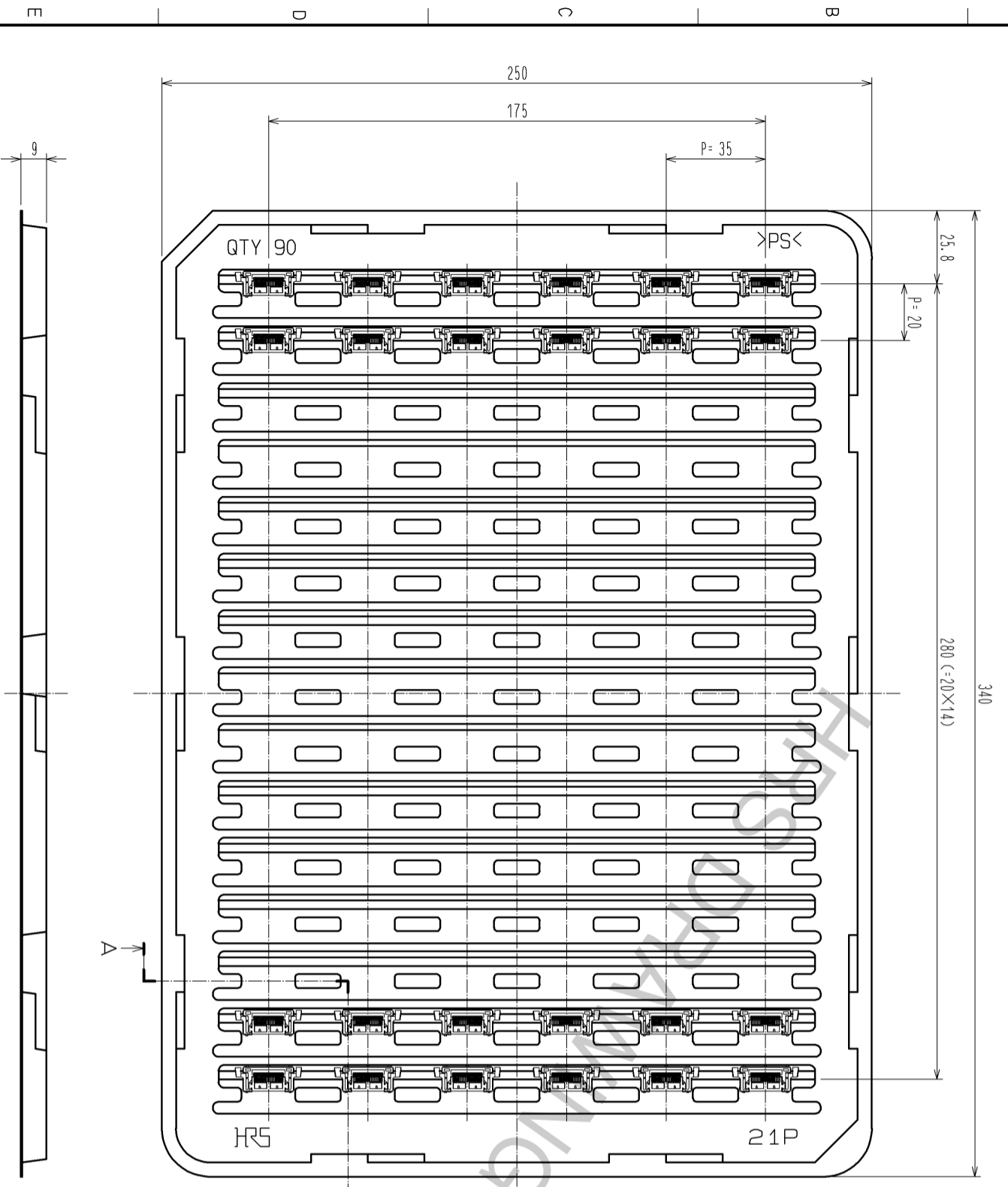
APPLICATION DIAGRAM (2:1)



