

APPROVAL SHEET

To :

Customer P/N :

Singatron P/N : 2TJRH1-ZZ-0005

Description : RJ45 Over USB 3.0
Through Hole
10/100/1000 Base-T
Contact Area : Gold Flash
LED:L-Green; R-Yellow



Spec No.
RH116026-00

Update Date
2016/8/15

Revision
A

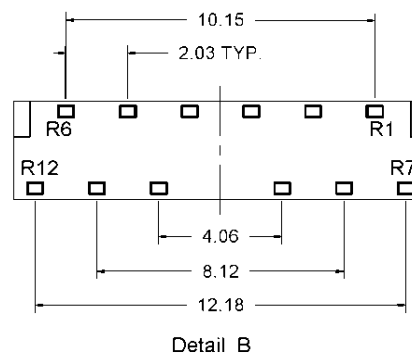
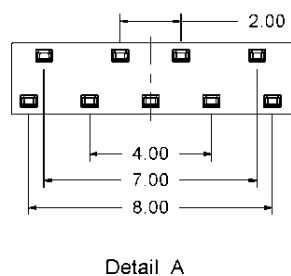
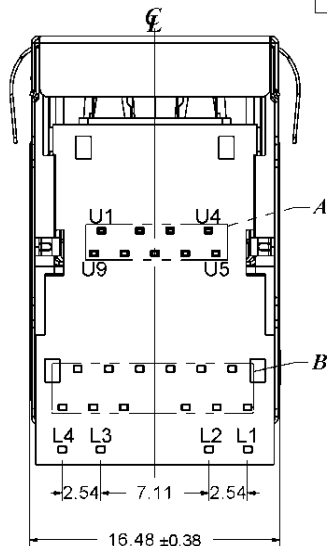
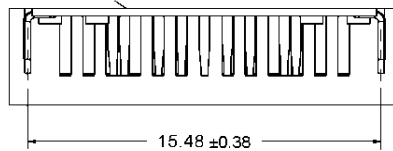
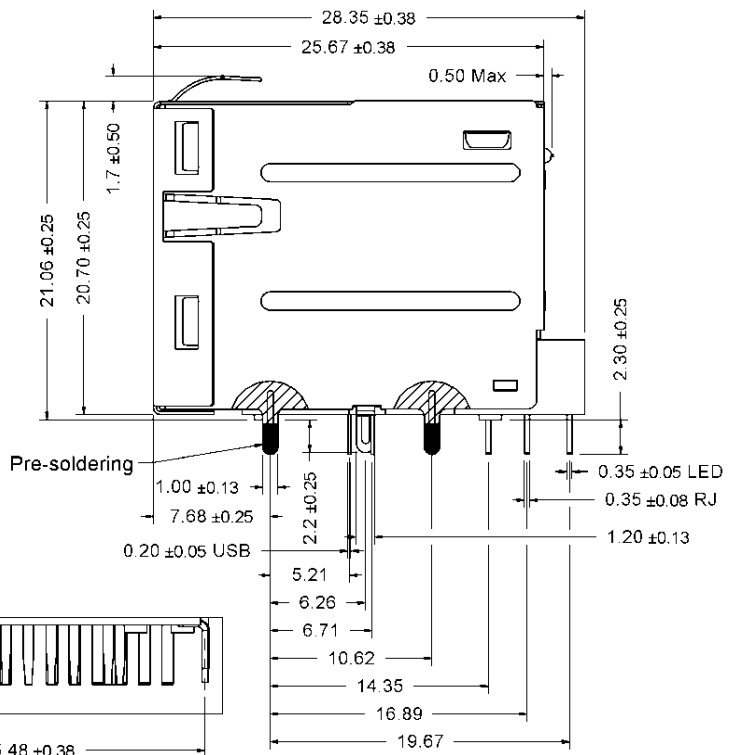
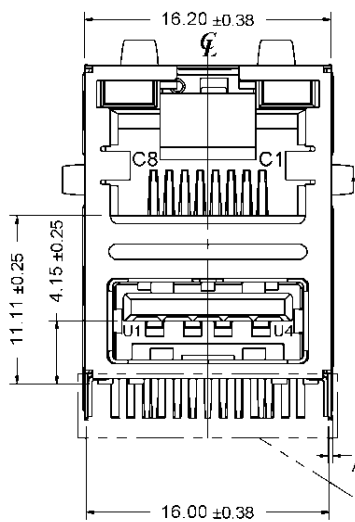
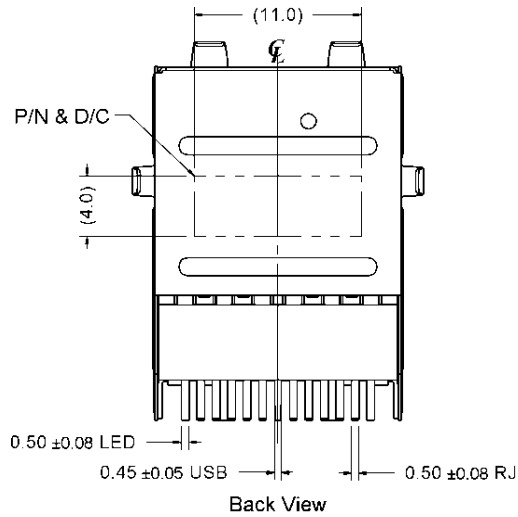
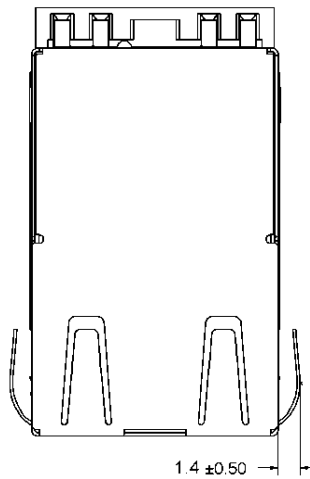
Approved	Checked	Prepared

