

Designing and Handling Guidline for CX90B1-24P

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1. Revision History

Revision History	Date	Handled by	Remarks
1.0	January. 15. 2018	JH.BOO	Draft version
2.0	April. 24. 2018	HJ.KIM	Release

2. Introduction

2.1 Purpose

The guidelines are intended to provide information on product features and how to handle them.

Guidelines are intended to provide general information and do not limit your design or guarantee results in all situations.

2.2 Scope

Guidelines describe basic design information, recommended device dimensions, and regulatory requirements.

These guidelines will be revised from time to time to reflect changes in technology and production capacity.

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, 2017

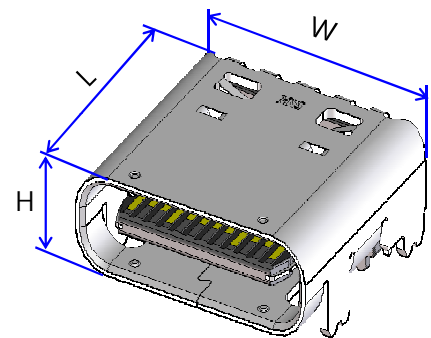
3. Information Of Product

3.1 Specification

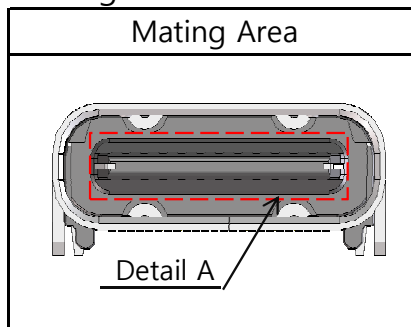
No. of Contacts	24 Pos.
Rated Current	DC 1.25 A max. for each power pin (i.e. A1, A4, A9, A12, B1, B4, B5, B9, B12) DC 0.25A for the other pins
Rated Voltage	20 V AC
Operating Temperature	-40 °C to +85 °C
Contact Resistance	40 mΩ Max. (Initial)
Withstanding Voltage	100 V AC for 1 minute
Insulation Resistance	100 MΩ Min. (500 V DC)
Mating Cycles	10,000 times

3.2 Product Size

Soldering Type	Mounting Type	Size (W * L * H)
Dual Row (SMT)	On Board	8.94 * 8.15 * 3.14



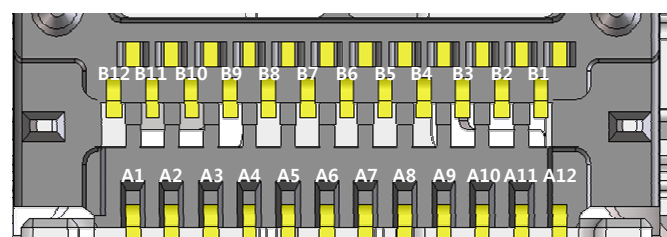
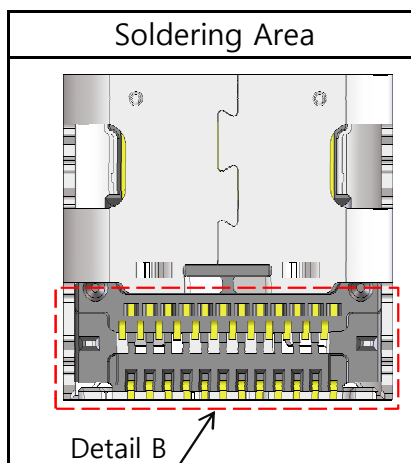
3.3 Pin Assignment