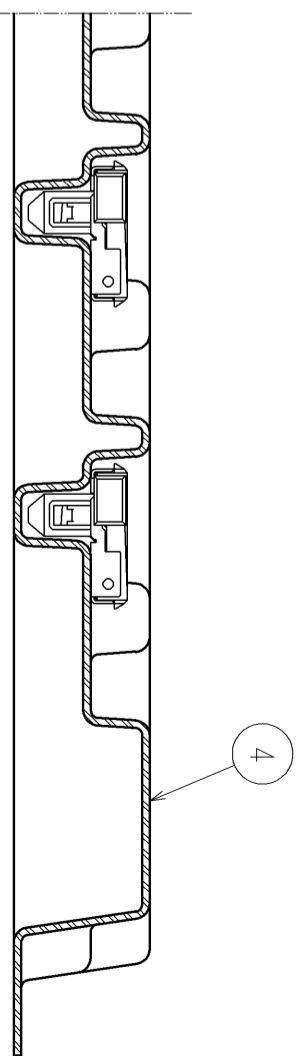
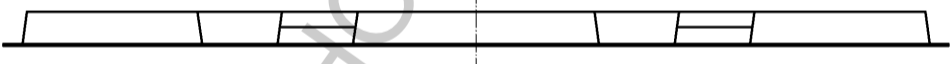
NOTE 1 ( ) INDICATES A REFERENCE DIMENSION.  
 2 MANUFACTURING PROCESS COULD LEAVE SCRATCH AND/OR PUNCH MARKS HAVING NO AFFECT ON THE PRODUCT PERFORMANCE.  
 AND THE DARK SPOTS MIGHT OCCASIONALLY OCCUR ON MOLDED PLASTIC.  
 3 THE CONNECTORS ARE DELIVERED IN TRAY PACKAGING.  
 4 COVER SHELL IS SEPARATELY AVAILABLE.  
 5 THE ACCEPTABLE CABLE OF THE CONNECTOR IS SHIELDED FCC OR MICRO COAXIAL CABLE:36-40AWG.  
 CABLE PREPARATION IS REQUIRED PRIOR TO CABLE ASSEMBLY. REFER TO PAGE 3 FOR THE RECOMMENDED CABLE PROCESS DIMENSIONS.  
 6 REFER TO PAGE 4 FOR THE CABLE ASSEMBLY PROCEDURES AND PRECAUTIONS FOR HANDLING.

4	PS	(TRAY)	CONTACT AREA: GOLD 0.1 $\mu$ m min
2	STAINLESS	NICKEL 0.3 $\mu$ m min	TERMINAL AREA: TIN-PLATING 2 $\mu$ m min
1	PA	BEIGE UL94V-0	UNDER PLATING: NICKEL 1 $\mu$ m min
NO.	MATERIAL	FINISH . REMARKS	NO. MATERIAL
UNITS	SCALE	COUNT	DESCRIPTION OF REVISIONS
mm	4 : 1		DESIGNED
		APPROVED : HS. OKAWA CHECKED : HT. YAMAGUCHI DESIGNED : KN. SHIBUYA DRAWN : YJ. ASAO	DRAWING NO. PART NO. CODE NO.
		10.11.26 10.11.26 10.11.25	EDC3-158269-01 FX16-21P-0.5S0L CL575-3321-4-00

DRAWING FOR PACKING (1:2)



NOTE 1 ONE TRAY CONTAINS 90 CONNECTORS.  
2 THE DIMENSIONS ARE REFERENCE.



