

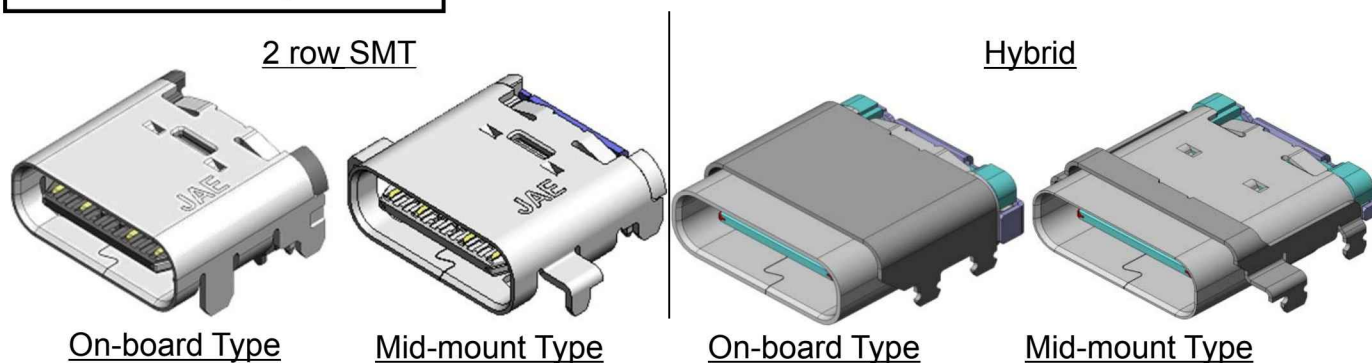
**NEW**



# USB Type-C™ Connector DX07 Series Receptacle

CONNECTOR  
MB-0297-3  
December 2015

## RoHS Compliant



<<Outline>>

The DX07 Series connectors are compatible with the next-generation USB specification “USB Type-C™” and are expected to become popular as a standard interface for various devices.

Note) USB Type-C™ is a trademark of USB Implementers Forum, Inc.

## Features

- Compatible with Universal Serial Bus Type-C Specification Release 1.1
- Compatible with 10Gbps SuperSpeed communication. (USB 3.1 Gen 2)
- Compatible with USB Power Delivery.
- Reversible plug makes it possible to insert both ways.
- Superior EMI / EMC characteristics.
- Design for high mechanical strength.
- Lock structure with high durability.
- Contact mounting area is available in 2 types: space-saving 2 row SMT type, and hybrid type with superior solder mounting reworkability.
- Available in two mounting types: on-board and mid-mount.

## Applicable Markets

Smartphones, tablets, PCs, high-definition camcorders, digital still cameras (single-lens reflex, compact), and others

## General Specifications

- |  |   |
|--|---|
| ■ No. of Contacts: 24 pos.                               | ■ Rated Current:  |
| ■ Contact Resistance: 40mΩmax.(initial)                  | Terminal No. A1, A4, A9, A12, B1, B4, B5, B9, B12 are DC 1.25A (maximum), |
| ■ Dielectric Withstanding Voltage:<br>100Vrms / 1 minute | Others are DC 0.25A   |
| ■ Insulation Resistance: 100M Ω (initial)                | ■ Rated Voltage: 20Vrms   |
|  | ■ Mating Cycles: 10,000 times   |
|  | ■ Operating Temperature:<br>-30 Deg. C to 80 Deg. C                       |

## Materials and Finishes

	2 row SMT Type	Hybrid Type
Components	Materials / Finishes	
Insulator 1, 2	Synthetic resin	
Contact A, B	Copper alloy / Contact area: palladium over Ni plating - Au flash plating over nickel alloy Terminal area: Au flash plating over nickel	
Shell	Stainless steel / Ni plating	Stainless steel / black Ni plating
Mid Plate	Stainless steel / Ni plating	
Ground Plate	Stainless steel / Ni plating	
Rear Shield	Stainless steel / Ni plating	
Bracket	-	Stainless steel / Ni plating

Note) Please refer to the product drawings for more details.

## Ordering Information

[Receptacle Side]

**DX07 S 0 24 J J 2 R1300**

Series  
DX07: USB Type C

S: On-board, B: Mid-mount

Modification Code #1

No. of Contacts: 24 pos.

Reel 1300 pcs. / reel

Modification Code #2

Plating Specification

J: Contact area: palladium over nickel  
- Au flash plating over nickel alloy

Board Connection Type (Shell area)

J: 2 row SMT

X: Hybrid (T/H & SMT)

Part Number	SJ Drawing	Specifications	Mounting Type	Note		
DX07S024JJ2 (Individual Connector)	SJ115946	JACS-30353	On-board	Rear Shield Yes		
DX07S024JJ2R1300 (Reeled Product)	SJ115947			Rear Shield No		
DX07S024JJ3 (Individual Connector)	SJ115994			Mid mount	Rear Shield Yes	
DX07S024JJ3R1300 (Reeled Product)	SJ115995				Rear Shield No	
DX07B024JJ1 (Individual Connector)	SJ115850		JACS-30361		On-board	Black Ni Plating Shell
DX07B024JJ1R1500 (Reeled Product)	SJ115851					
DX07B024JJ2 (Individual Connector)	SJ115996			Mid mount	Black Ni Plating Shell	
DX07B024JJ2R1500 (Reeled Product)	SJ115997					
DX07S024XJ1 (Individual Connector)	SJ116123	JACS-30361	On-board	Black Ni Plating Shell		
DX07S024XJ1R1100	SJ116124					
DX07B024XJ1 (Individual Connector)	SJ116121		Mid mount	Black Ni Plating Shell		
DX07B024XJ1R1300	SJ116122					

Note) Please order in reel units.

