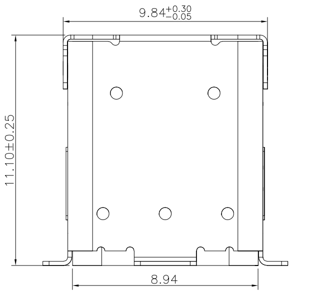
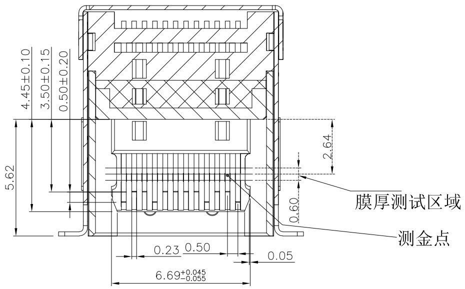
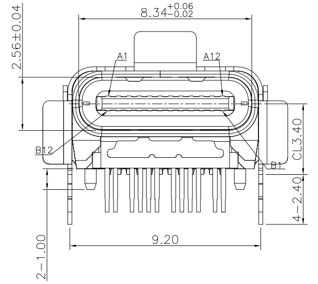
GP Component

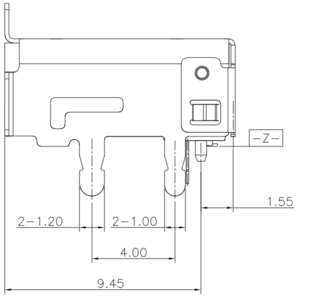
REV.	ECN NO.	LOCATIONS	DESCRIPTION	DATE	DESIGN
A0			Initial	2019/11/03	Hanson
A1			Change Notes	2020/07/10	Hanson
A1.1			Change Notes	2021/11/28	Ken Lin
A2			更新产品细节	2025/02/12	Ken Lin

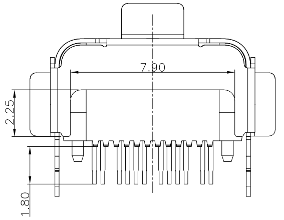


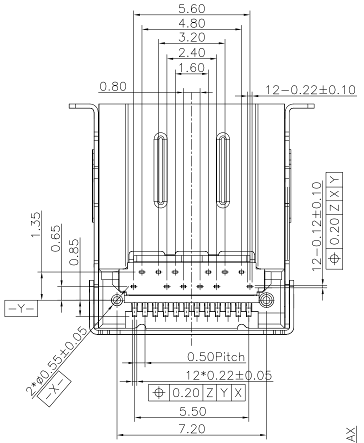


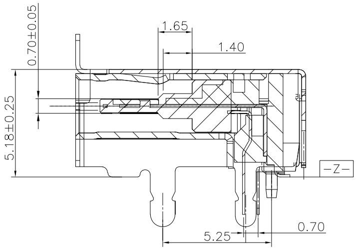
Section B-B



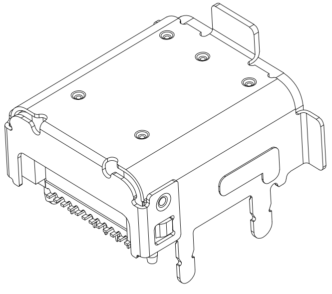




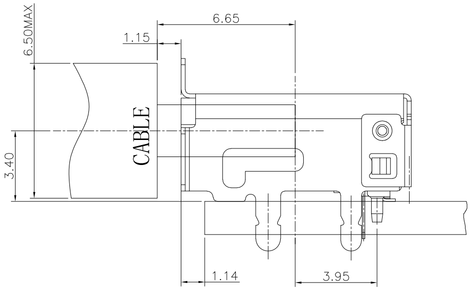




Section A-A
Scale 1:1



3D VIEW



Mating Drawing

NOTES:

1.MECHANICAL:
- 1.1 INSERTION: 5~20N.
- 1.2 EXTRACTION: 8~20N.
- A1 1.3 DURABILITY: 10000 CYCLES

2.ELECTRICAL:
- A1 2.1 CURRENT: 5A MIN FOR VBUS;
- A1 2.2 VOLTAGE: 20VAC MAX
- 2.3 WITHSTANDING VOLTAGE: 100V AC.
- 2.4 CONTACT RESISTANCE: 40mΩ MAX.
- 2.5 INSULATION RESISTANCE: 100MΩ MIN.

3.ENVIRONMENTAL:
- 3.1 TEMPERATURE RANGE −55°C ~ +85°C

MATRIX PART NO:

MUSB12-03-396

MATRIX TYPE-C — MUSB12

Plating — 03
03:3u″
15:15u″
30:30u″

Series number — 396

NO.	DESCRIPTION	QTY	MATERAL	SPECIFICATION
8	UPPER CONTACT	12	COPPER ALLOY	Ni 50μ″Min AT TAIL, 1μ″ Min Au AT SOLDER Au 3μ″ Min AT CONNECT AREA Ni 80μ″Min.
7	LOWER CONTACT	12		
6	LOWER Insert Molding	1	THERMOPLASTIC UL 94V-0	COLOR: BLACK
5	UPPER Insert Molding	1	THERMOPLASTIC UL 94V-0	COLOR: BLACK
4	OVERMOLD	1	THERMOPLASTIC UL 94V-0	COLOR: BLACK
3	SHIELD PLATE	1	STAINLESS STEEL	NiCKEL PLATING AT OVER ALL
2	INNER SHELL	1	STAINLESS STEEL	CLEAN
1	OUTER SHELL	1	STAINLESS STEEL	NICKEL PLATING ONLY AT TAIL,AU AT SOLDER TAIL

