

Designing and Handling Guidline for CX60-24S-1000-CD/CS

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1. Revision History

Revision History	Date	Handled by	Remarks
1.0	Feburary. 04. 2020	SK.JANG	Draft version
2.0	September. 23. 2020	SK.JANG	Revised

2. Introduction

2.1 Purpose

This document defines the guidelines to design a product with CX60-24S-1000-CD and CX60-24S-1000-CS. And it is intended to provide reference information but do not limit the design of user and gurantee the result from the reference information herein.

2.2 Scope

This guideline is intended as a supplement to the existing the product specification.

2.3 Reference Specification

Universal Serial Bus Type-C Connectors and Cable Assemblies Compliance Document Revision 1.1 May 28, 2016

Universal Serial Bus Type-C Cable and Connector Specification Revision 1.3 July 14, 2016

3. Connector Information

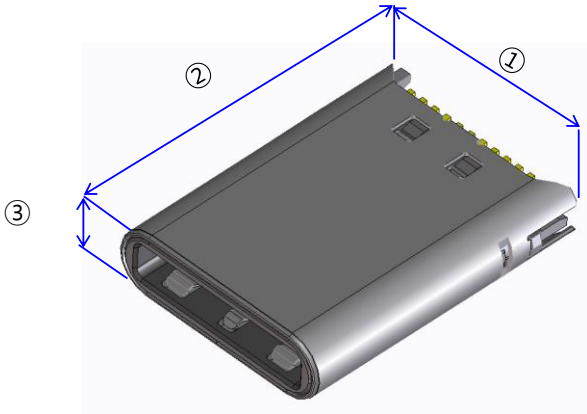
3.1 Connector Feature

No. of Contacts	24
P.C.B Mounting type	Paddle Card
Soldering type	SMT

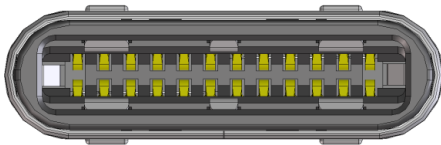
3.2 Specification

Current rating	DC 1.25 A max. for each power pin (i.e. A1, A4, A9, A12, B1, B4, B5, B9, B12) DC 0.25A for the other pins
Voltage rating	20V AC
Operating Temperature	-30°C to +85°C
Storage Condition	-10°C ~ +60°C (With Packing), 15% ~ 70% RH
Contact Resistance	40mΩ Max. (Initial)
Withstanding Voltage	100V AC for 1 minute
Insulation Resistance	100MΩ Min. (500V DC)
Mating Cycles	10,000 times
Insertion/ Extraction Force	Insertion: 5~20N, Extraction: 8~20N