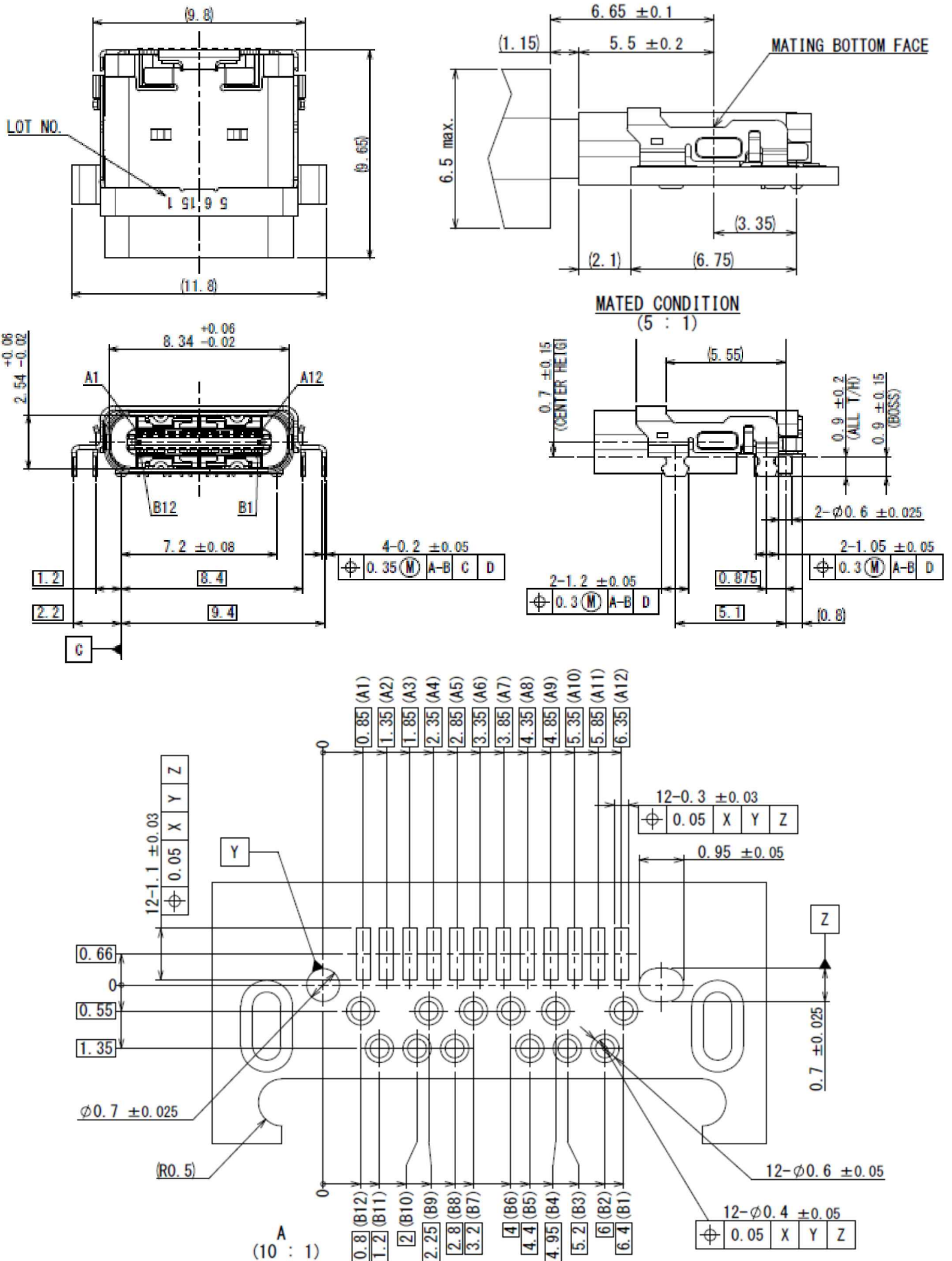






Unit: mm

**DX07B024XJ1 (Mid-mount Type)**



**Notice:**

1. The values specified in this brochure are only for reference. The products and their specifications are subject to change without notice. Contact our sales staff for further information before considering or ordering any of our products. For purchase, a product specification must be agreed upon.

2. Users are requested to provide protection circuits and redundancy circuits to ensure safety of the equipment, and sufficiently review the suitability of JAE's products to the equipment.

3. The products presented in this brochure are designed for the uses recommended below. We strongly suggest you contact our sales staff when considering use of any of the products in any other way than the recommended applications or for a specific use that requires an extremely high reliability.

(1) Applications that require consultation:

(i) Please contact us if you are considering use involving a quality assurance program that you specify or that is peculiar to the industry, such as:

Automotive electrical components, train control, telecommunications devices (mainline), traffic light control, electric power, combustion control, fire prevention or security systems, disaster prevention equipment, etc.

(ii) We may separately give you our support with a quality assurance program that you specify, when you think of a use such as :

Aviation or space equipment, submarine repeaters, nuclear power control systems, medical equipment for life support, etc.

