

User Guide for CX90MWP1-24P(***)

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1. Revision History

Revision History	Date	Written by	Remarks
0.1	28 Feb., 2019	YB.PARK	Draft version
0.2	20 Jan., 2020	SH.LIM	Revised
0.3	11 Dec., 2020	SH.LIM	Revised

2. Introduction

2.1 Purpose

This document defines the guidelines to design a product with CX90MWP1-24P(***). 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 Cable and Connector Specification
Revision 2.0 August 2019

3. Product Information

3.1 Product Feature

- * Splashproof type USB Type-C Connector.
 - Meet the requirements of the IPX4 standard.
- * Non-metal shell connector.
 - Non-conductive shell design(Mold).
- * Enhanced fixation strength on PCB and high durability.
 - Screw bolting for higher fixation strength.
- * Compliant to USB specification.
 - USB Type-C compliant interface connector.

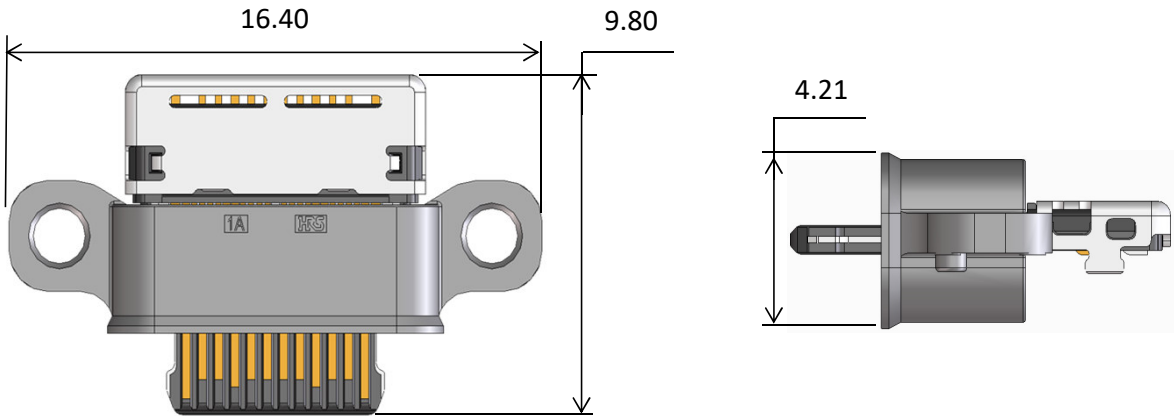
3.2 Specification

No. of Contacts	24
P.C.B Mounting type	Mid Mount
Soldering type	Two rows SMT
Current rating	DC 6A max. for Vbus & GND DC 1.50A for Vconn DC 0.25A for the other pins
Voltage rating	20V AC
Operating Temperature	-40°C ~ +85°C (Including Temp.rise), 95% RH MAX
Storage Condition **1	-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

Note

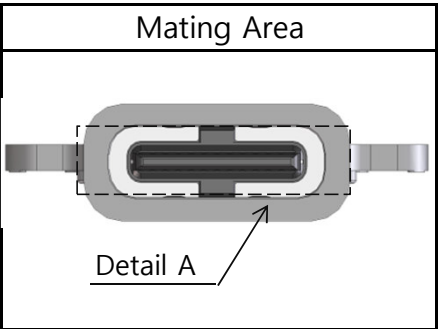
- **1 Storage conditions apply to original packaging only, void if opened. Warranty period is 12month max. in the storage conditions above and calculated by manufacture date code.