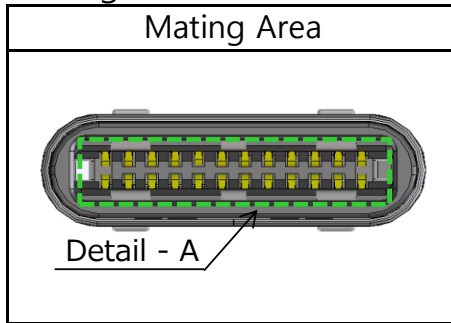
3.3 Size



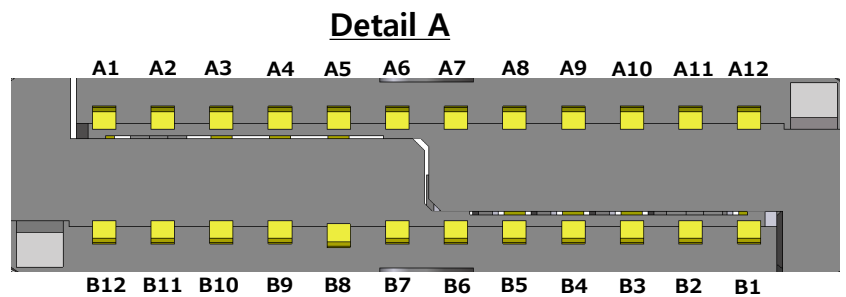
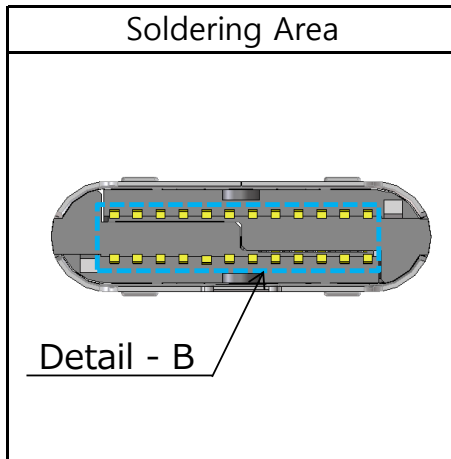
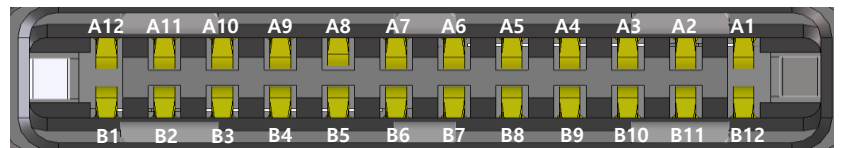
①	Width	8.25
②	Length	11.10
③	Height	2.40



3.4 Pin Assignment



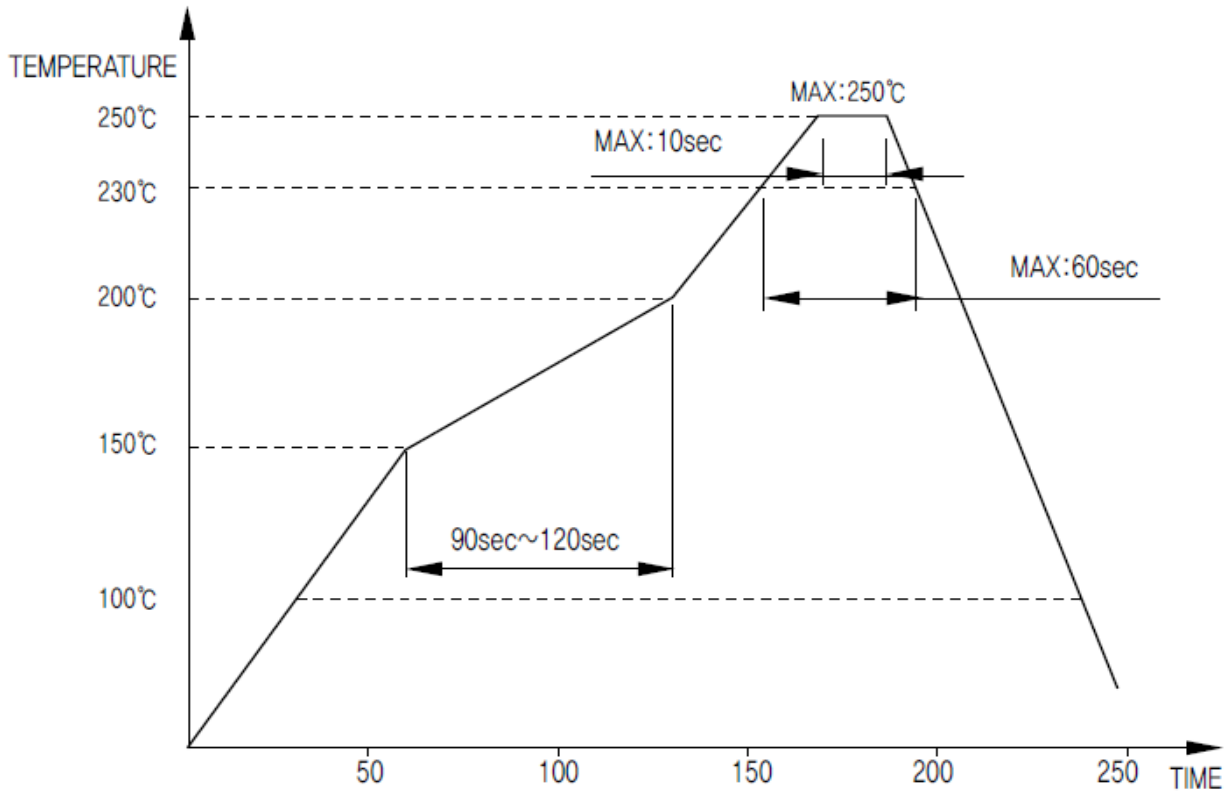
A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
GND	TX1+	TX1-	Vbus	CC1	D+	D-	SBU1	Vbus	RX2-	RX2+	GND
GND	RX1+	RX1-	Vbus	SBU2	D-	D+	CC2	Vbus	TX2-	TX2+	GND
B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1