(2) Recommended applications include:

Computers, office appliances, telecommunications devices (terminals, mobile units), measuring equipment, audiovisual equipment, home electric appliances, factory automation equipment, etc

**Japan Aviation Electronics Industry, Limited**

Product Marketing Division

Aobadai Building, 3-1-19, Aobadai, Meguro-ku, Tokyo 153-8539

Phone: +81-3-3780-2882 FAX: +81-3-3780-2946

\* The specifications in this brochure are subject to change without notice. Please contact JAE for information.

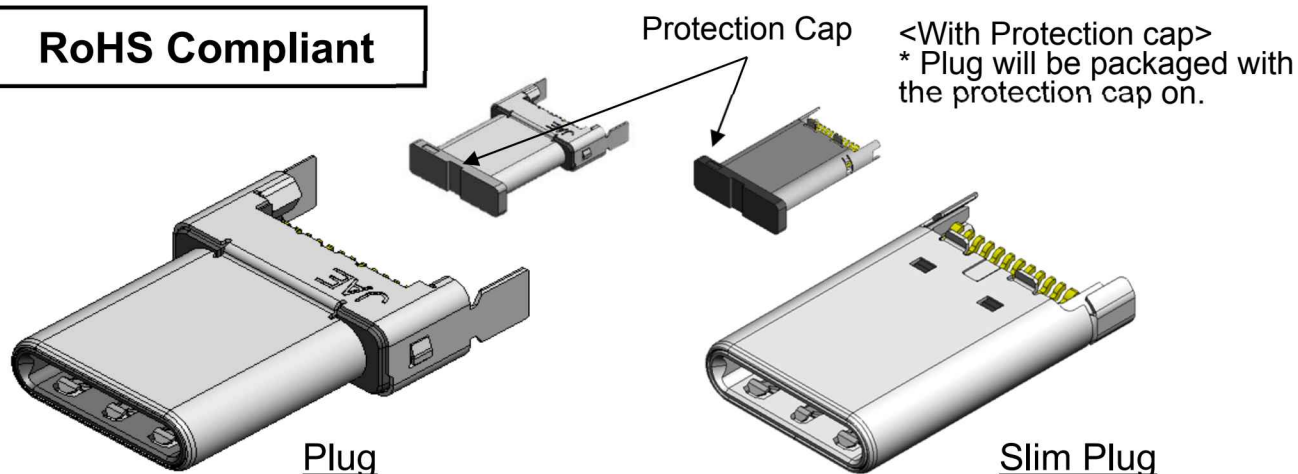
**NEW**



## USB Type-C™ Connector DX07 Series Plug

CONNECTOR  
MB-0301-2  
January 2016

**RoHS Compliant**



<<Outline>>

The DX07 Series connectors are compatible with the next-generation USB specification "USB Type-C™" and are expected to become popular as a standard interface for various devices.

Note) USB Type-C™ is a trademark of USB Implementers Forum, Inc.

### Features

- Compatible with Universal Serial Bus Type-C Specification Release 1.1
- Compatible with 10Gbps SuperSpeed communication. (USB 3.1 Gen 2)
- Compatible with USB Power Delivery.
- Reversible plug makes it possible to insert both ways.
- Superior EMI / EMC characteristics.
- Design for high mechanical strength.
- Superior lock structure with high durability and clear click feeling during mating.
- Easy to insert with a smooth "R" on the tip of the mating area of the metal outer shell.

### Applicable Markets

Smartphones, tablets, PCs, high-definition camcorders, digital still cameras (single-lens reflex, compact), and others

### General Specifications

- |  |   |
|--|---|
| ■ No. of Contacts: 24 pos.                               | ■ Rated Current:  |
| ■ Contact Resistance: 40mΩmax.(initial)                  | Terminal No. A1, A4, A9, A12, B1, B4, B5, B9, B12 are DC 1.25A (maximum), |
| ■ Dielectric Withstanding Voltage:<br>100Vrms / 1 minute | Others are DC 0.25A   |
| ■ Insulation Resistance: 100M Ω (initial)                | ■ Rated Voltage: 20Vrms   |
|  | ■ Mating Cycles: 10,000 times   |
|  | ■ Operating Temperature:<br>-30 Deg. C to +80 Deg. C                      |