3.3 Product Size

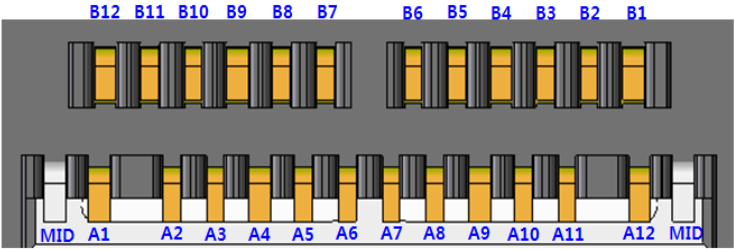
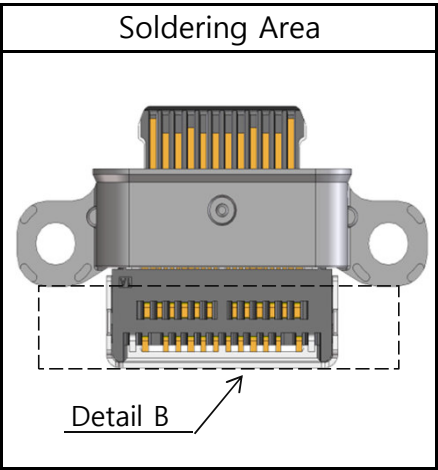


Width	16.40
Length	9.80
Height	4.21

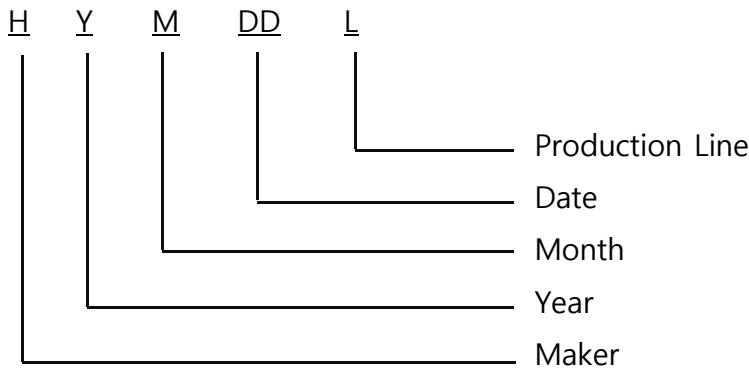
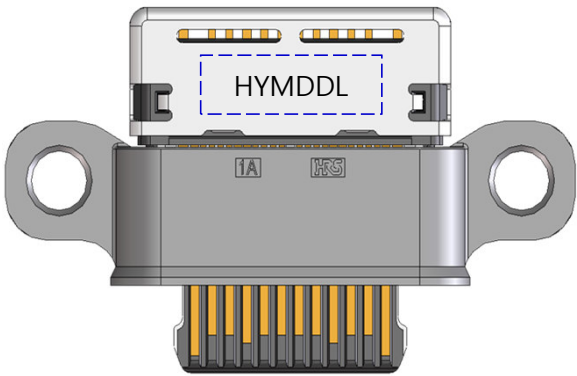
3.4 Pin Assignment



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



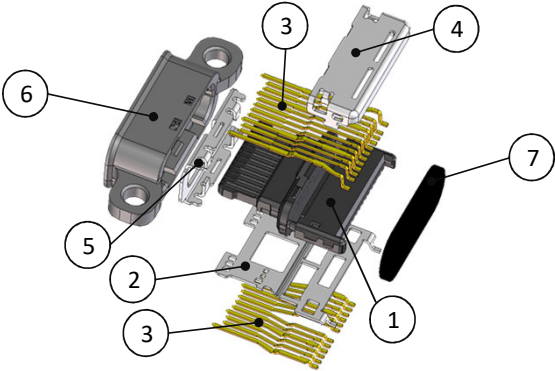
3.5 Manufacturing Date Code System



Maker		Year		Month		Day		Production Line	
Ex.	Mark	Ex.	Mark	Ex.	Mark	Ex.	Mark	Ex.	Mark
Hirose Korea	H	2020	0	Jan.	1	1st	01	Sample	S
		2021	1	Feb.	2	2nd	02	MP Manual #1	1
		2022	2	Mar.	3	3rd	03	MP Manual #2	2
		2023	3	Apr.	4	4th	04	MP Manual #3	3
		2024	4	May	5	5th	05	MP Manual #4	4
		2025	5	Jun.	6	6th	06	...	...
		2026	6	Jul.	7	7th	07	MP Auto #1	A
		2027	7	Aug.	8	8th	08	MP Auto #2	B
		2028	8	Sep.	9	9th	09	MP Auto #3	C
		2029	9	Oct.	A	10th	10	MP Auto #4	D
		...	...	Nov.	B	11th	11	MP Auto #5	E
		...	...	Dec.	C	...	...	...	...

