

APPROVAL SHEET

To :

Customer P/N :

UDE P/N : RUP-ZZ-0185

Description : RJ45 Tab up over USB3.1 Gen 2 stack
Through Hole

2.5G Base-T

Contact Area : 30 μ " Min. Gold

LED : L-Green/Orange; R-Yellow



Spec No.
RUP19081-00

Update Date
2019/6/19

Revision
A

Approved	Checked	Prepared



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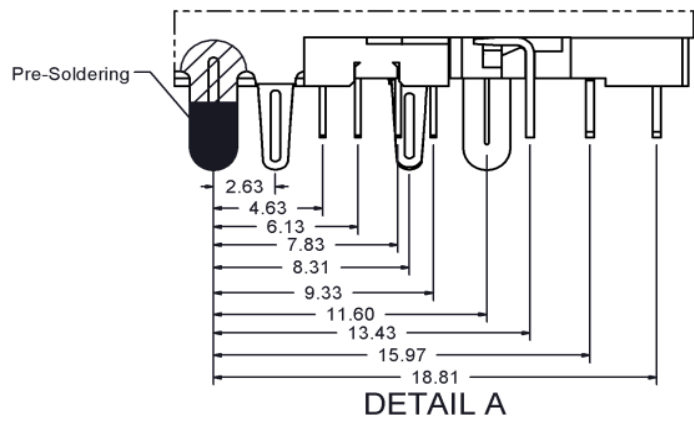
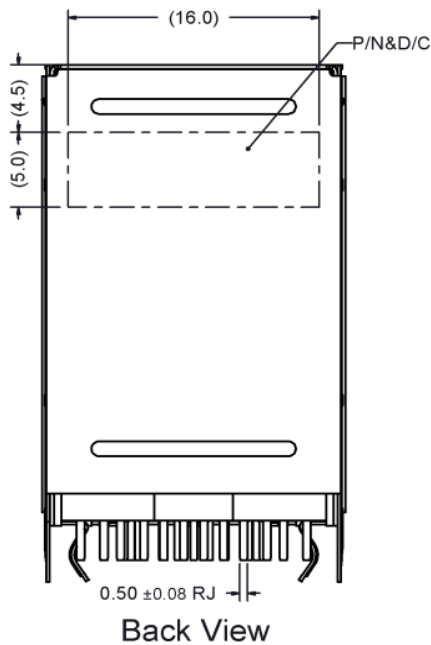
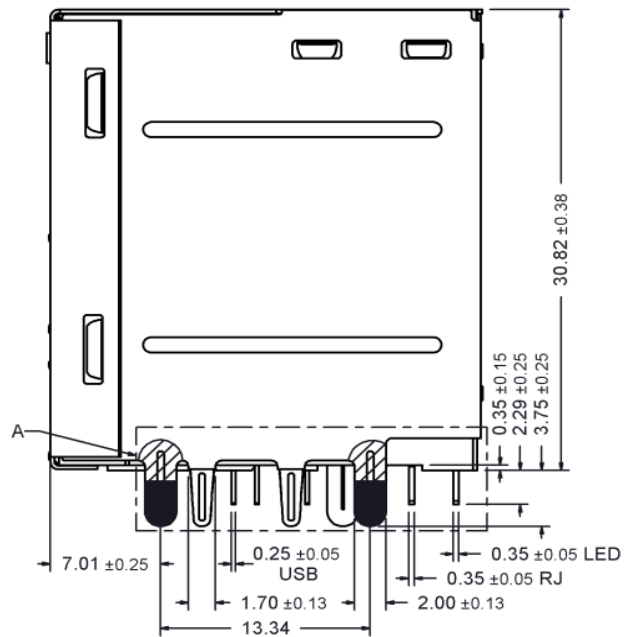
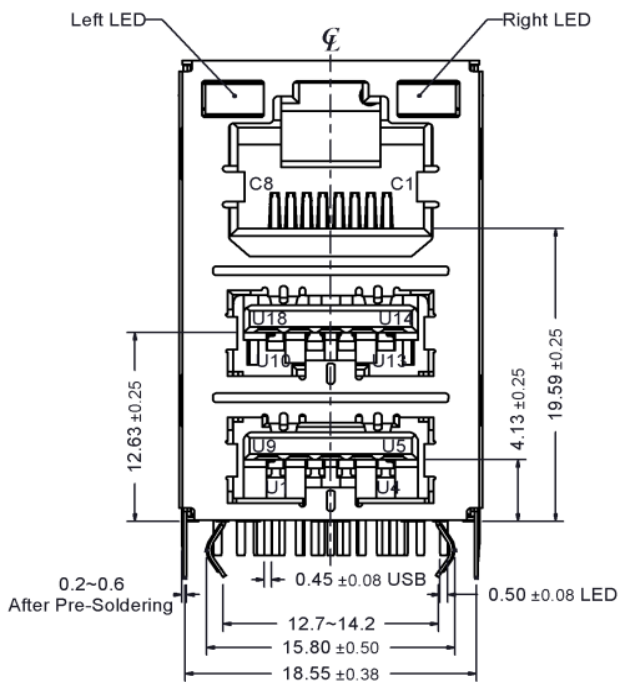
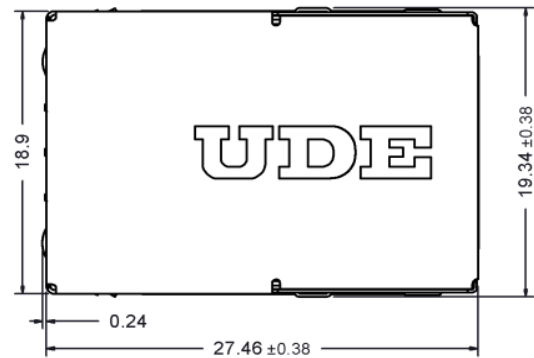
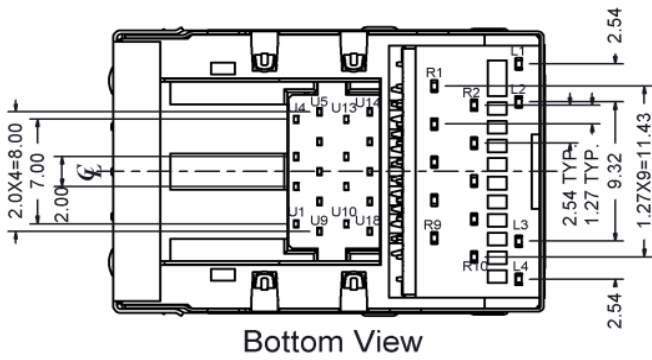
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1. MECHANICAL DIMENSION