FORMS DRAWING FOR REFERENCE

FORM HC0011-5-8

2

3

4

5

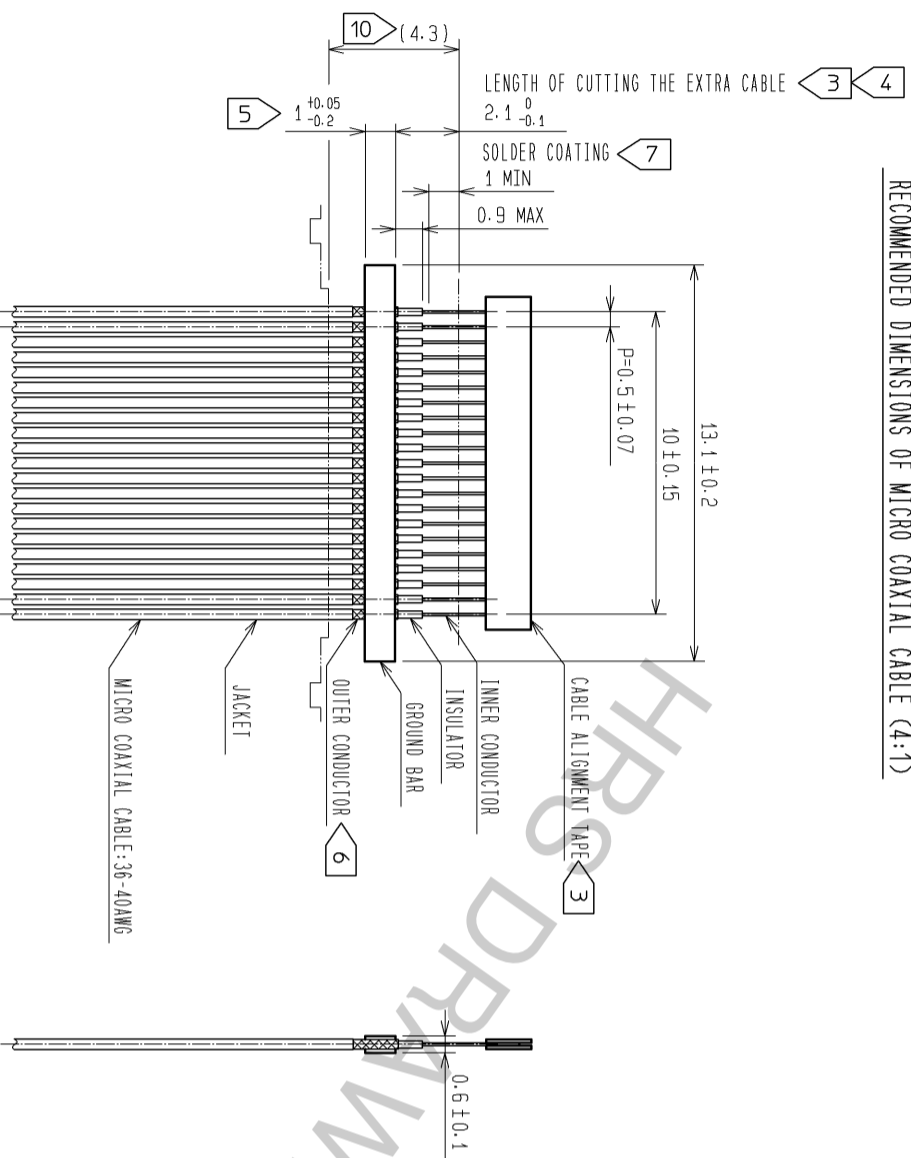
6

7

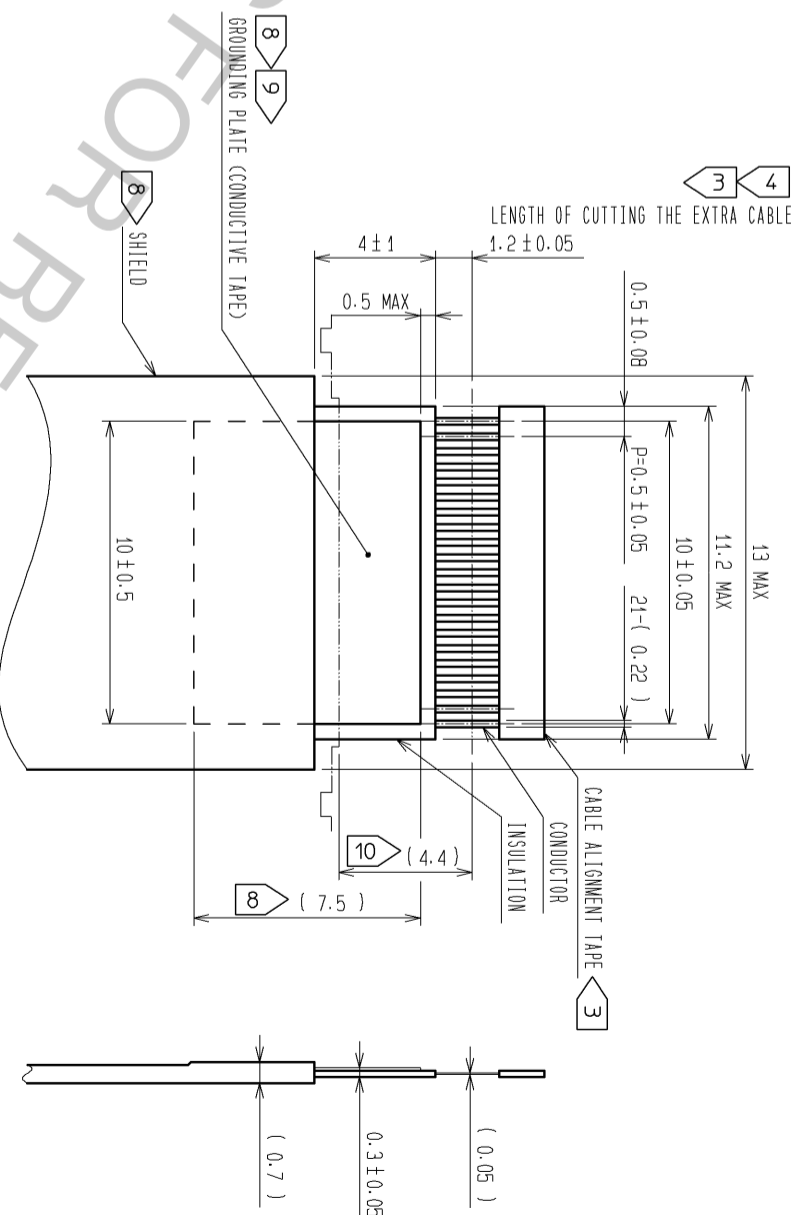
8

<b>HR5</b>	
DRAWING NO.	EDC3-158269-01
PART NO.	FX16-21P-0.5SDL
CODE NO.	CL575-3321-4-00
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RECOMMENDED DIMENSIONS OF MICRO COAXIAL CABLE (4:1)



RECOMMENDED DIMENSIONS OF FFC (BOTH SIDES SHIELDED CABLE) (4:1)



NOTE 1 ( ) INDICATES A REFERENCE DIMENSION.