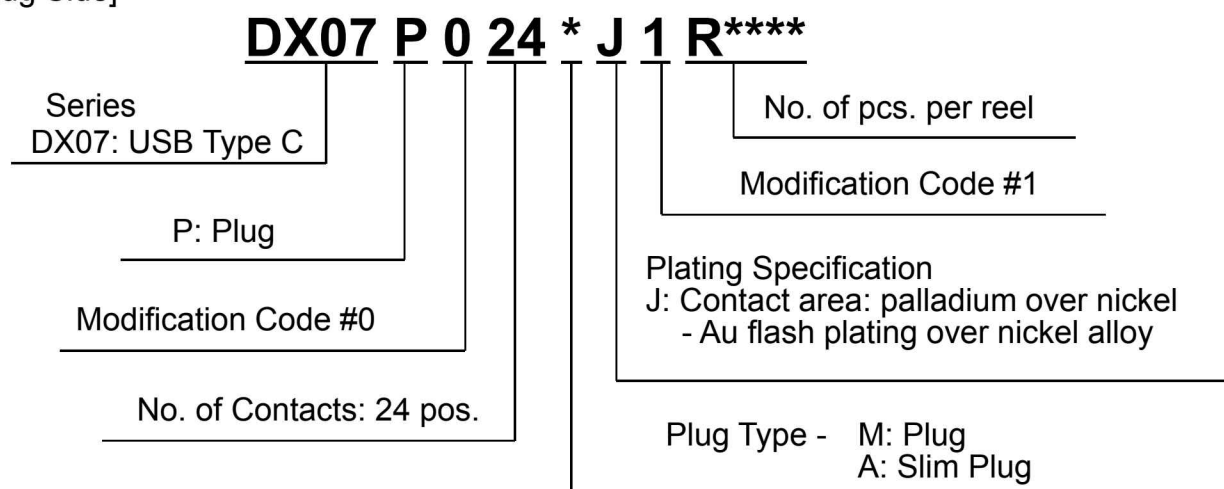
## Materials and Finishes

Component	Material / Finish
Contact	Copper alloy / Contact area: palladium over nickel plating - Au flash plating over nickel alloy Terminal area: Au flash plating over nickel
Ground Spring	Stainless steel / nickel plating
Friction Lock	Stainless steel / nickel plating
Shell	Stainless steel / nickel plating
Insulator	Heat resistant resin / Black (Halogen-free)
Inner Insulator	Heat resistant resin / Black (Halogen-free)
Insulation Tape	Polyimide
Protection Cap	Heat resistant resin / Black (Halogen-free)

Note) Please refer to the product drawings for more details.

## Ordering Information

[Plug Side]



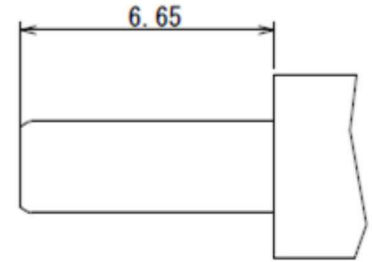
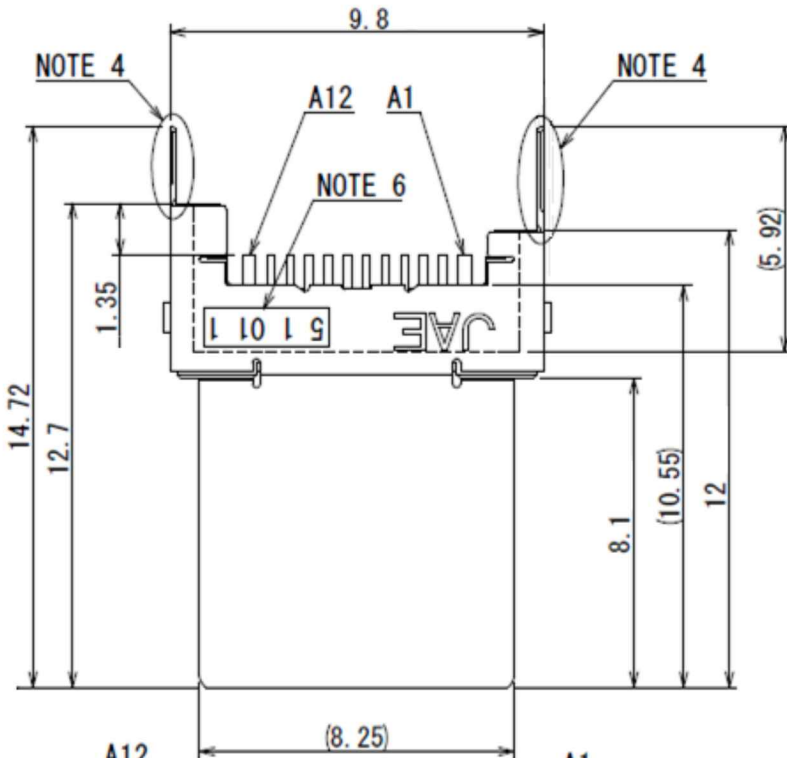
Plug	Part Number	SJ Drawing	Specifications
Plug	DX07P024MJ1 (Individual Connector)	SJ115803	JACS-30353
	DX07P024MJ1R1500 (Reeled Product)	SJ115804	
Slim Plug	DX07P024AJ1 (Individual Connector)	SJ116680	
	DX07P024AJ1R1500 (Reeled Product)	SJ116681	

Note) Please order in reel units.