3.6 Part List

No	Part	Materials	Color / Finish
1	Insulator	Thermal Plastic	UL94V-0, Black Color
2	Mid Plate	Stainless Steel (0.15t)	Nickel Plating
3	Contact	Copper Alloy (0.12t)	Contact Area: Gold over Nickel Solder Tail: Gold Flash over Nickel
4	Sub shell	Stainless Steel (0.2t)	Nickel Plating
5	Inner shell	Stainless Steel (0.2t)	Cleansing
6	Sleeve	Thermal Plastic	UL94V-0, Black Color
7	Glue	Epoxy	Black Color

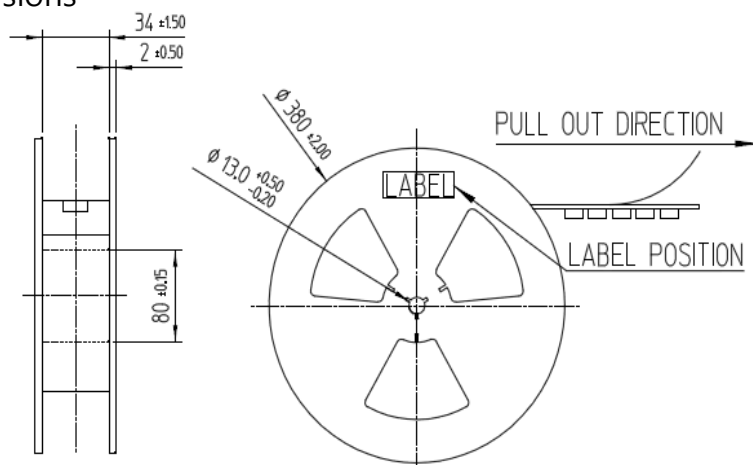


3.7 Configuration of Product Name