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

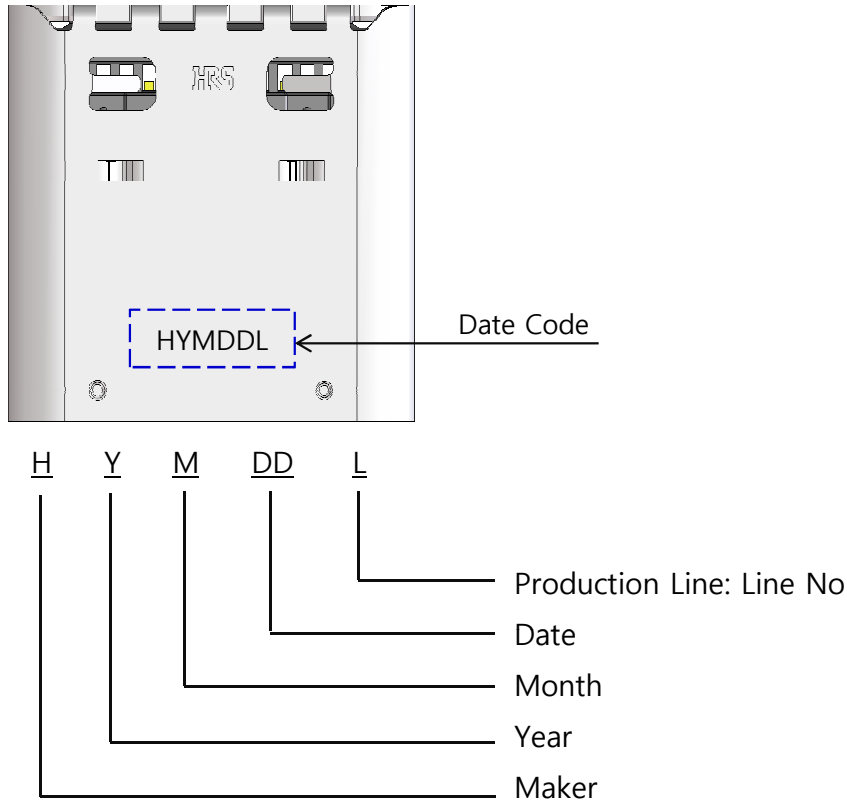


Detail A



Detail B

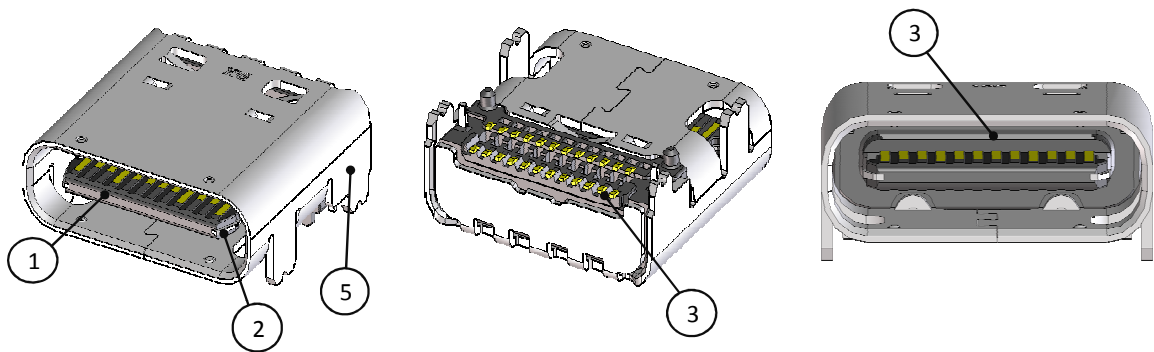
3.4 Manufacturing Date Code System



Maker		Year		Month		Day		Production Line	
Ex.	Mark	Ex.	Mark	Ex.	Mark	Ex.	Mark	Ex.	Mark
Hirose Korea	H	2011	1	Jan.	1	1st	1	MP Manual #1	1
		2012	2	Feb.	2	2nd	02	MP Manual #2	2
		2013	3	Mar.	3	3rd	03	MP Manual #3	3
		2014	4	Apr.	4	4th	04	MP Manual #4	4
		2015	5	May	5	5th	05	...	...
		2016	6	Jun.	6	6th	06	...	...
		2017	7	Jul.	7	7th	07	MP Auto #1	A
		2018	8	Aug.	8	8th	08	MP Auto #2	B
		2019	9	Sep.	9	9th	09	MP Auto #3	C
		2020	0	Oct.	A	10th	10	MP Auto #4	D
		...	...	Nov.	B	11th	11	MP Auto #5	E
				Dec.	C	...	...	...	...