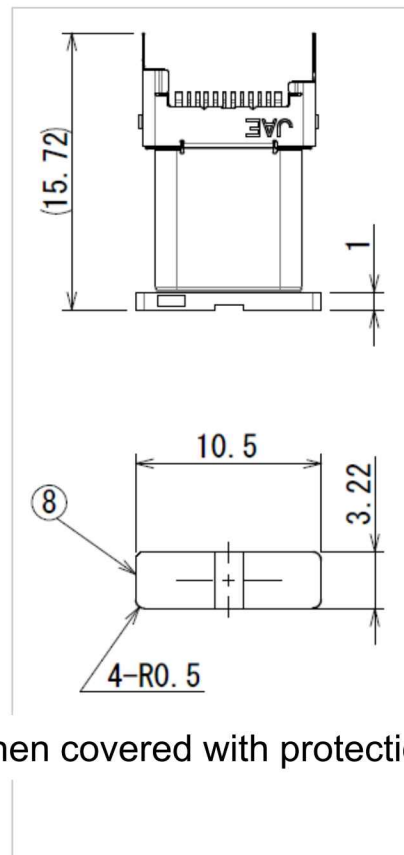
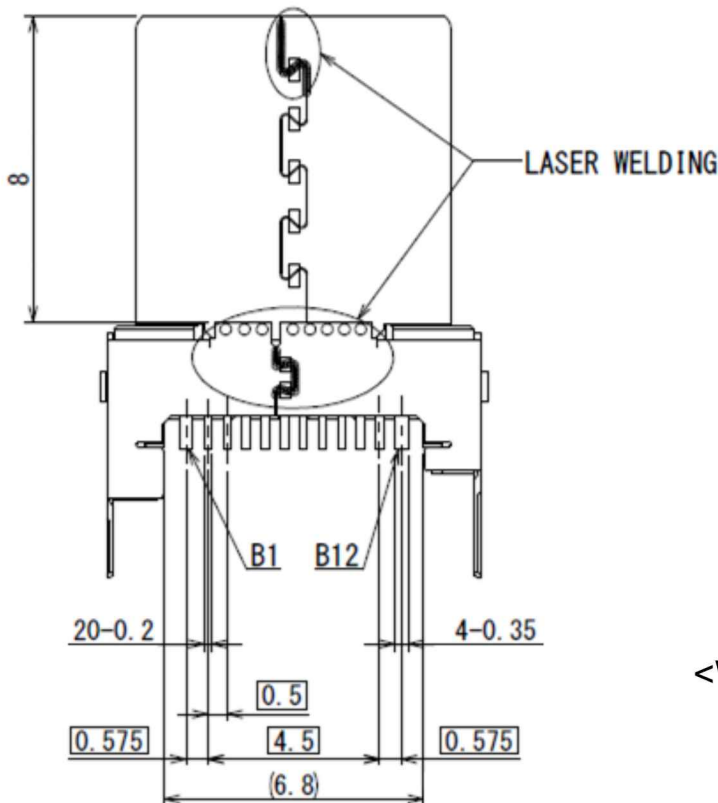
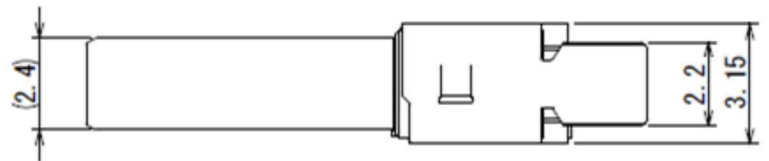
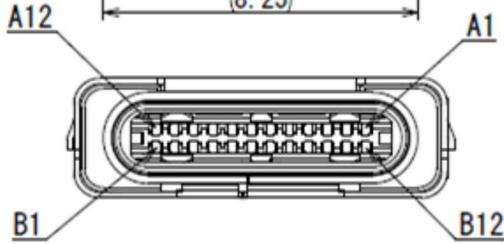
Unit: mm