- 2 SOLDERING TO THE CONNECTOR AT ONCE BY USING PULSE HEAT IS RECOMMENDED.
- 3 TO PREVENT CONDUCTOR DEFORMATION, CUT THE CABLE ALIGNMENT TAPE AT THE SPECIFIED POSITION JUST BEFORE THE CABLE ASSEMBLY.
- 4 MINIMAL LENGTH 2.0 mm IS A RECOMMENDED DIMENSION AND ALLOWED TO BE CHANGED IF NECESSARY, AS LONG AS ENSURING GOOD SOLDERABILITY.
- 5 WIDTH OF GROUND BAR SHALL BE 1.05 mm MAX. INCLUDING MISALIGNMENT OF OVERLAPPING. FLUSH BY CUTTING. SIDE DROP OR SOLDERING.
- 6 USING AN INADEQUATE CABLE WILL INTERFERE THE ASSEMBLY TO THE CONNECTOR. FORCEFUL ASSEMBLY AND SOLDERING COULD CAUSE MIS-SOLDERING TO DEFECTIVE PRODUCT.
- 7 MINIMIZE THE LENGTH OF OUTER CONDUCTOR BEYOND THE GROUND BAR. PRE-SOLDER AND COAT THE INNER CONDUCTOR AT THE CABLE END.

- 8 OVERLAP FFC SHIELD AND GROUNDING PLATE, SO THAT THEY ARE ELECTRICALLY CONNECTED. OVERLAP DIMENSION IS OPTIONAL.
- 9 USE SOLDERABLE CONDUCTIVE TAPE FOR THE GROUNDING PLATE (RECOMMENDATION: TIN PLATED COPPER TAPE).
- 10 SHOWS THE CABLE ASSEMBLY POSITION AND THE CABLE LENGTH FITTING INTO THE CONNECTOR WHEN THE CABLE IS CUT AT THE RECOMMENDED CUTTING POSITION OF EXTRA CABLE LENGTH.

**Cautions for soldering**

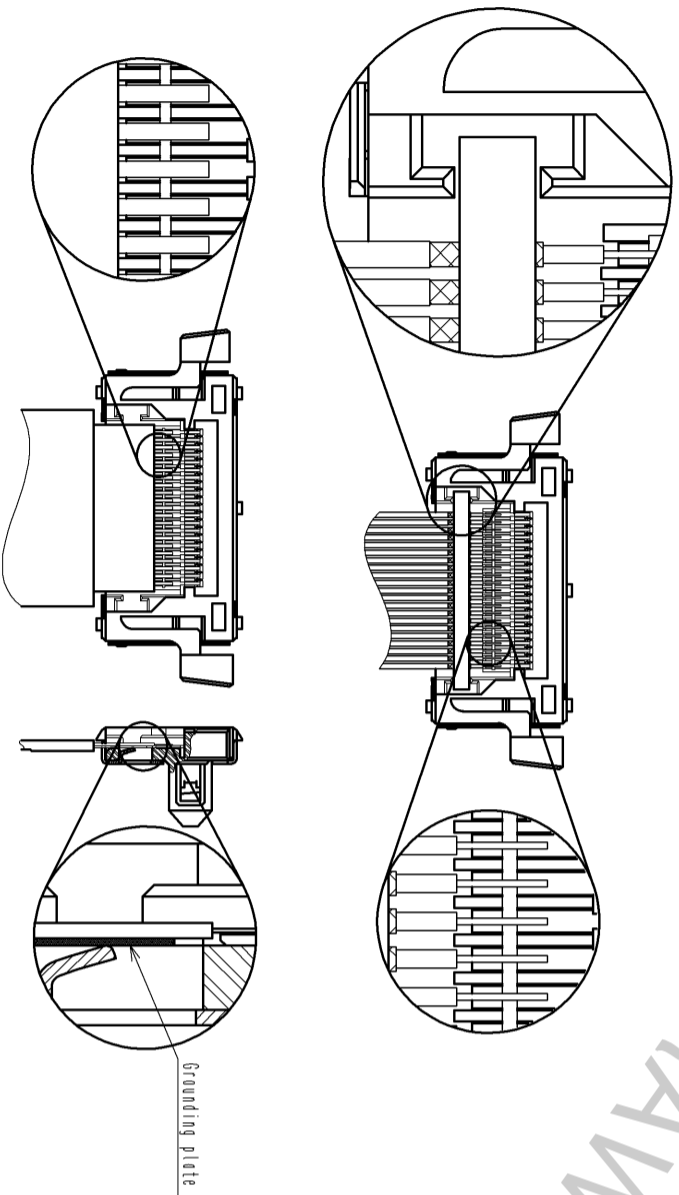
**1. Recommended solder**

Flux cored solder (Lead-free: Sn-3Ag-0.5Cu)  
 Micro coaxial cable . . . 0.15 mm dia. Length 10.5 mm  
 FFC . . . 0.1 mm dia. Length 10.5 mm