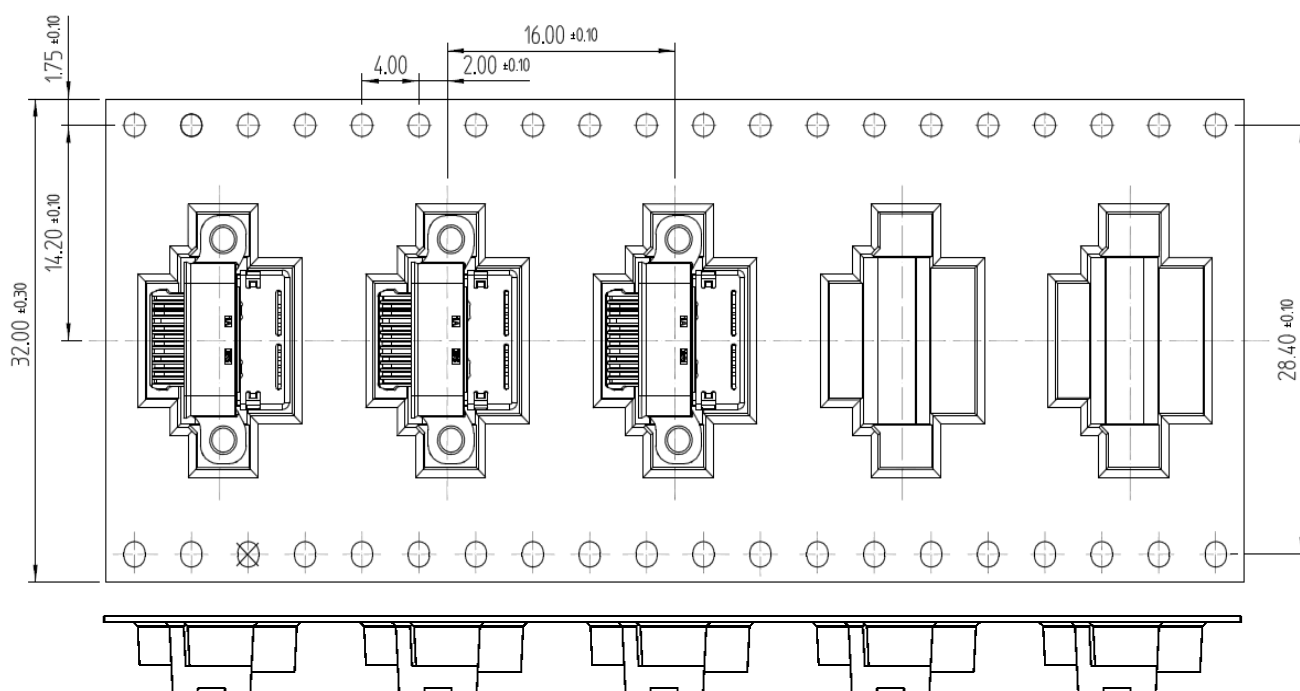
CX 90 M WP1 24 P
① ② ③ ④ ⑤ ⑥

①	Series Name		CX
②	Soldering Type	60	Paddle Card
		70	Right angle Hybird (SMT+Dip)
		90	Right angle SMT
③	Mounting Type	B	Top-Mount
		M	Mid-Mount
④	Special specifications	W	Waterproof
		P	Plastic Shell
		1	Serial No.
⑤	Contact Position	24	24Pin
⑥	Contact Type	P	Male contact (Header)
		S	Female contact

3.8 Reel Dimensions



3.9 Emboss Carrier Tape Dimensions



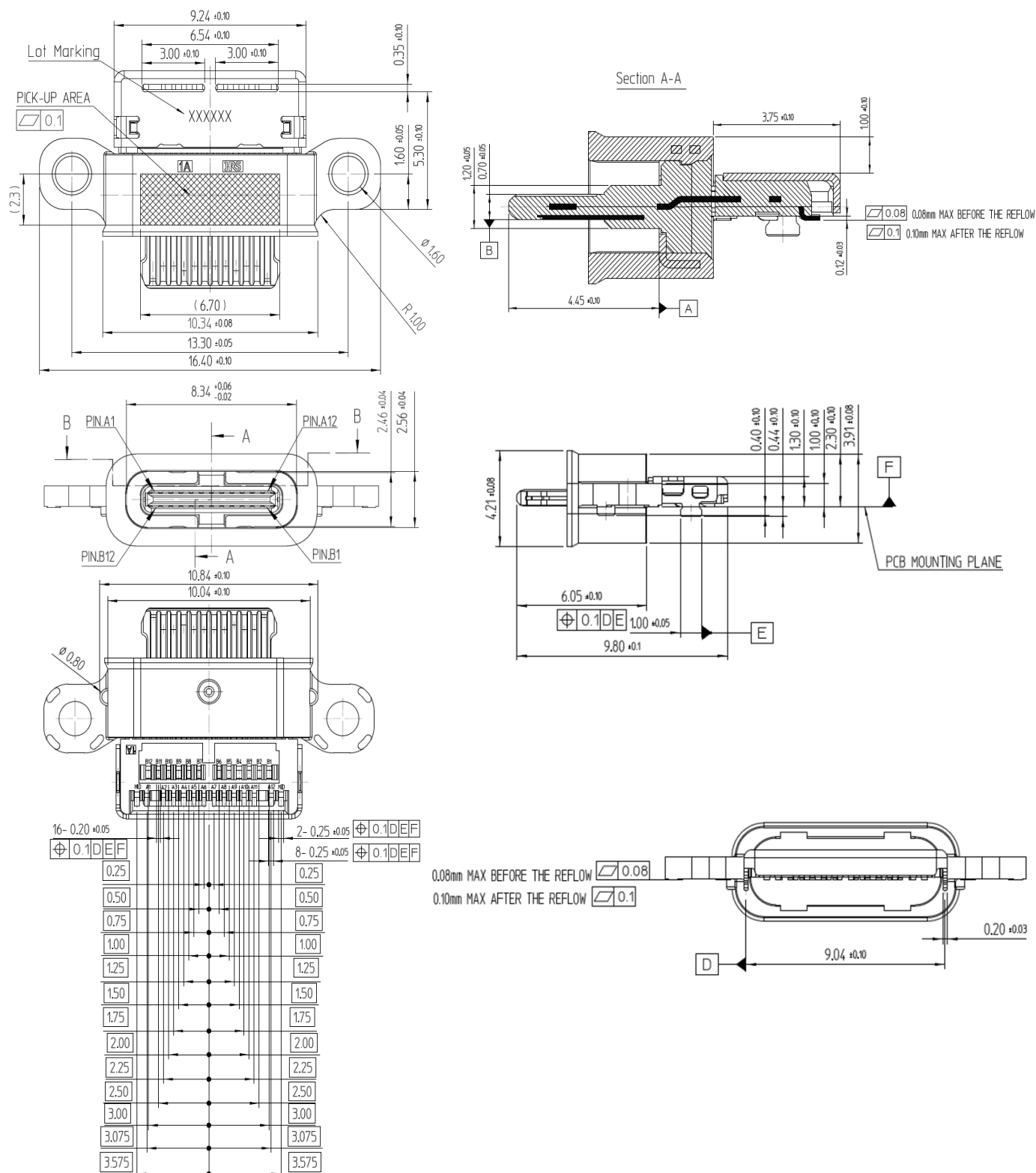
※ Emboss Tape dimensions comply with EIA-481.