Product Dimension

Unit:mm	General Tolerance :	X.X : ± 0.38
		X.XX : ± 0.20



Recommended PCB Layout. Component side of board

All dimension units are "mm".

All dimension tolerances are ±0.05mm unless otherwise specified.

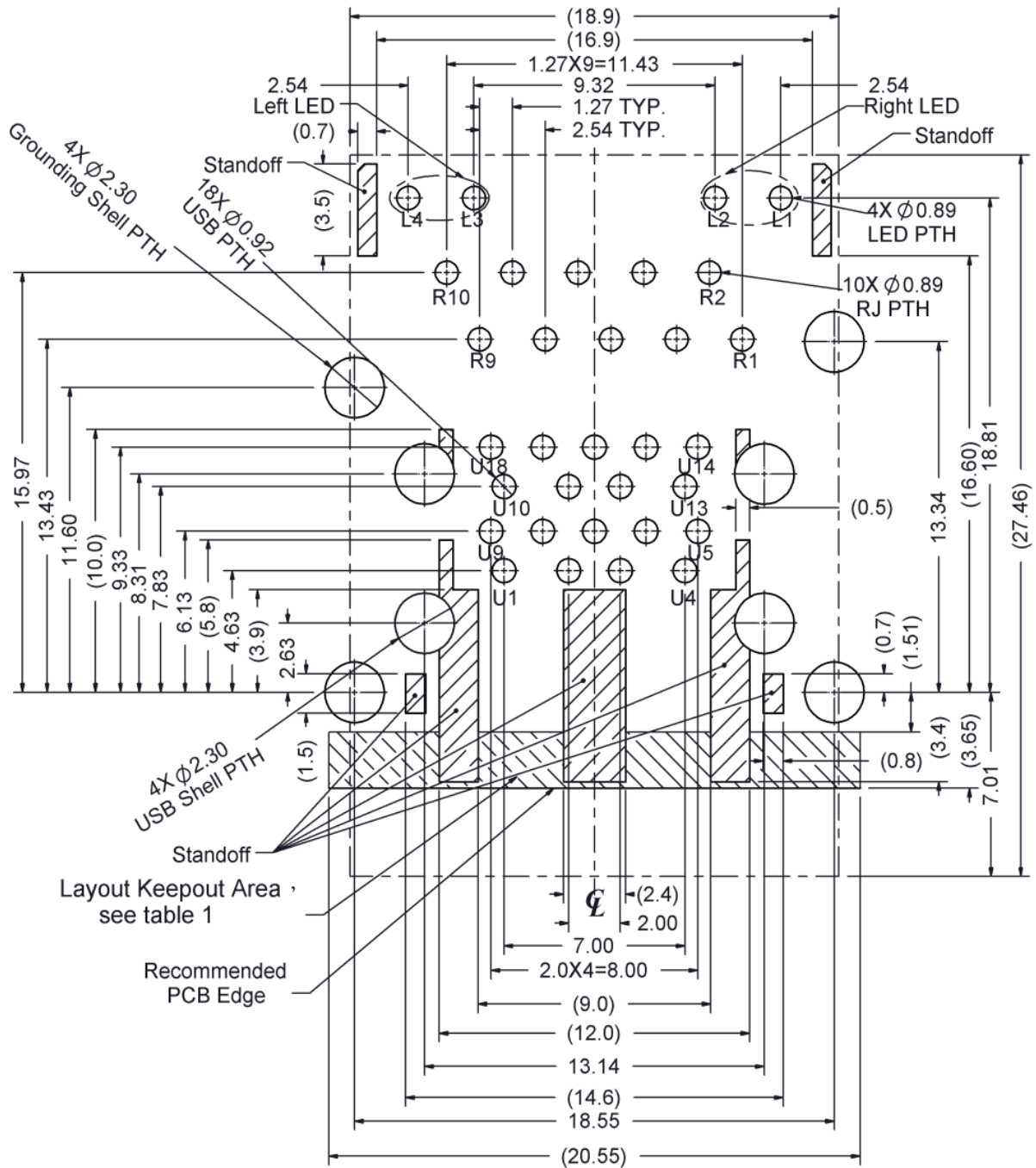