If you consider using additional flux, please pay enough attention not to have flux wicking to the contact area.  
 Flux wicking to the contact area will cause contact failure.

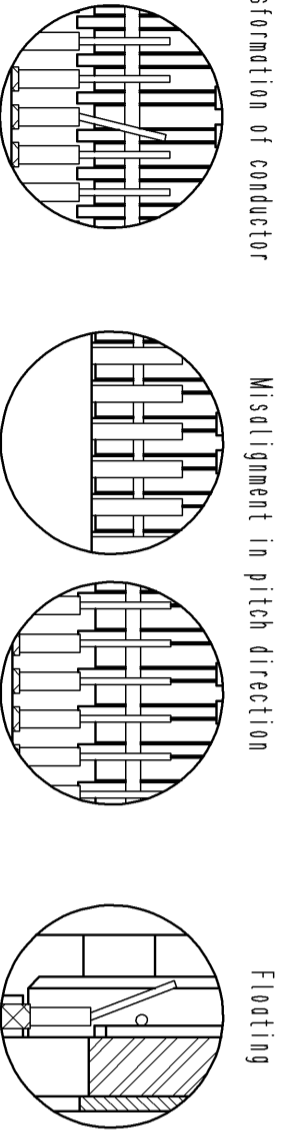
**2. Setting the cable**

Set the conductors as each conductor is placed at the center of the contact.  
 In case of micro coaxial cable, set it as the metal bar fits in the guide on the connector.  
 In case of FFC, set it as the grounding plate side faces to the connector.



**3. Place the cable to the connector and check the below points before soldering by pulse heat.**

- Transformation of conductor
  - Misalignment of conductor to the terminals in pitch direction
  - Excessive floating of conductor
- The above could cause soldering failure and/or solder bridge.

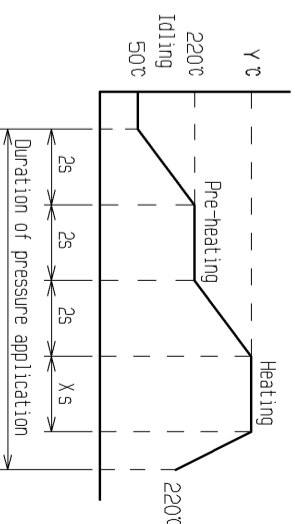


**4. Follow the recommended temperature profile shown below for the soldering.**

The optimum condition could vary depending on various factors including type of cable and its length, solder type. Therefore refer to the recommended temperature profile and optimize the condition if necessary.

Solder tip pressurization	13 ~ 17 N
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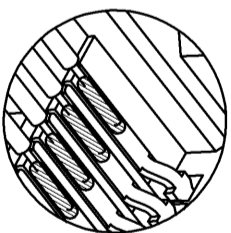
heating	Micro coaxial cable	FFC
Temperature (°C)	275 ± 5 °C	265 ± 5 °C
Duration (X)	2 ± 0.5 sec	2.5 ± 0.5 sec



**5. After soldering, check that no defect is found at soldered area.**

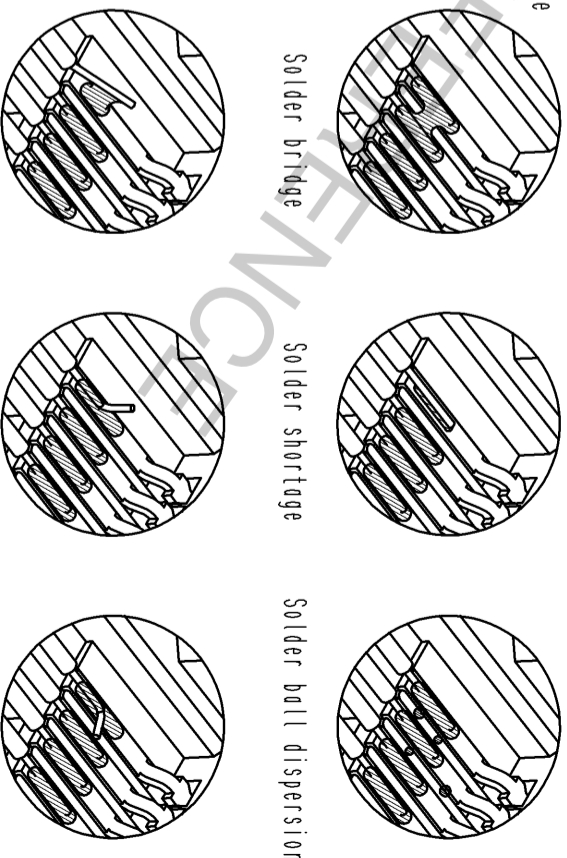
Examples of correct soldered and defective soldered state are shown below.