Detail B

4. Notice for Soldering

4.1 Recommended Reflow Temperature Profile

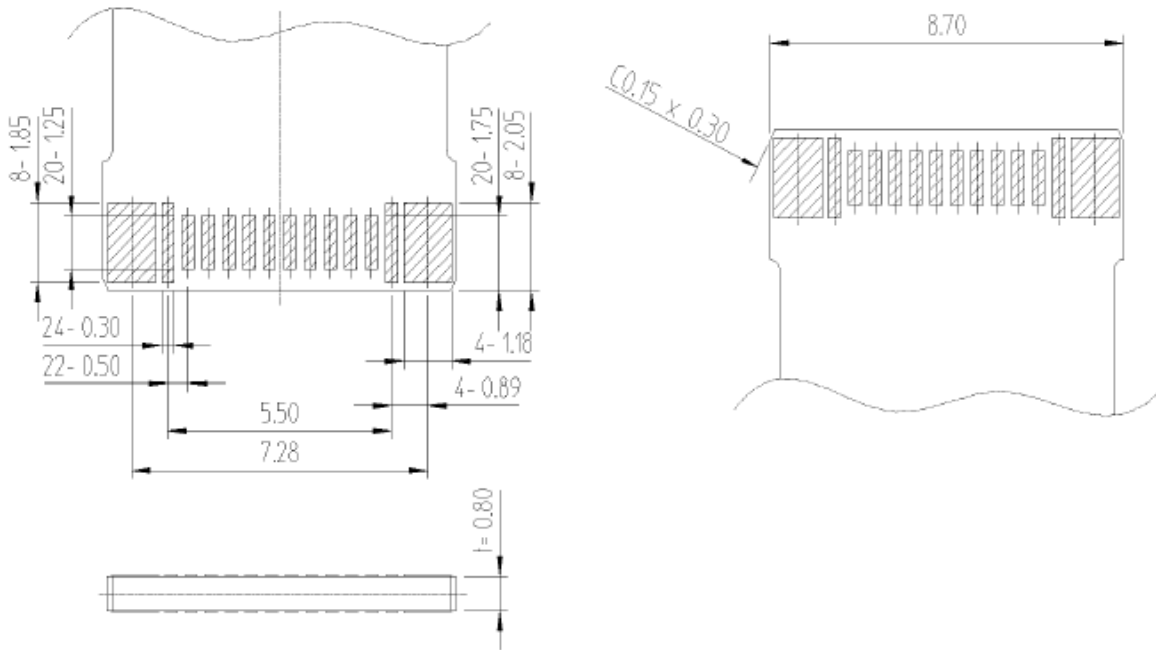


- Profile measuring point
The temperature profile indicates the board surface temperature at the point of contacts with the connector terminals.
- Reflow cycles
Up to 2 cycles of reflow soldering are possible under the same conditions.□
* Temperature between 1st and 2nd reflow must be cooled down to room temperature
- Reflow heating method and condition
Far-infrared heater and hot convective blowers used in combination, normal atmosphere, or nitrogen atmosphere..□
- Top surface of the contact leads may not covered by solder depending on reflow condition