3.5 Part List

No	Part	Materials	Color / Finish
1	Insulator	Thermoplastic	UL94V-0, Black Color
2	Mid Plate	Stainless Steel	Ni 1~5μm
3	Contact	Copper Alloy	Contact Area : Au 0.05 μm Min over Pd-Ni 0.75 μm Min over Ni 2~5 μm Solder Tails : Au 0.03 μm Min over Ni 1~5 μm
4	GND Plate	Stainless Steel	Cleansing
5	Metal Shell	Stainless Steel	Ni 1~5μm

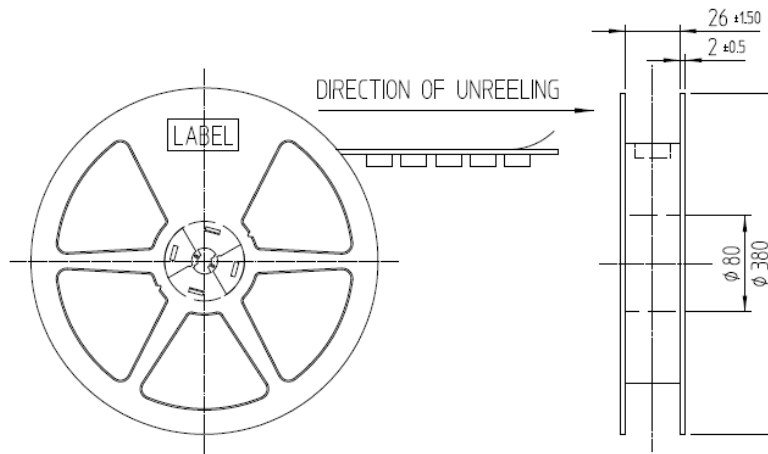


3.6 Configuration of Product Name

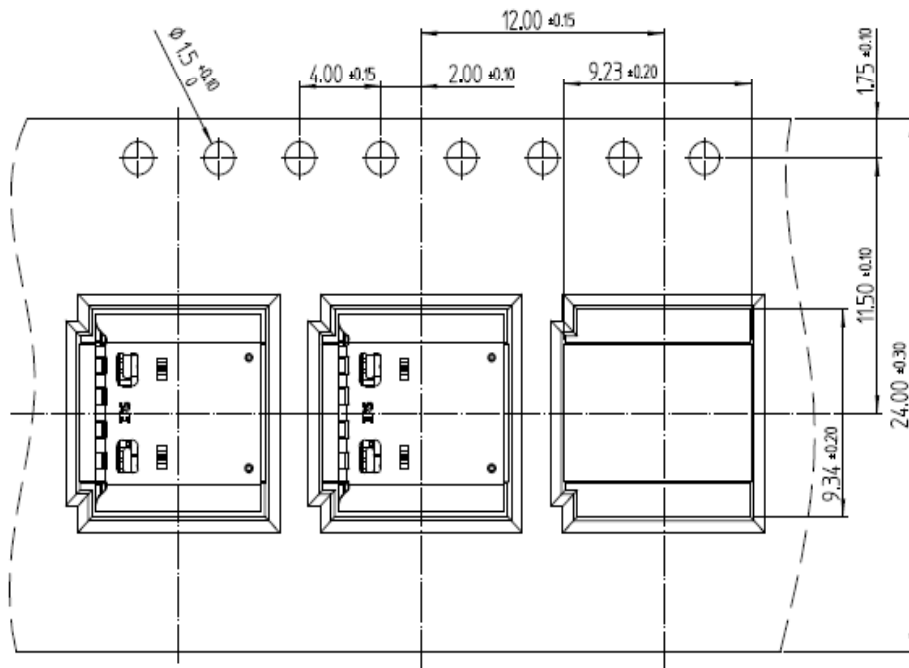
CX 90 B 1 - 24 P
(1) (2) (3) (4) (5) (6)