Correct soldering



Conductors are placed at the center of the contact, and whole area is equally wetted.

Defective soldered state



\*Note: The figures shown in this page are solely for the instruction purpose. Therefore, the appearance could differ from the actual connectors. Refer to the drawing for the actual design (sheet 1).

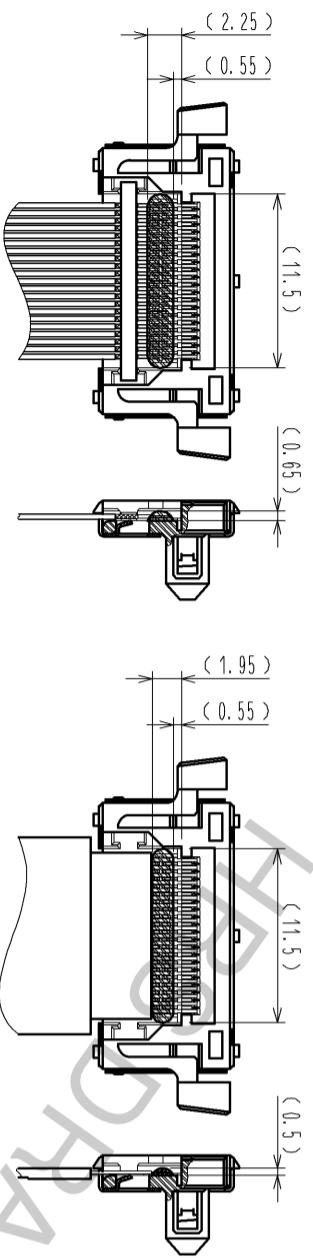
Floating

Conductor sticking out

The conductor approaches to the adjacent contact

**Cautions for potting process**

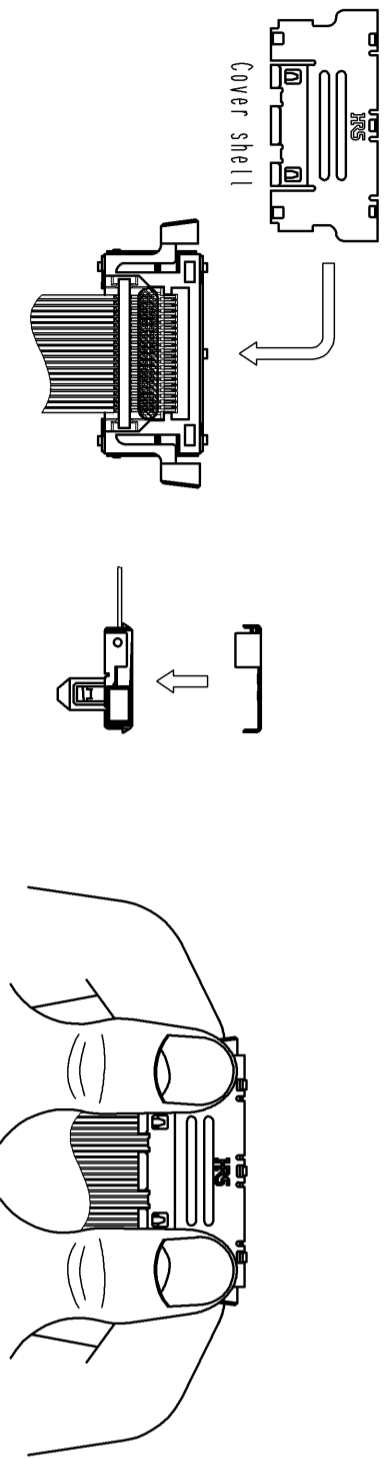
1. Protect the soldered area by UV cured resin or any equivalent (referred to as 'potting' hereafter). In order to prevent insulating failure caused by metal adhering, cable breakage during cabling and other troubles.
2. Apply 3033 manufactured by THREEBOND CO., LTD. or any equivalent product for potting. Follow the instruction of potting manufacturer's for the condition of UV exposure.
3. Refer to the following conditions for the potting area.



4. Use extreme care for the handling after soldering to the end of potting process not to apply stress to the cable, otherwise, cable could be broken. Exercise extreme caution during the process so that no resin flows or adheres to the contact area.