4.2 PCB Designing

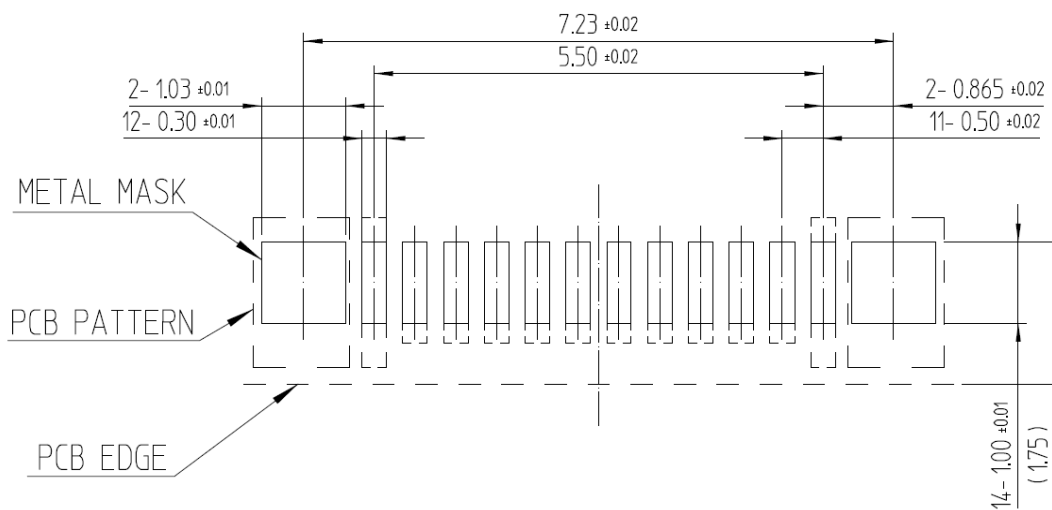
RECOMMENDED PCB LAYOUT

(General Tolerance : ± 0.05)