3.10 Packing Quantity Peer Reel: 1,000PCS

3.11 Peeling Strength:

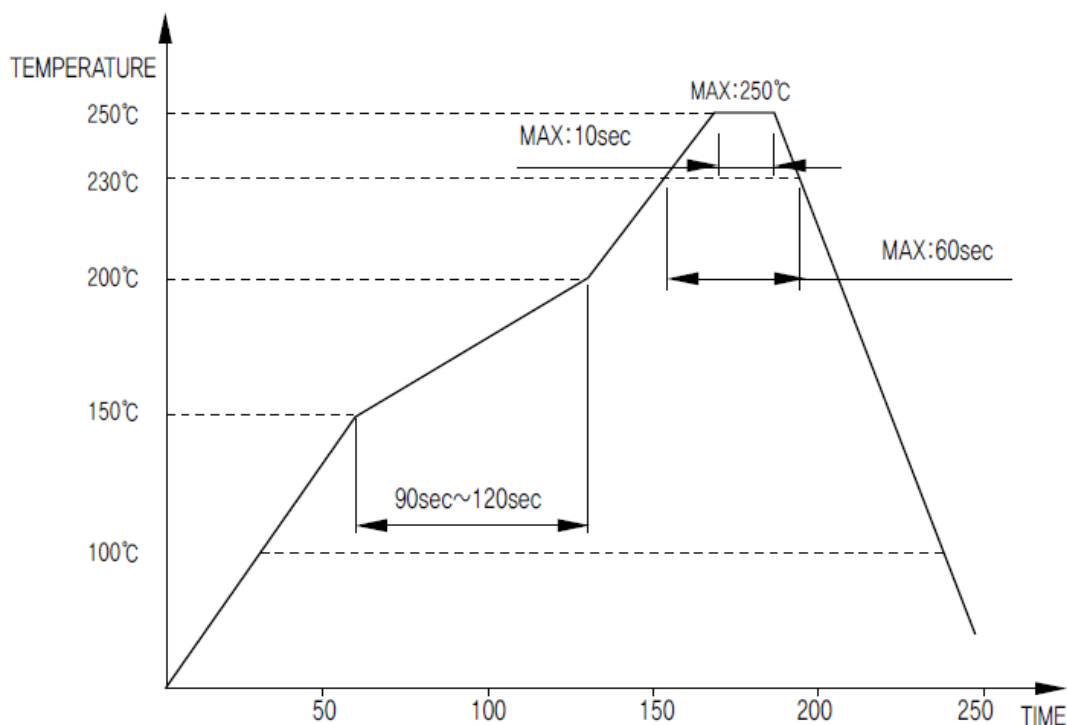
Cover tape shall have a total peel strength of from 0.1N to 1.3N