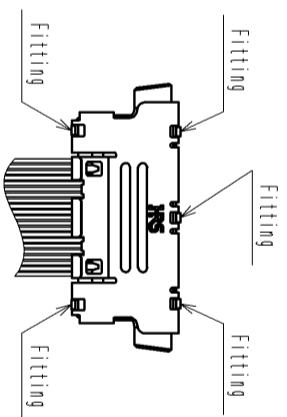
**Cautions for cover shell assembly**

1. Attach a cover shell separately provided after the cable assembly process.  
For micro coaxial cable : FX16-21P-GNDL  
For FFC : FX16-21P-GNDL(A)
2. Place the cover shell onto the connector horizontally and pinch two components from top and bottom with fingers.

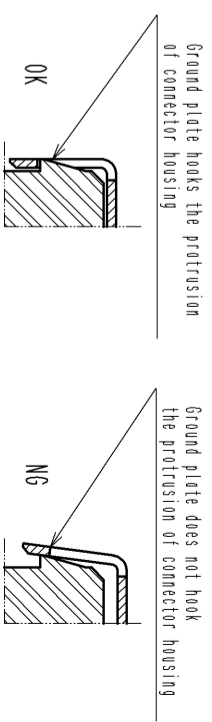


- ① Prepare the cover shell
- ② Horizontally from the top
- ③ Pinch with fingers

3. Check the five fitting points after assembly and make sure that they are all correctly fitted together.

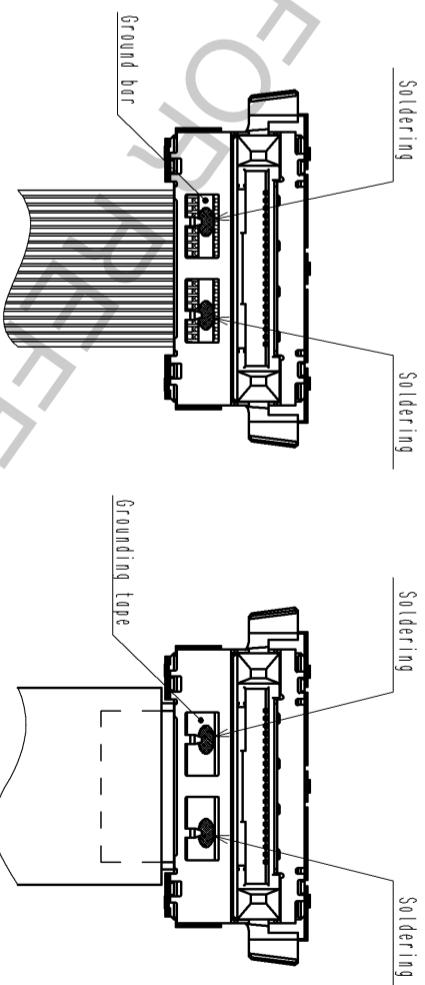


**How to check fitting points**  
(Cut section of fitting points)



**Soldering to ground plate**

1. Solder down the metal bar of the cable and ground plate after the assembly of ground plate in order to enhance the grounding performance and robustness against cable stroke to up and down direction.



2. Excess solder and/or excess heating could cause cable and connector deformation and/or melt.

Cable assembly process is completed.

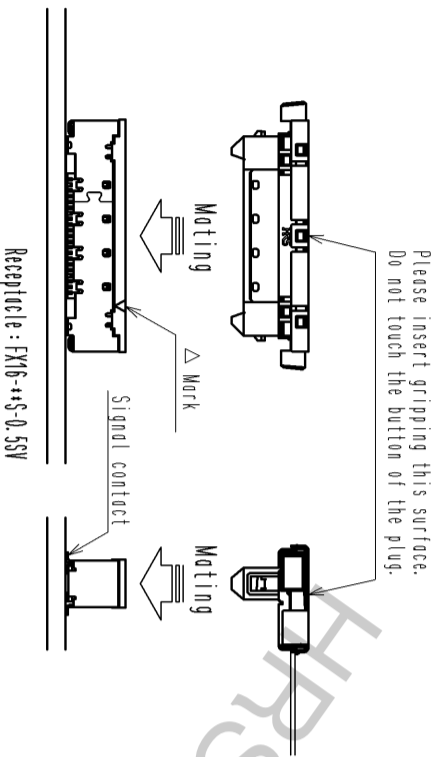
\*Note: The figures shown in this page are solely for the instruction purpose. Therefore, the appearance could differ from the actual connectors. Refer to the drawing for the actual design (Sheet 1).

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Handling instructions

1. Insertion to on-board connector

The connector mating is keyed. Align the marks as shown in the figure for mating. Insert the connector completely until they are locked at both ends.