**DX07P024MJ1 (Plug)**

Cable Hood



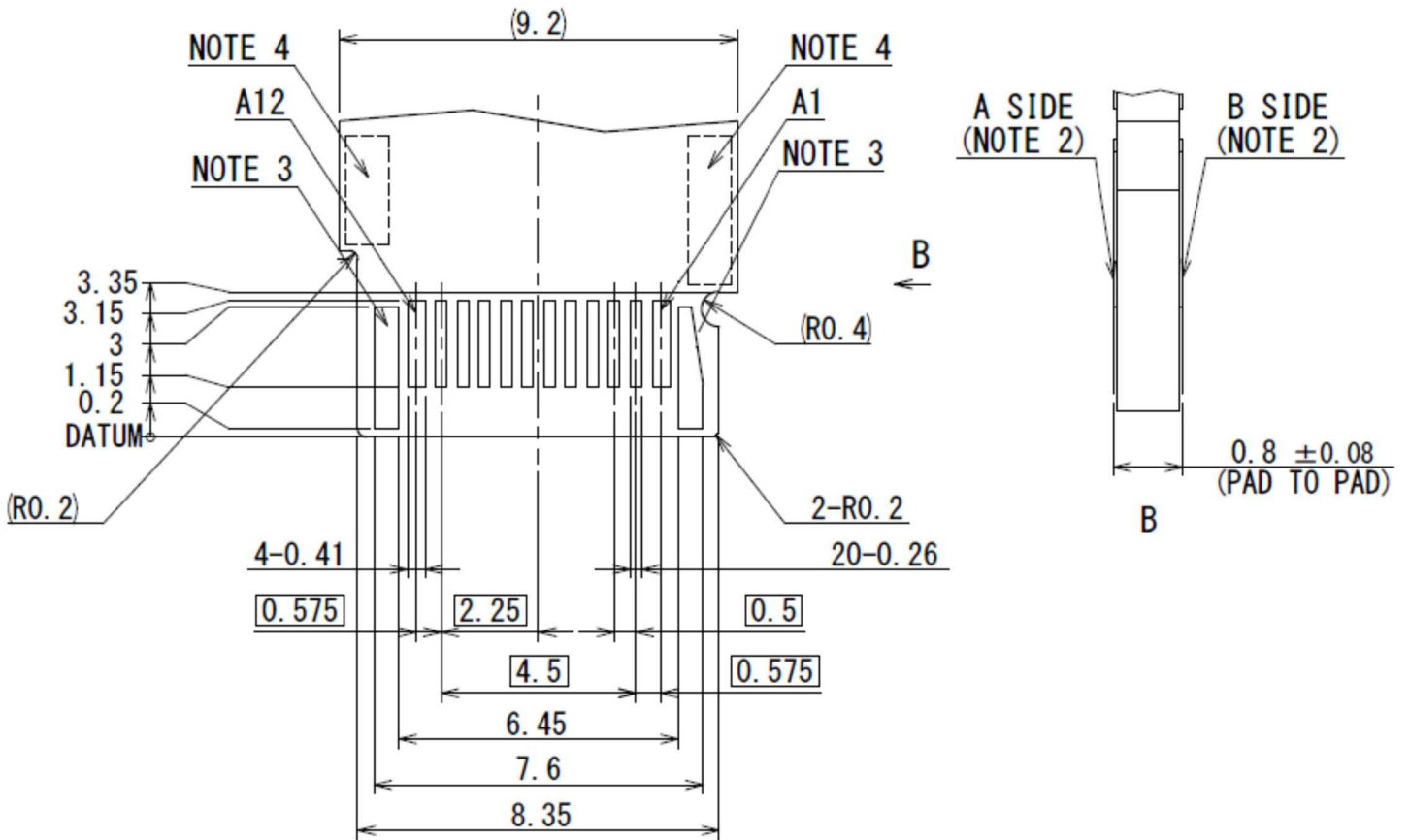
Recommended Hood Dimensions



<When covered with protection cap>

**DX07P024MJ1 (Plug) Recommended PCB Layout**

Unit: mm



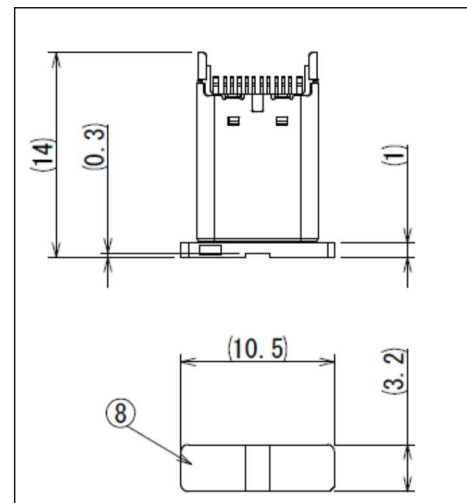
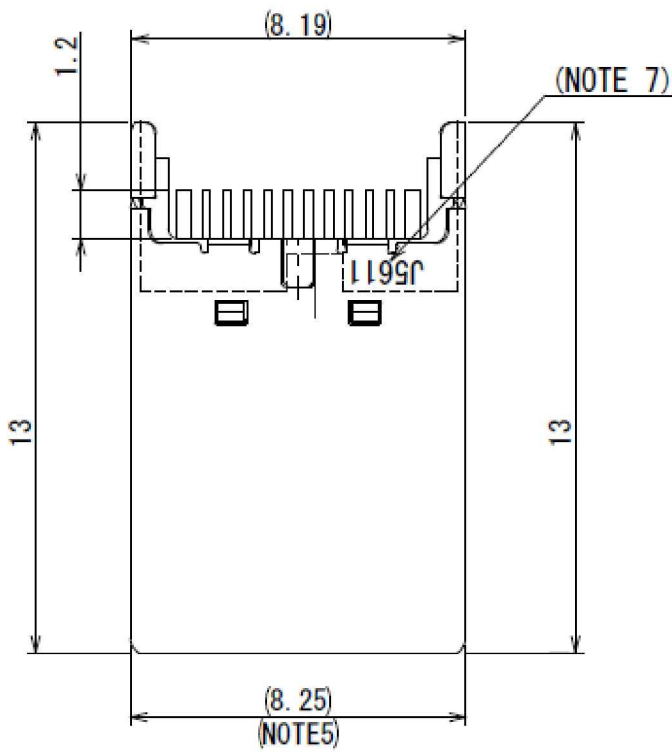
- NOTE 1. THERE COULD BE UNRECOGNIZABLE DIFFERENCES FROM ACTUAL PRODUCT DUE TO PROCESS CONVENIENCE BUT NOT IMPACT ON THE FUNCTION.
- NOTE 2. PCB PADS CONFIGURATION BE SAME BETWEEN A SIDE AND B SIDE.
- NOTE 3. THERE PADS BE WHERE A CONNECTOR HOLDS PCB. SHALL NOT BE ELECTRICAL USE NOT SOLDERED.
- NOTE 4. RECOMMEND TO UTILIZE THE SIDE SHELL TABS BY SOLDERING TO PCB PADS FOR THE MECHANICAL STRENGTH.
- NOTE 5. RECOMMEND TO KEEP THE CAP STAY IN PLACE UNTIL ALL THE PROCESSES DONE. THE CAP PREVENTS A CONNECTOR FROM DEFORMED AND CONTAMINATION DURING PROCESSES SUCH AS PADDLE CARD ASSEMBLY AND CABLE ASSEMBLY.
- NOTE 6. LOT NUMBER IS MARKED AS INDICATED.