4.3 Metal Mask Designing

$t=0.10$ / Aperture Ratio 80%



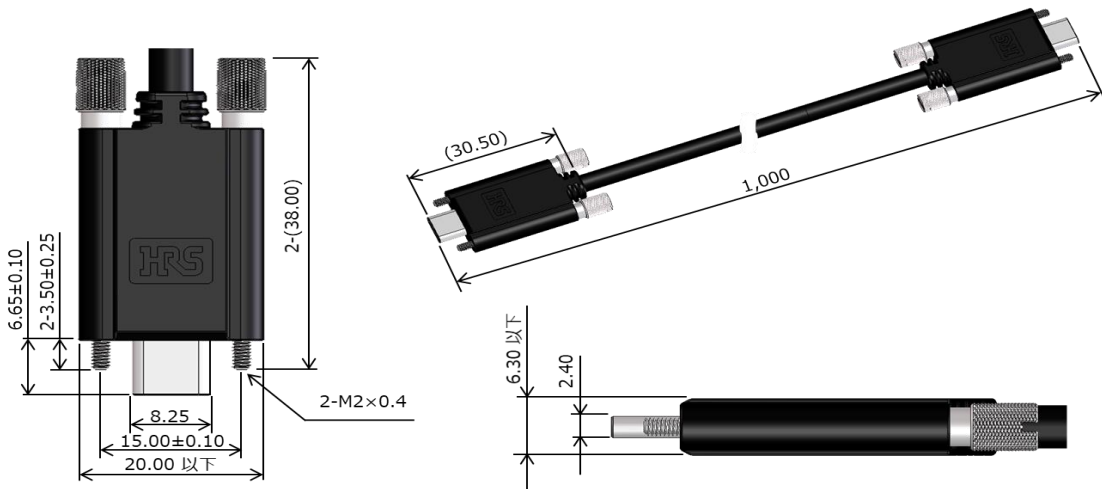
5. Cable Assembly Information

5.1 Specification

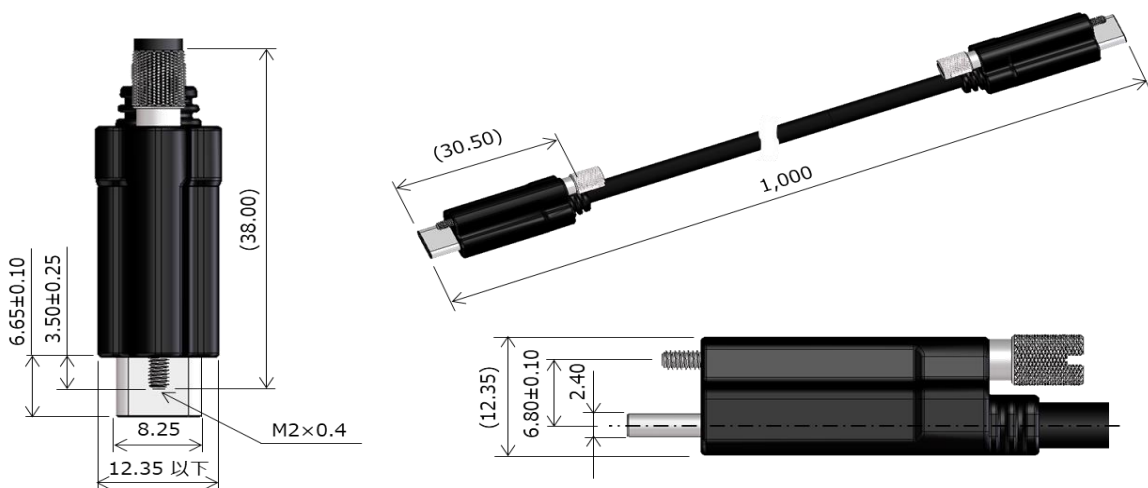
Current rating	DC 1.25 A max. for each power pin (i.e. A1, A4, A9, A12, B1, B4, B5, B9, B12) DC 0.25A for the other pins
Voltage rating	20V AC
Operating Temperature	-20°C to +80°C
Storage Condition	-30°C ~ +80°C (With Packing), 15% ~ 70% RH
Mating Cycles	10,000 times
Insertion/ Extraction Force	Insertion: 5~20N, Extraction: 8~20N

5.2 Size

① CX60-24S-1000-CD



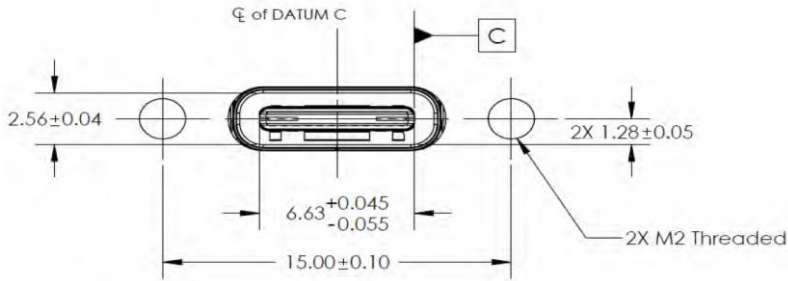
② CX60-24S-1000-CS



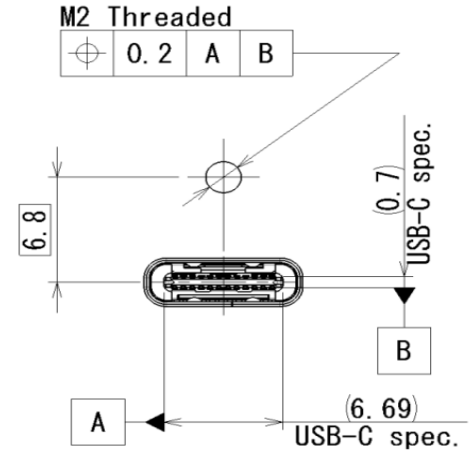
5.3 Mating Object Information

① Threaded Hole Location Relative Information

(from USB Type-C Locking Connector Revision 1.0)