3.12 Product Dimensions



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

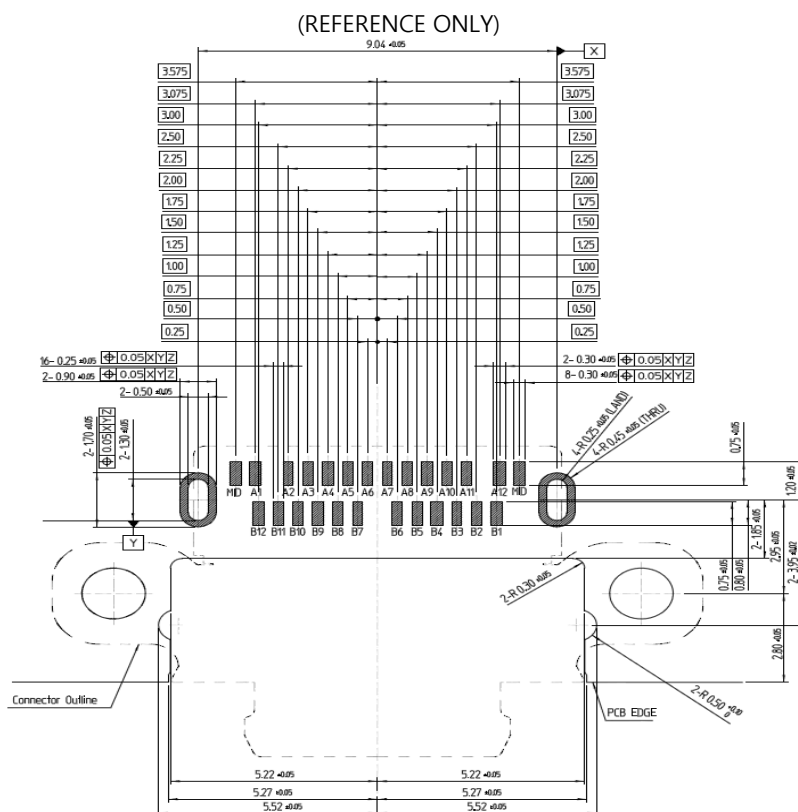
- Reflow heating method and condition

Far-infrared heater and hot convective blowers used in combination, normal atmosphere, or nitrogen atmosphere..

- Top surface of the contact leads may not be covered by solder depending on reflow condition