(EX) 5 1 01 1

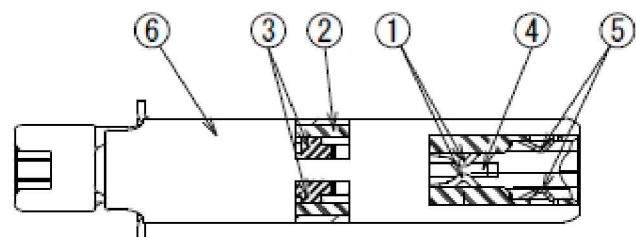
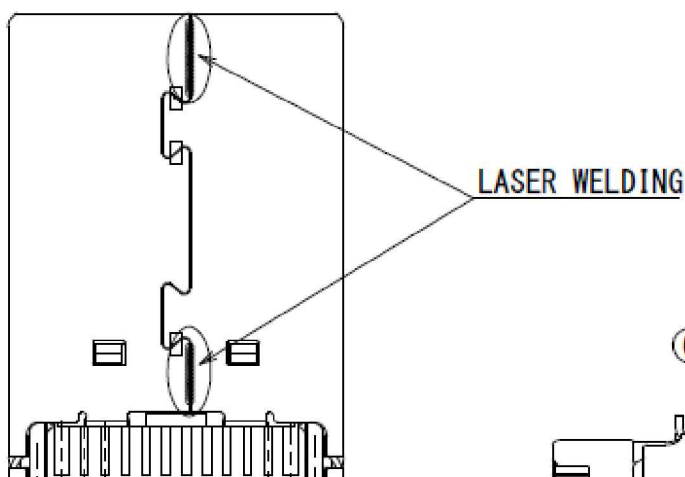
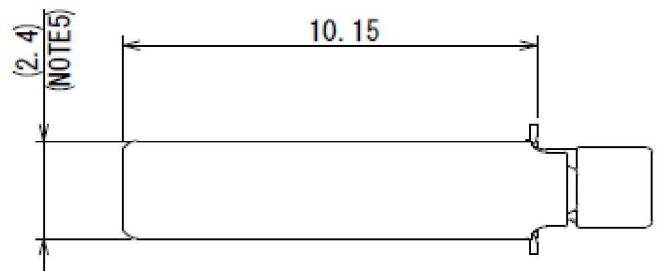
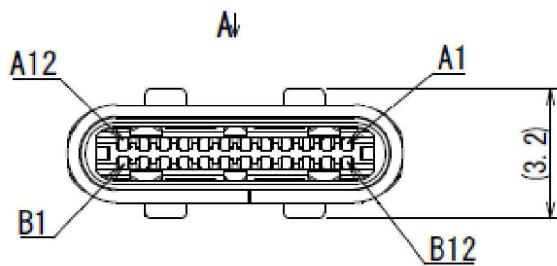
_____	YEAR	(END OF ONE DIGIT AT CHRISTIAN ERA)
_____	MONTH	(JAN. TO SEP. :1 TO 9, OCT. :0, NOV. :X, DEC. :Y)
_____	DAY	(TWO-DIGITS NUMBER)
_____	EQUIPMENT No.	(NUMBER OR ALPHABET)