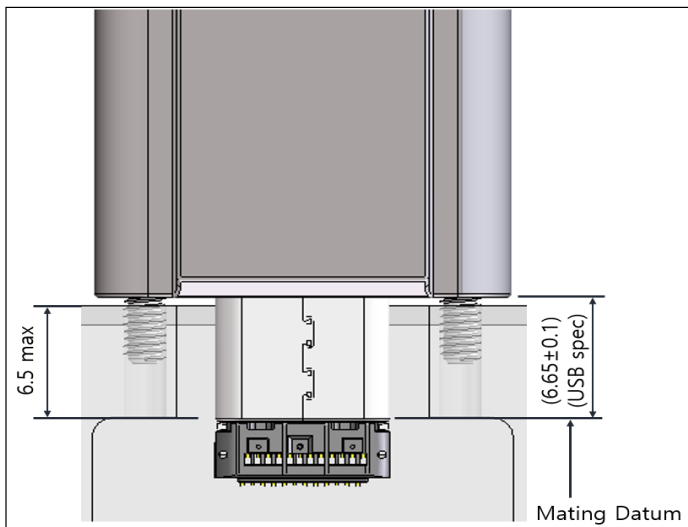


Dual Screw Specification
(For CX60-24S-1000-CD)

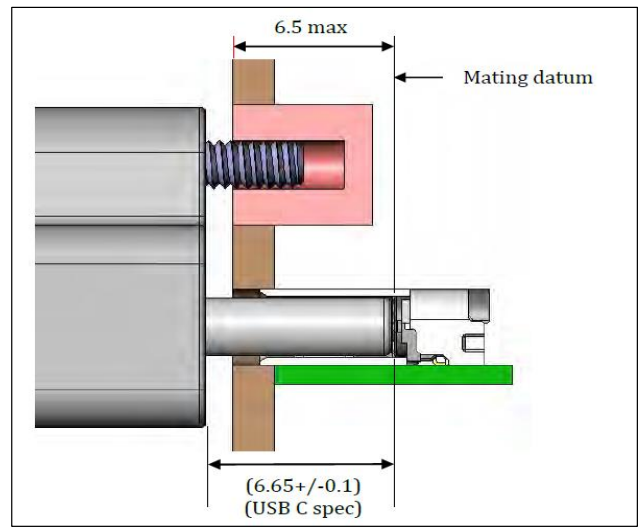


Single Screw Specification
(For CX60-24S-1000-CD)

② Type-C Receptacle Positioning



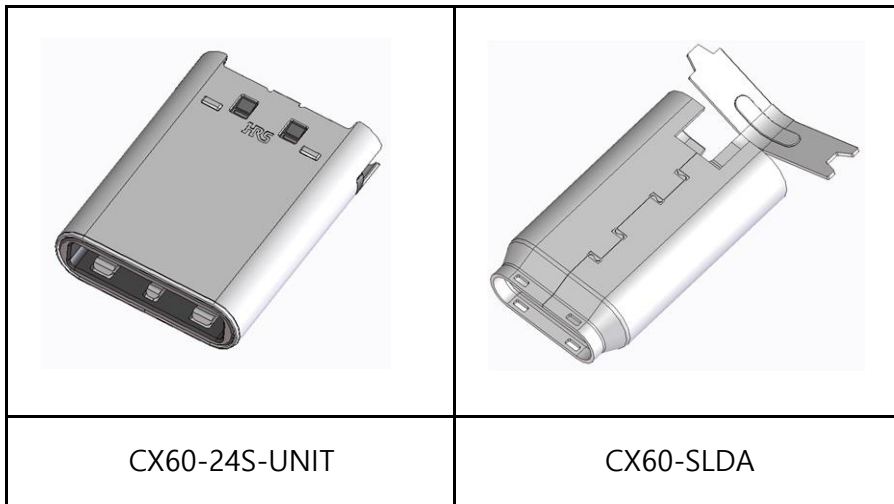
CX60-24S-1000-CD



CX60-24S-1000-CD

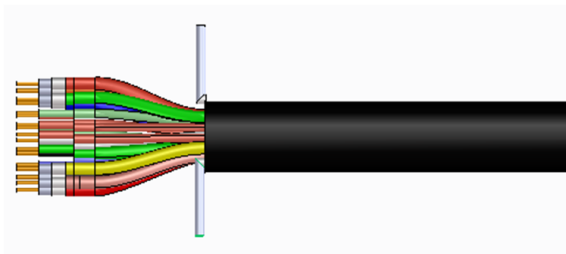
5.4 Applicable Connector

HRS CODE	Connector	Use Cable
CL6240-0001-9	CX60-24S-UNIT	-
CL6240-0007-5	CX60-SLDA	Φ4.8