(1) Series Name		CX
(2) Soldering Type	60	Paddle Card
	70	Right angle Hybird (SMT+Dip)
	90	Rignt angle SMT
(3) Mounting Type	B	Top-mount
	M	Mid-Mount
(4) Serial No		None or 1,2,3....
(5) Contact No		24
(6) Contact Type	P	Receptacle (Male contacts)
	S	Plug (Female contacts)

3.7 Reel Dimensions



3.8 Emboss Carrier Tape Dimensions

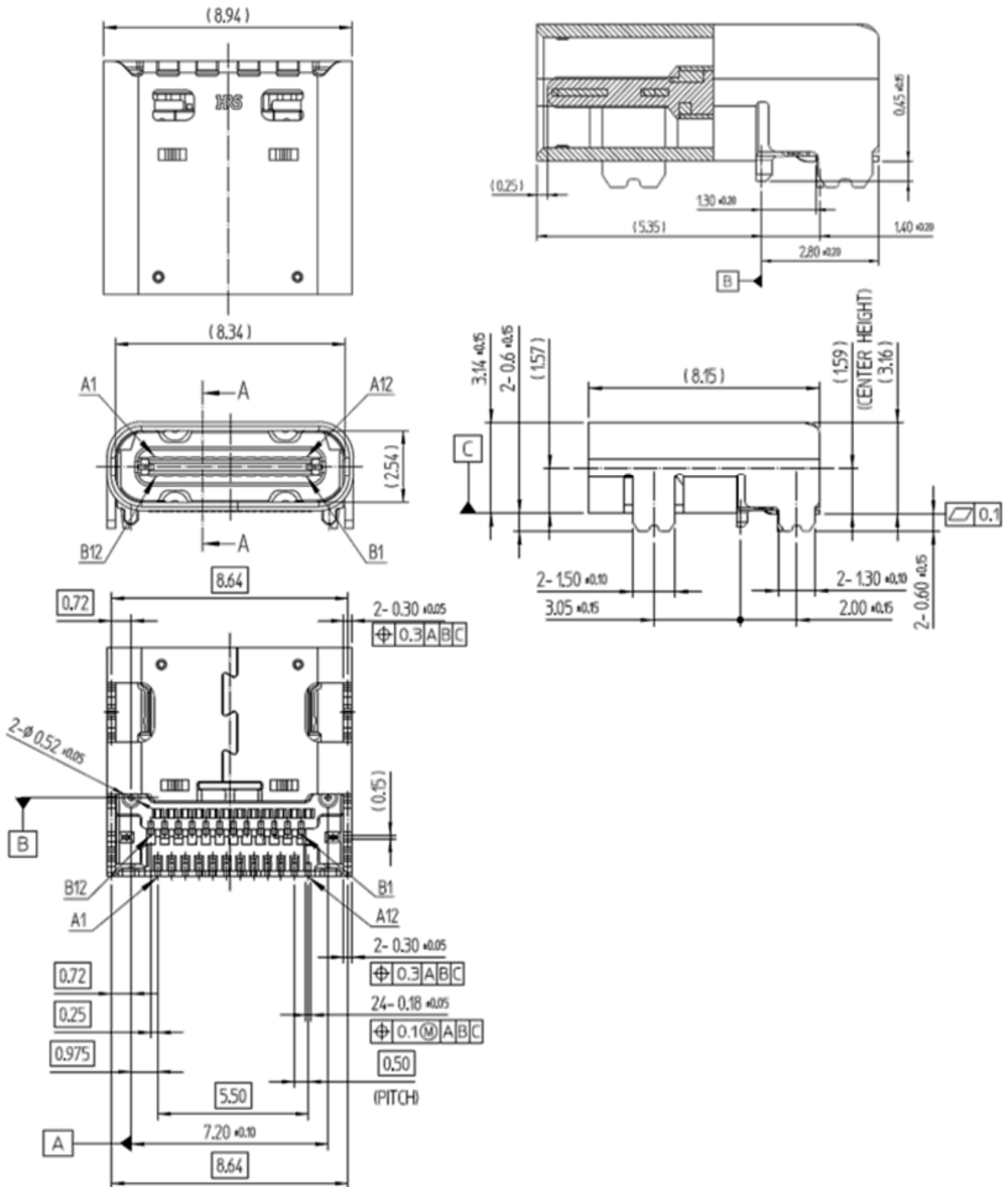


※ Emboss Tape was designed in accordance with EIA-481

3.9 Packing Quantity Per Reel: 1,500 PCS

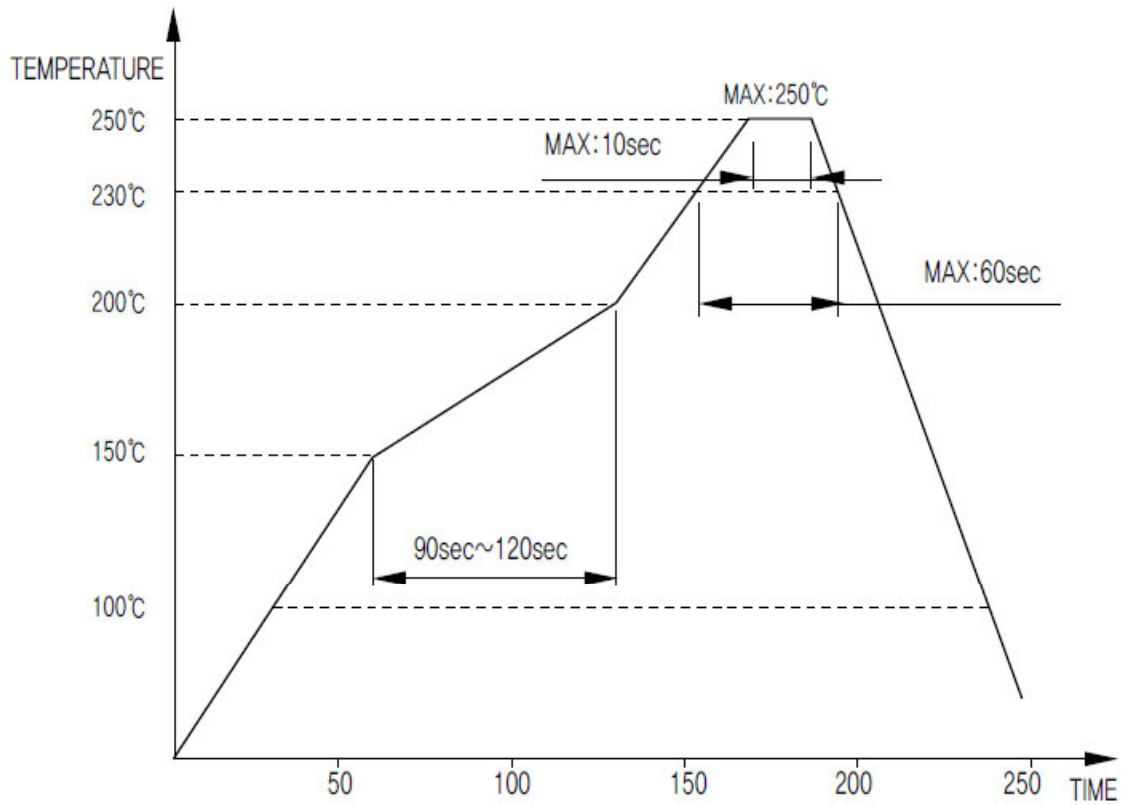
3.10 Peeling Strength:

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



4. Notice for Soldering

4.1 Recommended Reflow Temperature Profile

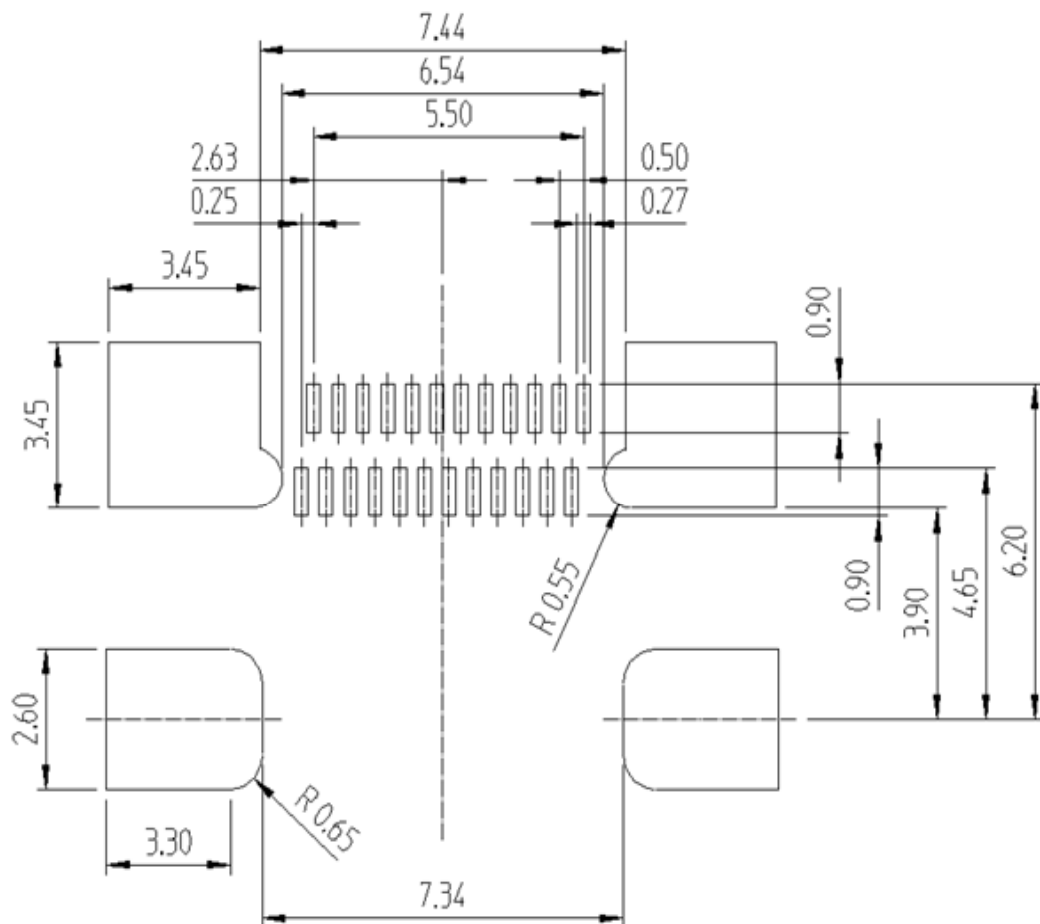


- Profile measuring point
The temperature profile indicates the board surface temperature at the point of contacts with the connector terminals.
- Reflow cycles
Up to 2 cycles of reflow soldering are possible under the same conditions.
* Temperature between 1st and 2nd reflow must be cooled down to room 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

4.4 Metal Mask Designing

RECOMMENDED METAL MASK LAYOUT (TOP-VIEW)

(REFERENCE ONLY)



- Metal mask thickness: 0.10mm
- Open rate: 100%

$$\text{Open rate(\%)} = \frac{\text{Opening size of mask}}{\text{Land size of PCB}}$$

4.5 Solder Paste

Lead-free solder

5. Notice for Connector Handling

5.1 Mating Plug

Please use USB Type-C Plug only