Unit: mm

**DX07P024AJ1 (Slim Plug)**

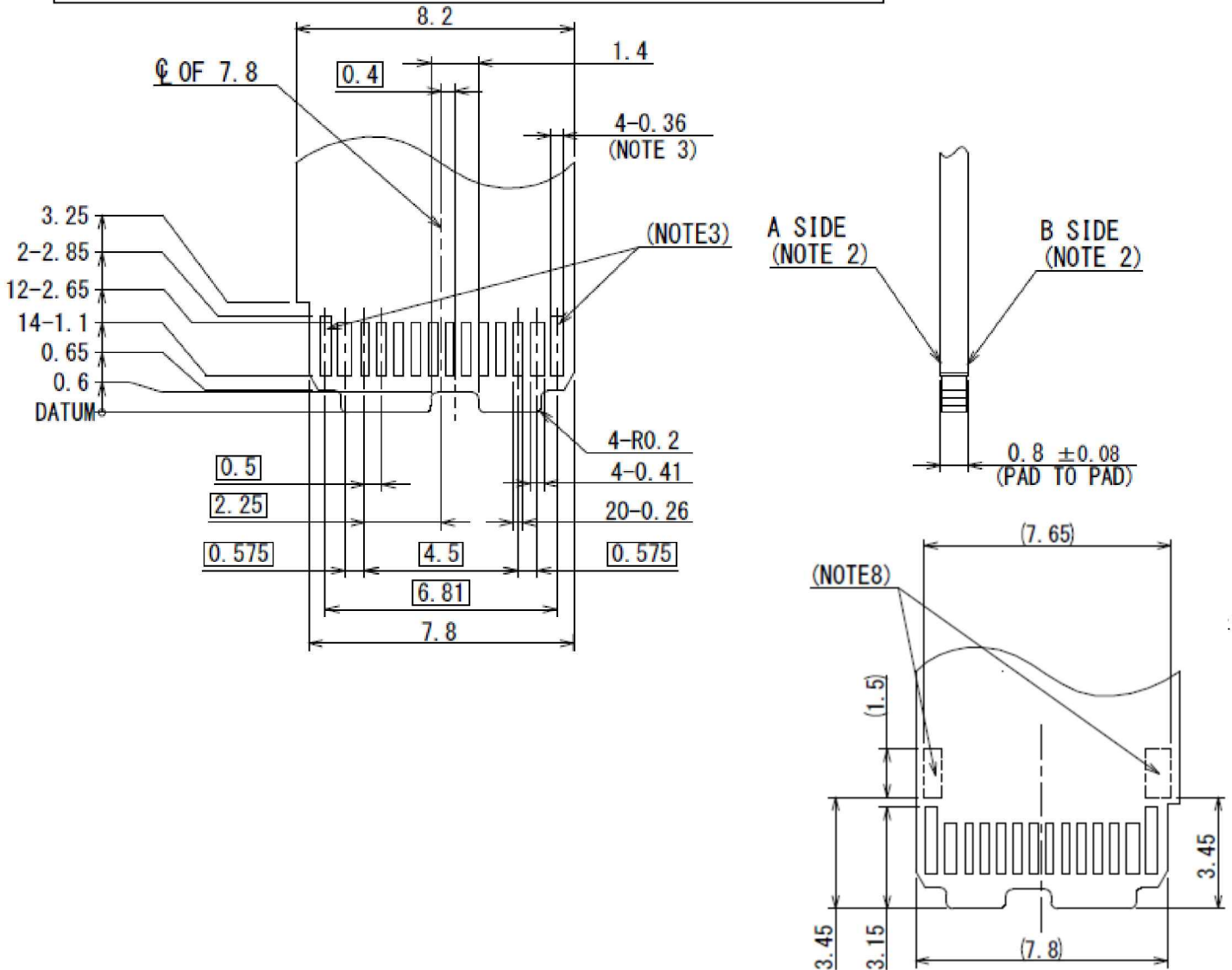


<When covered with protection cap>



Unit: mm

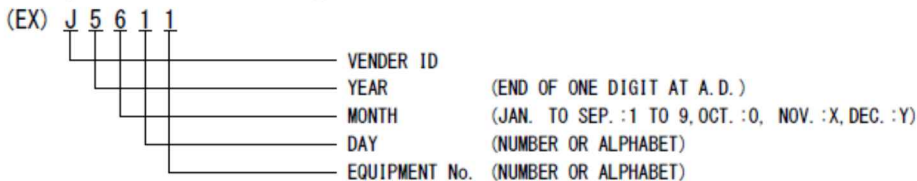
**DX07P024AJ1 (Slim Plug) Recommended PCB Layout**



- NOTE1. THERE COULD BE UNRECOGNIZABLE DIFFERENCES FROM ACTUAL PRODUCT DUE TO PROCESS CONVENIENCE BUT NOT IMPACT ON THE FUNCTION.
- NOTE2. PCB PADS CONFIGURATION BE SAME BETWEEN A SIDE AND B SIDE.
- NOTE3. THERE PADS ARE USED FOR HOLDING PCB.  
A SIDE PAD : SHALL NOT BE ELECTRICAL USE AND NOT BE SOLDERED.  
B SIDE PAD : ELECTRICAL USE FOR GROUND. NECESSARY TO BE SOLDERED.
- NOTE4. RECOMMEND TO KEEP THE CAP STAY IN PLACE UNTIL ALL THE PROCESSES DONE.  
THE CAP PREVENTS A CONNECTOR FROM DEFORMED AND CONTAMINATION DURING PROCESSES SUCH AS PADDLE CARD ASSEMBLY AND CABLE ASSEMBLY.
- NOTE5. MATING DIMENSIONS CONSIST OF "Universal Serial Bus Type-C Cable and Connector Specification"
- NOTE6. PIN ASSIGNMENT(REF.)

Pin No.	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
	GND	RX2+	RX2-	V <sub>bus</sub>	SBU1	D-	D+	CC	V <sub>bus</sub>	TX1-	TX1+	GND
	GND	TX2+	TX2-	V <sub>bus</sub>	V <sub>CONN</sub>			SBU2	V <sub>bus</sub>	RX1-	RX1+	GND
Pin No.	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12

- NOTE7. LOT NUMBER IS MARKED AS INDICATED.  
 [AUTOMATIC MACHINE ASSEMBLY] : WITH LOT NUMBER  
 [MANUAL JIG ASSEMBLY] : WITHOUT LOT NUMBER



- NOTE8. RECOMMEND TO UTILIZE THE SIDE SHELL TABS BY SOLDERING TO PCB PADS FOR THE MECHANICAL STRENGTH AND GND CONNECTION.

**Notice:**

1. The values specified in this brochure are only for reference. The products and their specifications are subject to change without notice. Contact our sales staff for further information before considering or ordering any of our products. For purchase, a product specification must be agreed upon.

2. Users are requested to provide protection circuits and redundancy circuits to ensure safety of the equipment, and sufficiently review the suitability of JAE's products to the equipment.

3. The products presented in this brochure are designed for the uses recommended below. We strongly suggest you contact our sales staff when considering use of any of the products in any other way than the recommended applications or for a specific use that requires an extremely high reliability.

(1) Applications that require consultation:

(i) Please contact us if you are considering use involving a quality assurance program that you specify or that is peculiar to the industry, such as:

Automotive electrical components, train control, telecommunications devices (mainline), traffic light control, electric power, combustion control, fire prevention or security systems, disaster prevention equipment, etc.

(ii) We may separately give you our support with a quality assurance program that you specify, when you think of a use such as :

Aviation or space equipment, submarine repeaters, nuclear power control systems, medical equipment for life support, etc.

(2) Recommended applications include:

Computers, office appliances, telecommunications devices (terminals, mobile units), measuring equipment, audiovisual equipment, home electric appliances, factory automation equipment, etc.

**Japan Aviation Electronics Industry, Limited**

Product Marketing Division

Aobadai Building, 3-1-19, Aobadai, Meguro-ku, Tokyo 153-8539

Phone: +81-3-3780-2882 FAX: +81-3-3780-2946

\* The specifications in this brochure are subject to change without notice. Please contact JAE for information.