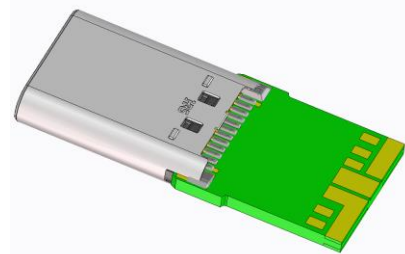


5.5 Cable Assembly Method

- ① Cable strip processing/Connector pcb mount



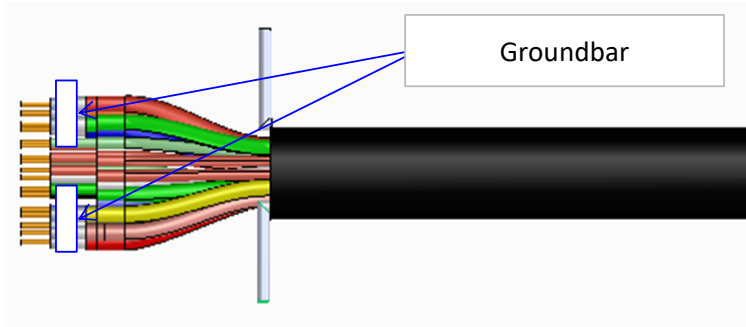
Cable



Paddle Card+Connector SMT

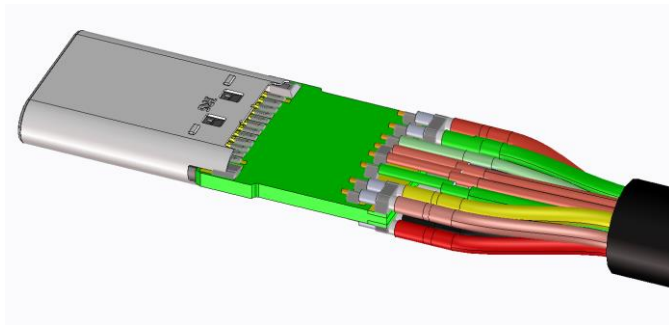
※The cable and paddle card are not provided separately.

② Groundbar attachment

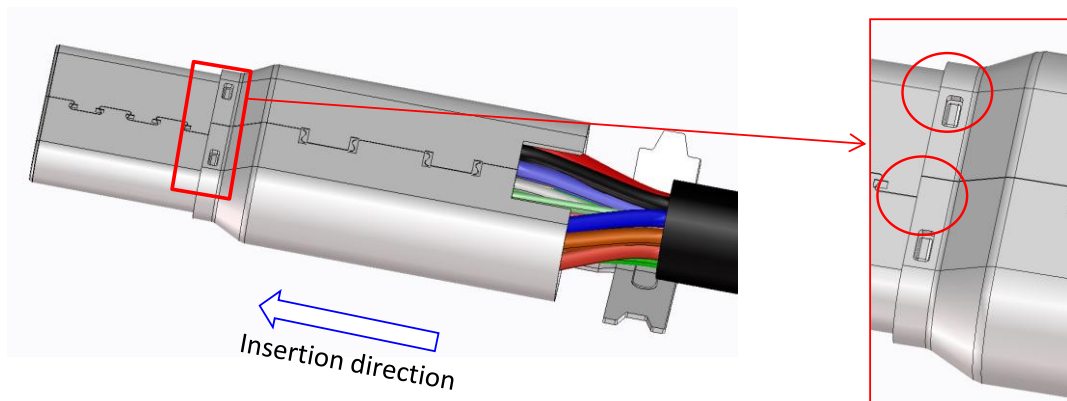


※The ground bar is not provided separately.