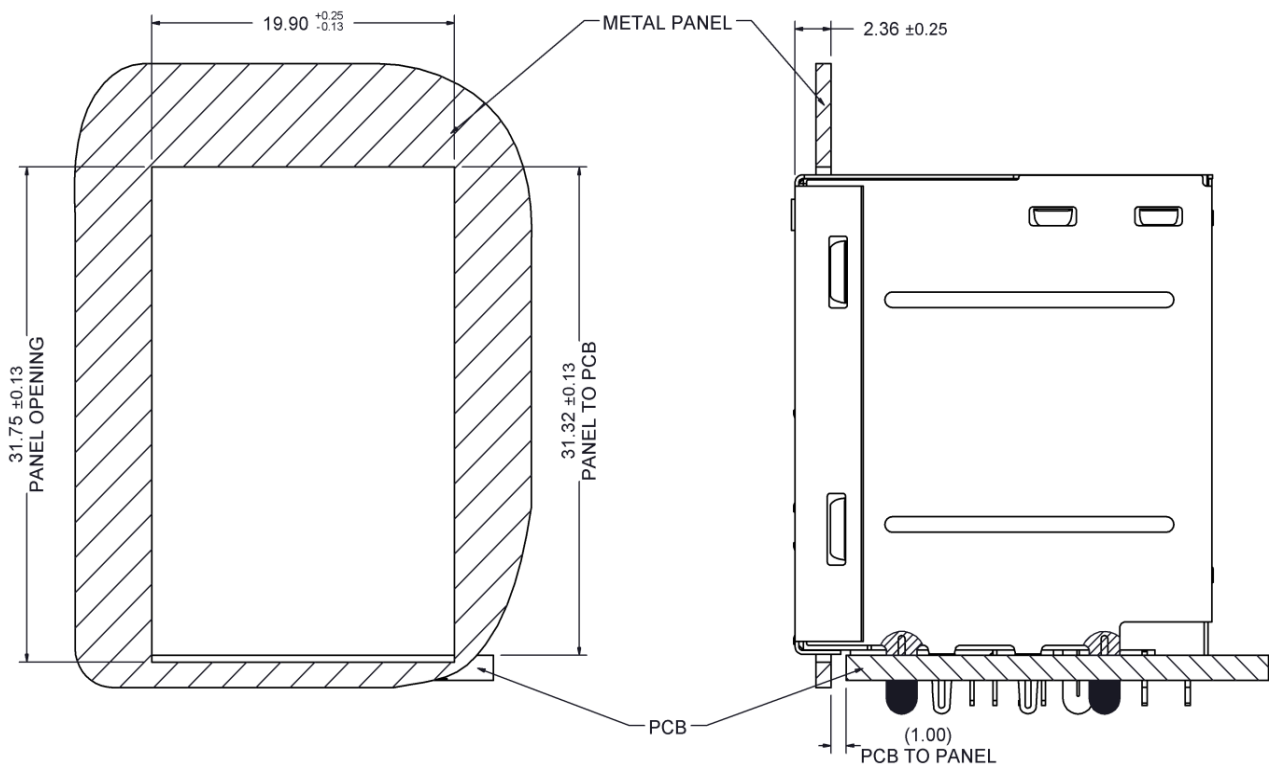


Table1

Layout Layer	Trace	component	Grounding	Test Point	Via Hole	PTH	NPTH
Component side	X	X	O	X	X	X	O
Inner layer	O	NA	O	NA	O	X	O
Bottom side	O	O	O	O	O	X	O

X--Forbid; O--OK; NA--Not Applicable.