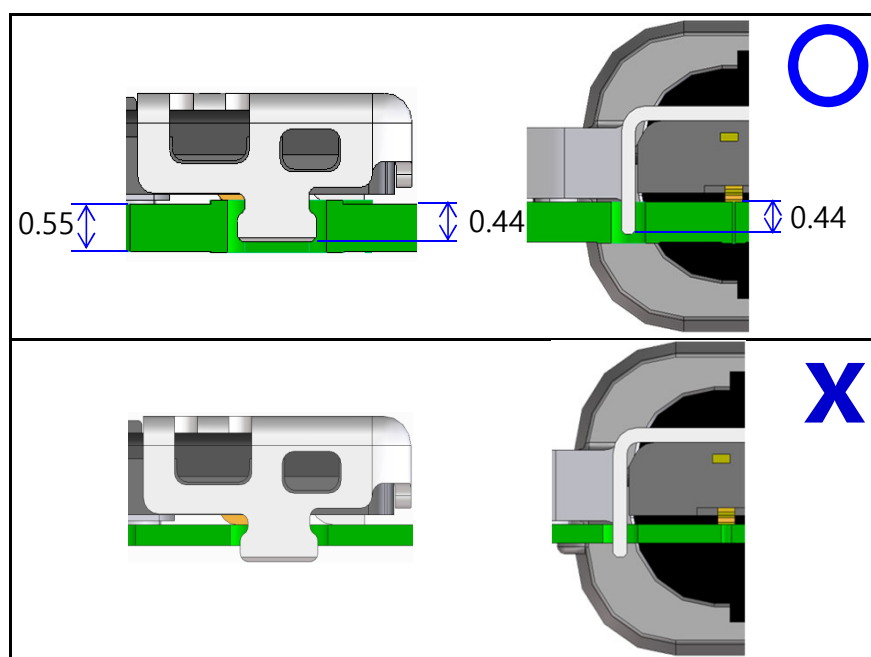
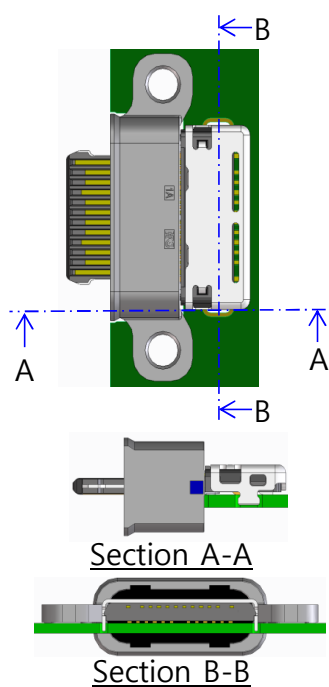
4.2 PCB Designing

RECOMMENDED PCB LAYOUT (TOP-VIEW)



4.3 PCB Thickness

Recommended PCB thickness is 0.55mm or over considering 0.44mm of PIP leg length



RECOMMENDED METAL MASK LAYOUT (TOP-VIEW)

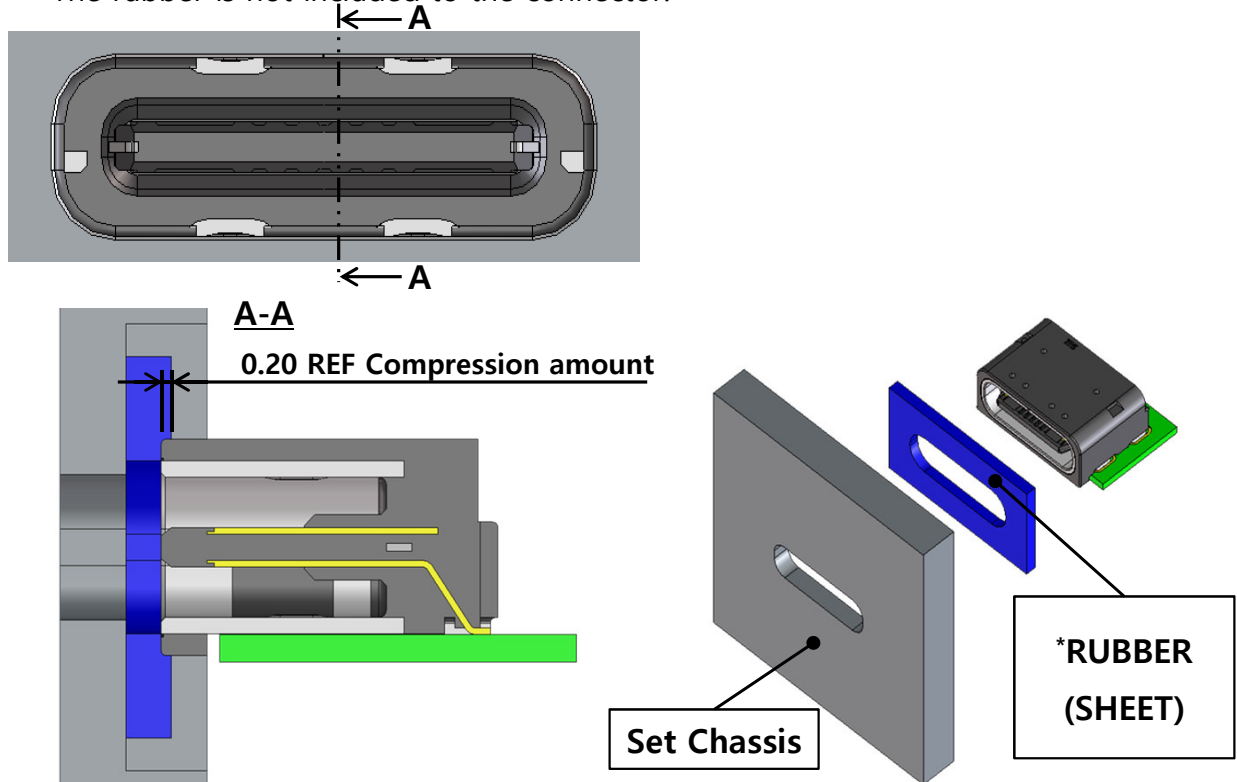
Technical drawing of a rectangular building floor plan with dimensions in meters. The plan shows a central corridor and two side wings. Key dimensions include: overall width 9.04m, overall depth 26.085m, corridor width 1.00m, and room widths ranging from 0.25m to 0.90m. The drawing includes a north arrow pointing towards the top right.