Matrix Electronics Co.,Ltd

TOLERANCE: X. ±0.50 X.X ±0.30 X.XX ±0.25 X.XXX ±0.15 ANGLE: ±2°	DESIGN BY : Ken Lin	DATE : 2025/02/12	PART NAME: USB 3.1 Gen 2 Type C Female R/A, Pad type, CL 3.4 有弹片 后壳有缺口	
	CHECKED BY: Hanson Huang	DATE : 2025/02/12	PART NO.	MUSB12-03-396
UNIT: mm [inch]	APPROVED BY1: Richard Hsieh	DATE : 2025/02/12	MOLD NO.	NA
SCALE:1:1 SIZE:A4	APPROVED BY2: Richard Hsieh	DATE : 2025/02/12	DRAW NO.	
			SHEET NO.	1 OF 2

GP Component

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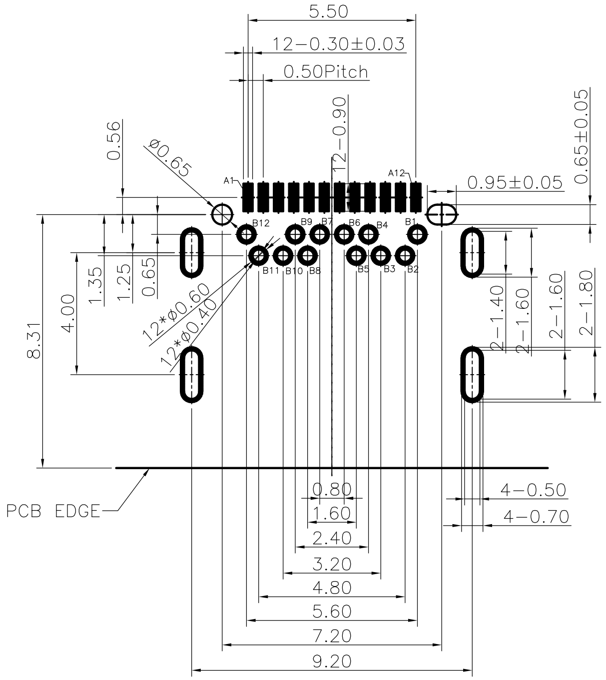

RECOMMENDED PCB LAYOUT(COMPONENT SIDE)

PCB THICKNESS: 1.60±0.05
DEFAULT TOLERANCE: ±0.05

USB TYPE-C FULL-FEATURED RECEPTACLE INTERFACE PIN ASSIGNMENTS

PIN	Signal Name	Description	PIN	Signal Name	Description
A1	GND	Ground return	B12	GND	Ground return
A2	SSTXp1	Positive half of first SuperSpeed TX differential pair	B11	SSRXp1	Positive half of first SuperSpeed RX differential pair
A3	SSTXn1	Negative half of first SuperSpeed TX differential pair	B10	SSRXn1	Negative half of first SuperSpeed RX differential pair
A4	VBUS	Bus Power	B9	VBUS	Bus Power
A5	CC1	Configuration Channel	B8	SBU2	Sideband Use (SBU)
A6	Dp1	Positive half of the USB 2.0 differential pair-Position 1	B7	Dn2	Negative half of the USB 2.0 differential pair-Position 2
A7	Dn1	Negative half of the USB 2.0 differential pair-Position 1	B6	Dp2	Positive half of the USB 2.0 differential pair-Position 2
A8	SBU1	Sideband Use(SBU)	B5	CC2	Configuraation Channel
A9	VBUS	Bus Power	B4	VBUS	Bus Power
A10	SSRXn2	Negative half of second SuperSpeed RX differential pair	B3	SSTXn2	Negative half of second SuperSpeed TX differential pair
A11	SSRXp2	Positive half of second SuperSpeed RX differential pair	B2	SSTXp2	Positive half of second SuperSpeed TX differential pair
A12	GND	Ground return	B1	GND	Ground return

Matrix Electronics Co.,Ltd

TOLERANCE:
X. ±0.50
X.X ±0.30
X.XX ±0.25
X.XXX ±0.15
ANGLE: ±2°

UNIT: mm [inch]
SCALE:1:1
SIZE:A4

DESIGN BY : Ken Lin	DATE : 2025/02/12	**PART NAME:** **USB 3.1 Gen 2 Type C Female R/A, Pad type, CL 3.4** 有弹片 后壳有缺口	
CHECKED BY: Hanson Huang	DATE : 2025/02/12	PART NO.	MUSB12-03-396
APPROVED BY1: Richard Hsieh	**DATE :** 2025/02/12	MOLD NO.	NA
APPROVED BY2: Richard Hsieh	**DATE :** 2025/02/12	DRAW NO.	
		SHEET NO.	2 OF 2