Recommended Panel cutout



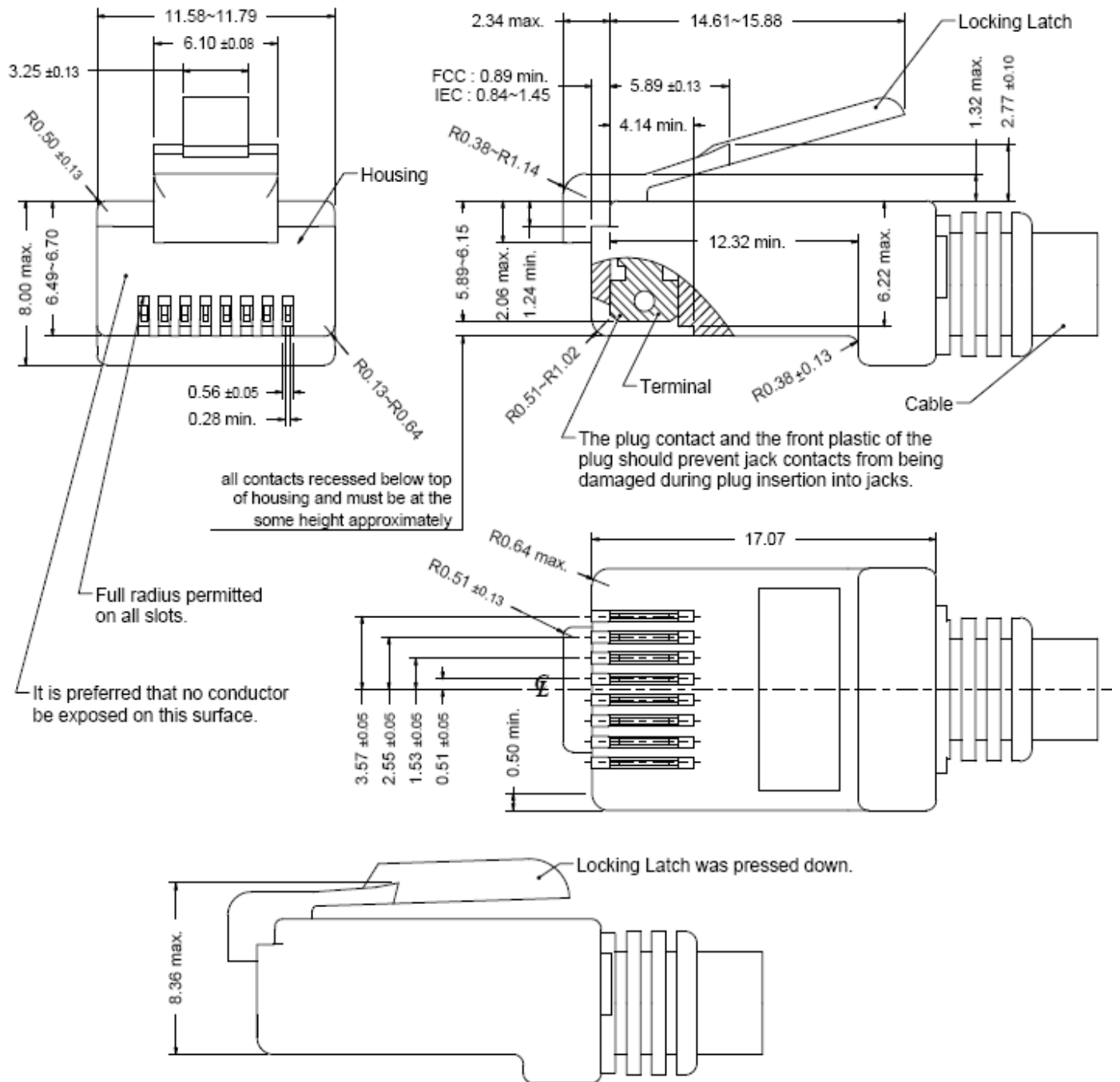
2. Packing Information

40 pcs finished goods per tray

5 trays(200 pcs finished goods) per inner box

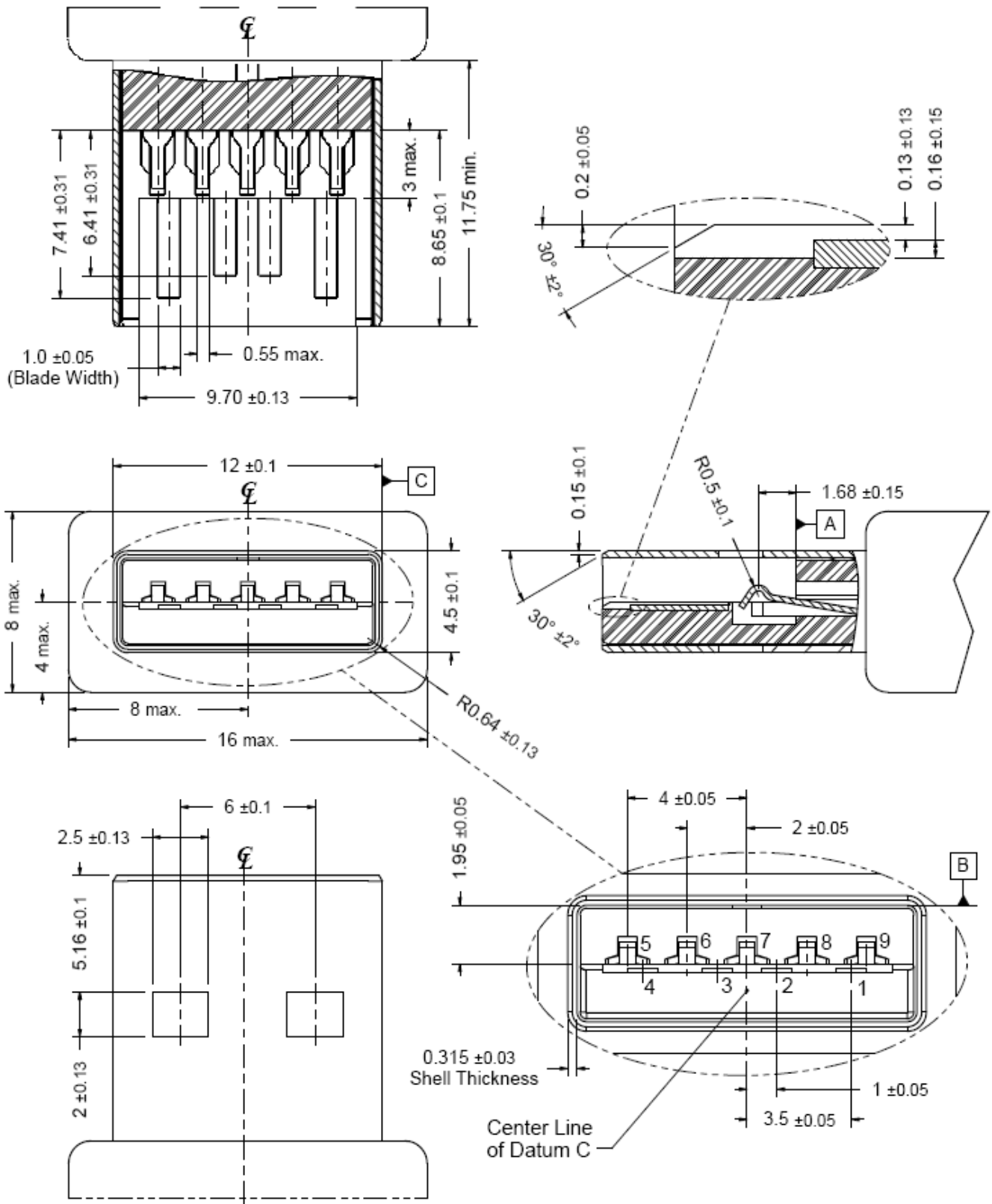
4 Inner boxes(800 pcs finished goods) per master carton

3. Standard RJ45 Plug Specification



- All dimensions follow :
FCC subpart F, 68,500, Figure (C)(2)(i) & (C)(2)(ii) & (C)(3)(i)
IEC 60603-7
- All plugs must be meeting the requirements of plug Go & No-Go gauge.
Gauge follow : FCC subpart F, 68,500, Figure (C)(4)(i) & (C)(5)(i)
- There must be no damage to Housing and Locking Latch.
- There must be no nicks and cuts in cable.
- Durability : 750 cycles generally

4. USB 3.1 Standard-A Plug Specification



- All dimensions follow : Universal Serial Bus 3.0 Specification, Revision 1.0.