Lead-free solder paste

5. Set Chassis Design Guide

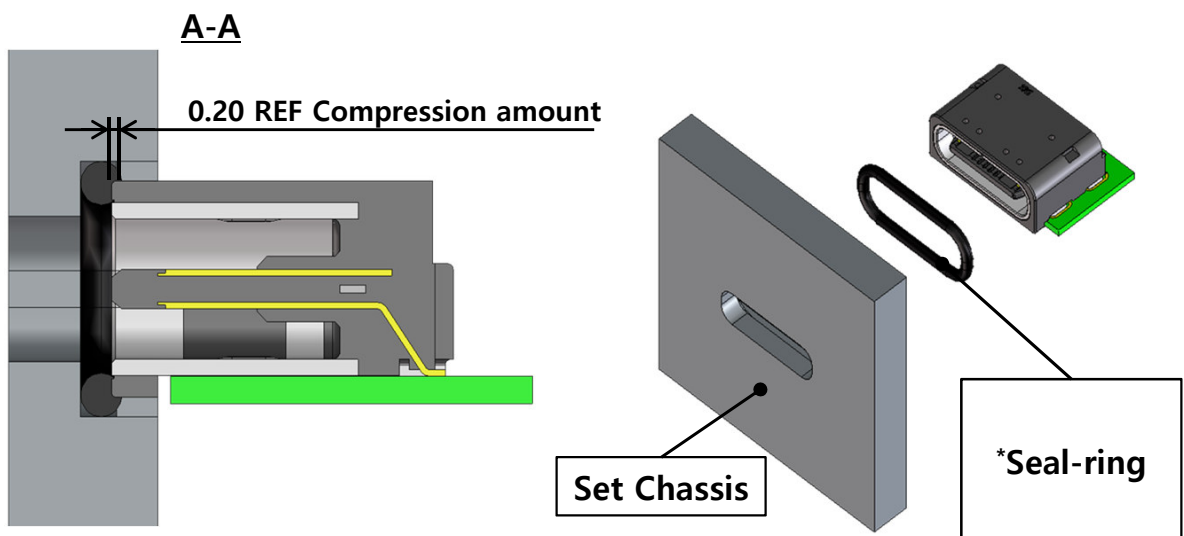
5.1 With rubber Sheet Type (Reference only)

*The rubber is not included to the connector.



5.2 With seal-ring Type (Reference only)

*The seal-ring is not included to the connector.



6. Notice for Connector Handling

6.1 Mating Plug

Please use USB Type-C Plug only