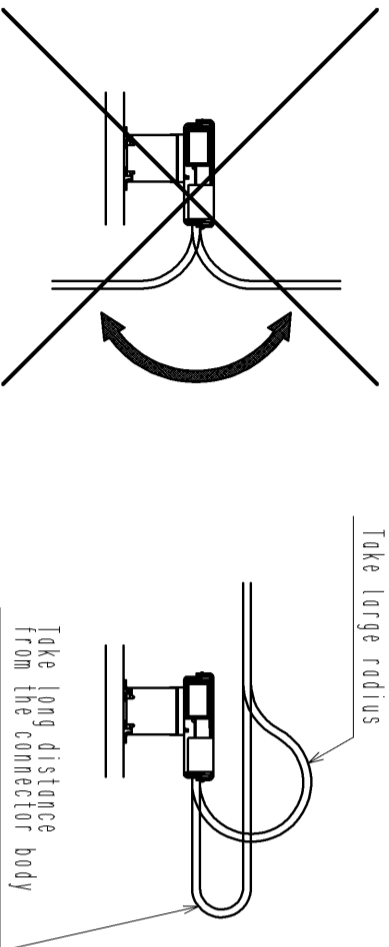
The connectors have a reverse-insertion prevention structure, however, the connectors may be damaged when inserted reversely with the force of 25 N or more. Avoid a forceful insertion, and make sure to confirm that the connectors are aligned with the marks before the mating operation.

2. After mating

Carefully wire cables, so that excessive force will not be applied to the mated connectors. Pulling the cable with the force of 20 N or more may damage the connectors. It may also cause cable breakage. Take a caution to avoid pulling the cables.

Repetitive cable strokes could also cause cable breakage as well. Do not use the connector under the environment of repetitive cable strokes.

Take enough bend radius and/or distance from the connector for the cable not to apply stress to the connector base when the application requires cable bend back.

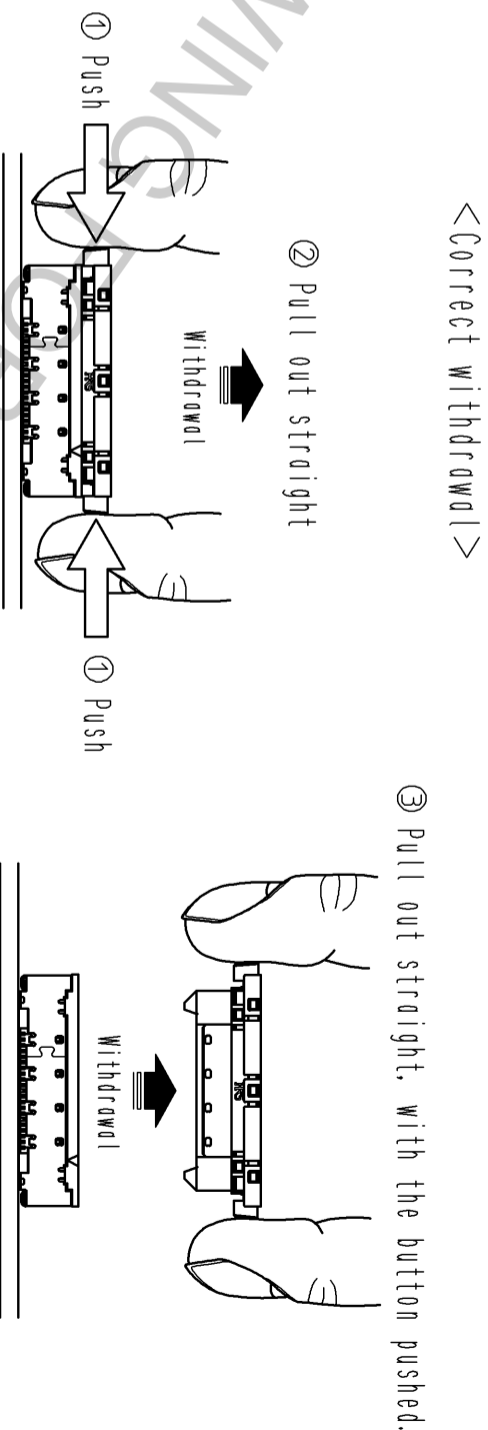


Repetitive cable strokes

Application of cable bend back

3. Withdrawal from on-board connector

The connectors are locked while they are mated. In order to unmate the connectors, pull out straight, with the button pushed to release the lock. At this time, do not pull the cable. Also, avoid the withdrawal in angle, which may damage the connectors.



<Correct withdrawal>

③ Pull out straight, with the button pushed.

<Incorrect withdrawal>

\*Note : The connectors shown in this page are drawn for the instruction purpose, therefore, the appearance differs from the actual connectors. Please confirm the connector configuration on the connector drawing (SHEET 1).

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