Figure 5-2. USB 3.1 Standard Plug-A interface dimensions

- Non-dimensions geometry for reference only, subject to change.
- Drawing for mating interface dimensions only.

5. REQUIREMENTS

Design and Construction

Product shall be of design, construction and physical dimensions specified on applicable.

Material

Terminal Parts (Underplating : 50 μ " min. Nickel overall)

RJ Terminal : Phosphor Bronze, Thickness=0.30mm

Finish : Contact Area : 30 μ " min. Gold

Solder Tail : 100 μ " min. Bright Tin

USB 2.0 Terminal : Phosphor Bronze, Thickness=0.25mm

Finish : Contact Area : 30 μ " min. Gold

Solder Tail : 100 μ " min. Matte Tin

USB 3.1 Gen2 Terminal : Brass, Thickness=0.25mm

Finish : Contact Area : 30 μ " min. Gold

Solder Tail : 100 μ " min. Matte Tin

Input Terminal : Brass, Thickness=0.35mm

Finish : 100 μ " min. Matte Tin

Case Terminal : CP Wire, Diameter=0.40mm

Finish : 100 μ " min. Bright Tin

LED Terminal : Brass, Thickness=0.35mm

Finish : 100 μ " min. Matte Tin

Plastic Parts <UL94V-0>

RJ Housing : PBT, Black

Spacer : PBT, Black

Case : PF2A5-151J(b), Black

USB Housing : PA9T, Blue(300C)

USB Back Cover : PA9T, Blue(300C)

Shield Parts

Front Shield : Stainless Steel, Thickness=0.25mm, unplating

Back Shield : Stainless Steel, Thickness=0.20mm, Pre-soldering

6. Operating and Storage Temperature

Operating Temperature : 0°C to +70°C

Storage Temperature : -40°C to +85°C

7. RJ45 specifications

Insulation Resistance : 500MΩ min.

Insertion force with the latch depressed : 20N max.

Removal force with the latch depressed : 20N max.

Locking Force of Plug Latch : 50N min. @ 60+/-5 sec.

Durability : 2500 cycles

8. USB 3.1 Gen2 specifications

Insulation Resistance : 100MΩ min.

Dielectric Withstanding Voltage : 100VAC @1min

Insertion force : 35N max

Removal force : The connector extraction force shall not be less than 10N initial
and 8N after the specified insertion/extraction or durability cycles

Durability : 1500 cycles

9. Performance and Test Description

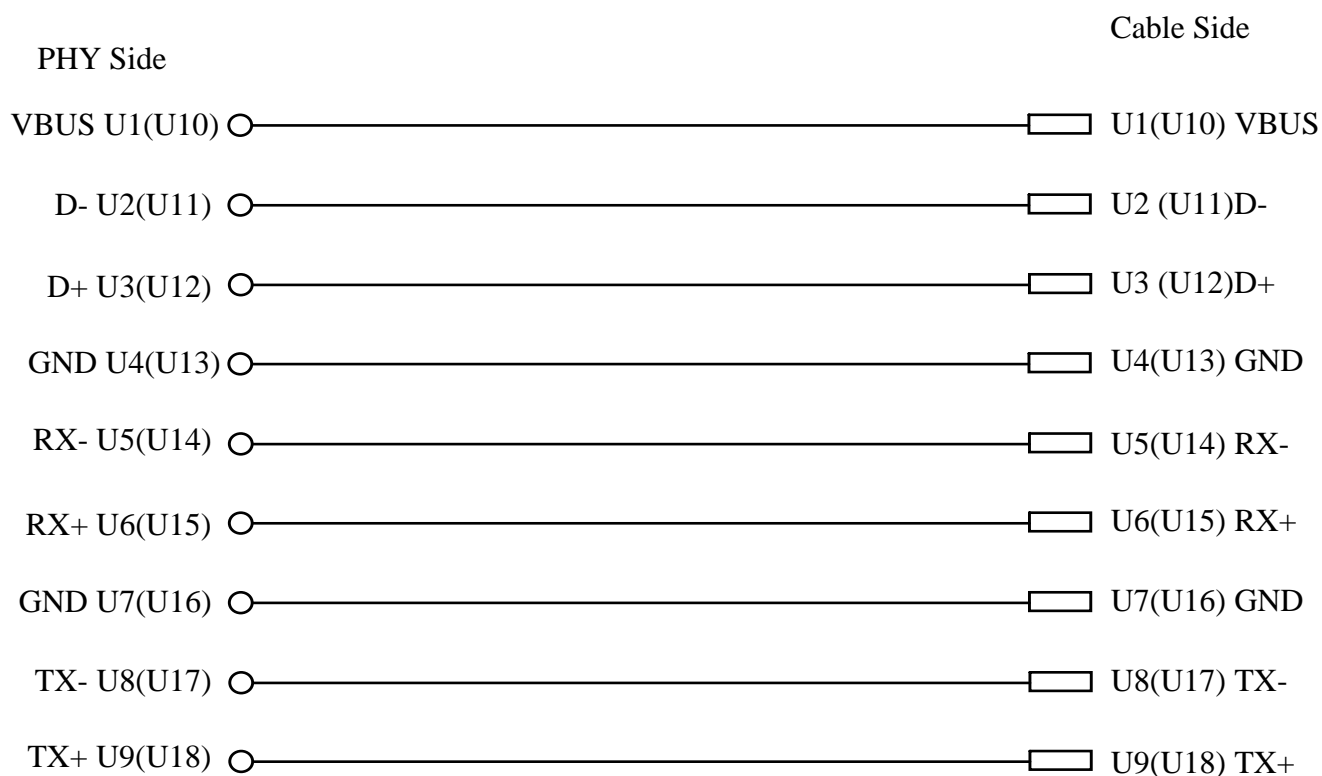
Product is designed to meet electrical, mechanical and environmental performance requirements specified in below table.