③ Paddle card+cable

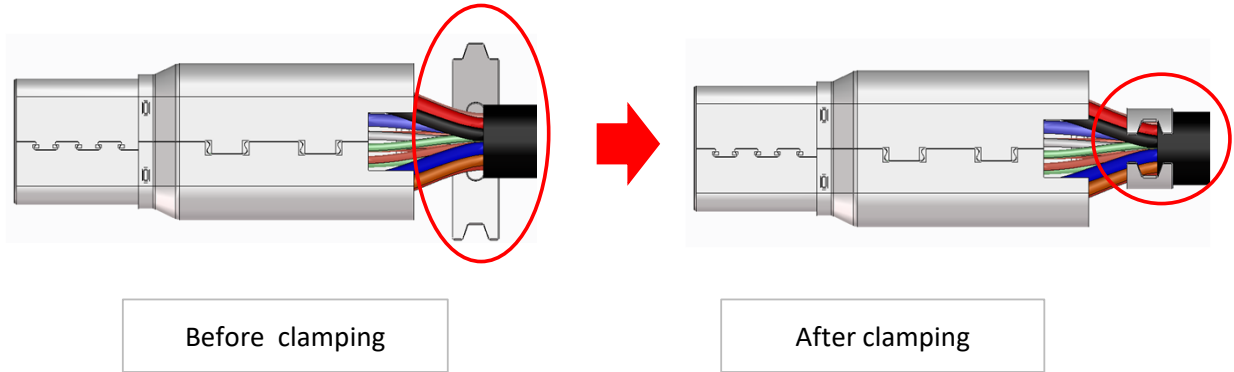


④ Back shell assembly

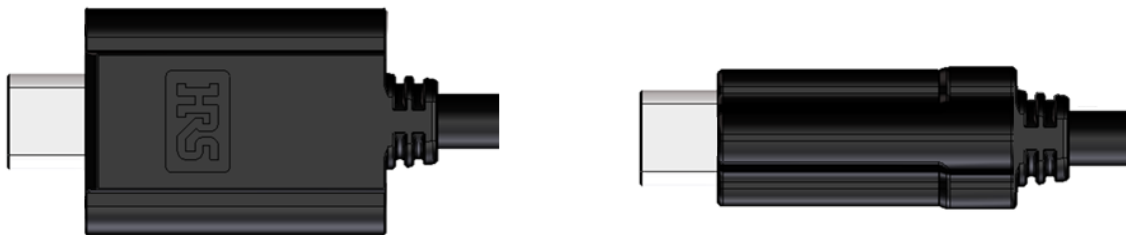


※The back shell should be locked securely after inserted.

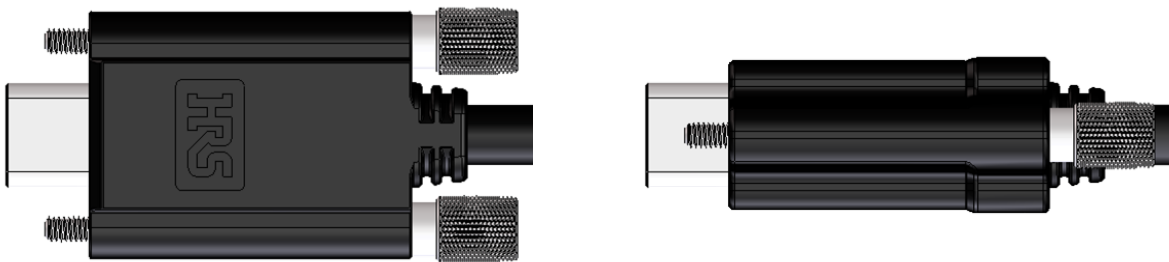
⑤ Back shell clamping



⑥ Over molding



⑦ Assembly Screw



CX60-24S-1000-CD

CX60-24S-1000-CS