All tests are performed at ambient environmental conditions per MIL-STD-1344A and EIA-364 unless otherwise specified.

10 Packaging and Packing

All parts shall be packaged and packed to protect against physical damage, corrosion and deterioration during shipment and storage.

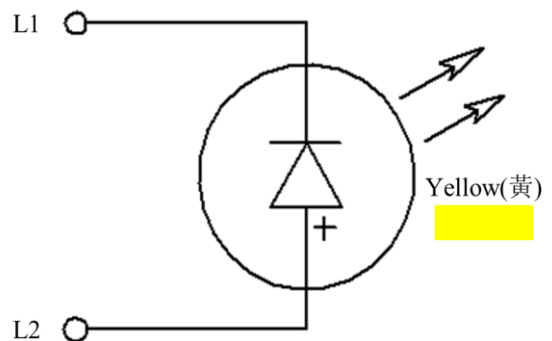
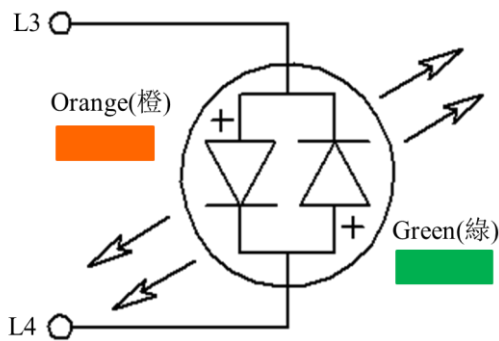
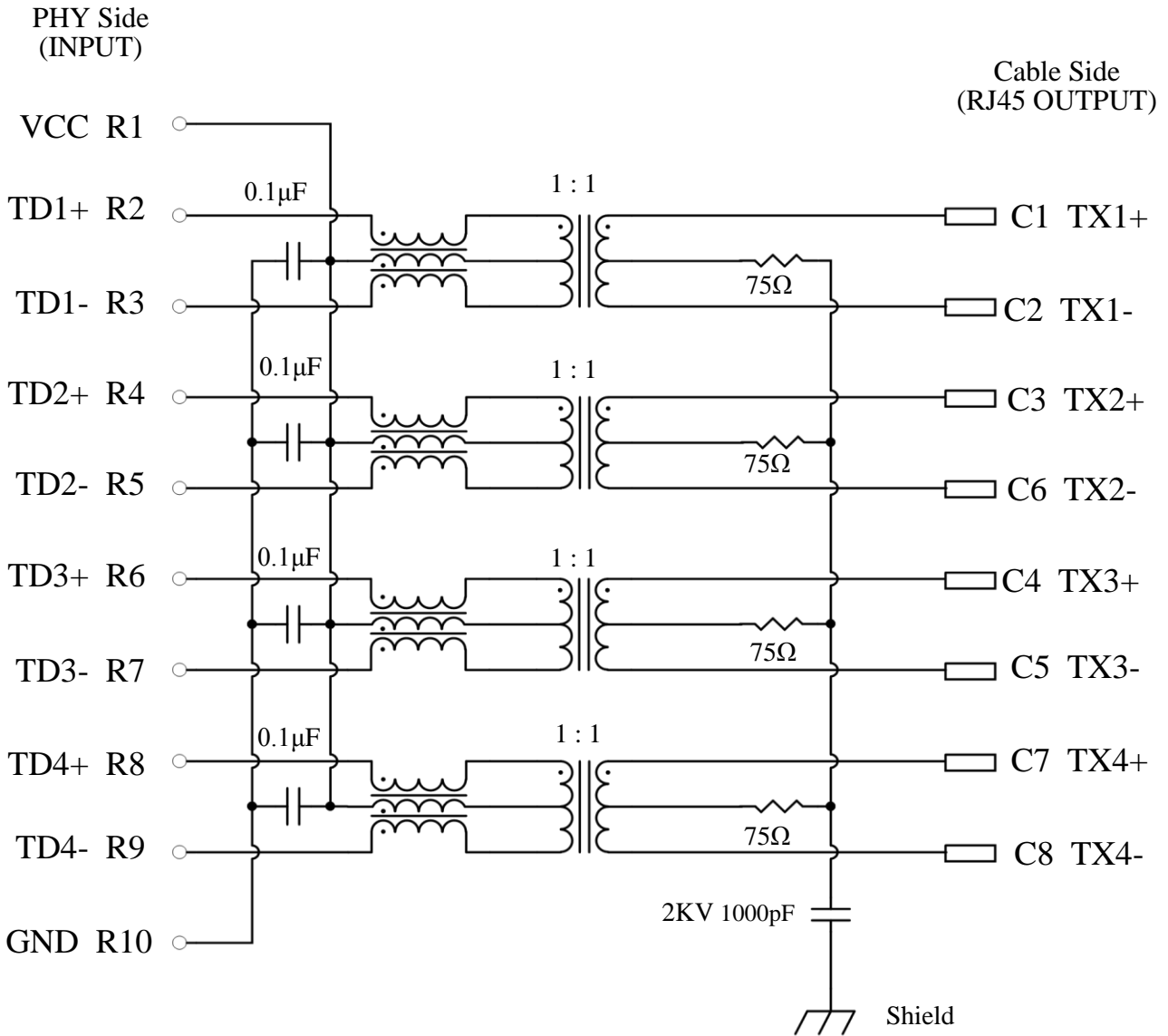
11. USB 3.1 GEN 2 Standard-A Schematic



USB 3.1 GEN 2 Standard-A connector Pin Assignment

Pin Number	Signal Name	Description	Mating Sequence
U1&U10	VBUS	Power	Second
U2&U11	D-	USB 2.0 Differential pair	Third
U3&U12	D+		
U4&U13	GND	Ground for power return	Second
U5&U14	StdA_SSRX-	Super speed receiver differential pair	Last
U6&U15	StdA_SSRX+		
U7&U16	GND_DRAIN	Ground for Signal return	
U8&U17	StdA_SSTX-	Surper speed transmitter differential pair	
U9&U18	StdA_SSTX+		
Shell	Shield	Connector metal shell	First

12. ELECTRICAL CHARACTERISTICS @25°C



Emitting Color	λ_p (nm)	V_f @ $I_f=20mA$	I_r @ $V_r=5V$
Green	570	1.7 ~2.6 V	10 μ A max.
Orange	605	1.7 ~2.6 V	10 μ A max.
Yellow	588	1.7 ~2.6 V	10 μ A max.

Transmitter filter & Receiver filter

Type : Balance low pass 100Ω impedance

Insertion loss : 1~50MHz -0.5dB max.

50~125MHz -1.0dB max.

125~200MHz -2.0dB max.

Return loss : 1~40MHz -20dB min.

40~200MHz $-20+15*\log(\text{Freq MHz}/40\text{MHz})$ dB min.

Reflected CM to Diff Conversion(REF)

1MHz -30dB min.

50MHz -30dB min.

100MHz -27dB min.

200MHz -24dB min.

CM to DM Conversion(REF)

1-50MHZ -35 dB min

125MHZ -30 dB min

200MHZ -25 dB min

Reflected Diff to CM Conversion(REF)

1-10MHZ -48 dB min

10-200MHz $-48+19*\log(\text{Freq MHz}/10\text{MHz})$ dB min

CM to CM Attenuation (REF)

1-200MHZ -25 dB min

Cross Talk

1~40MHz -35dB min.

40~125MHz $-35+15\log((\text{Freq MHz}/40\text{MHz}))$ dB min.

Inductance (OCL) @ 100KHz, 0.1V, 8mA DC BIAS

Input(TD1+,TD1-) ; (TD2+,TD2-) ; (TD3+,TD3-) ; (TD4+,TD4-) : 180 μH min.

HiPot Test

PHY Side(input) To Cable Side(output) : 1500Vac 60s or 2250Vdc 60s

13. WAVE SOLDERING TEMPERATURE PROFILE

Note :

The measuring point for the specified temperature shall be on the soldered part of the lead.