SINGATRON U.S.A.
13925 MAGNOLIA AVE
CHINO, CA 91710 USA

1. MECHANICAL DIMENSION

1.1 Product Dimension

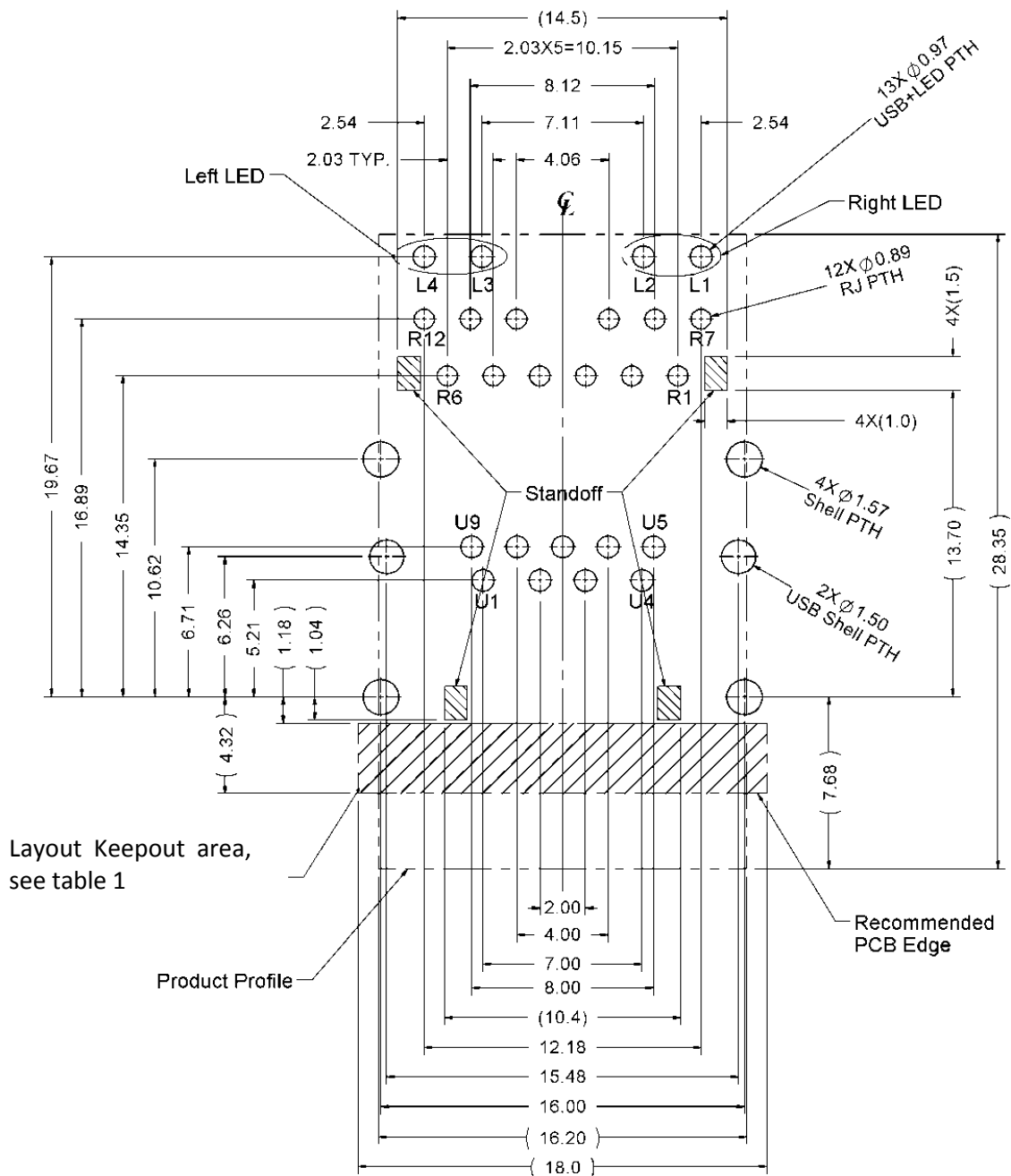
Unit:mm	General Tolerance :	X.X : ± 0.38
		X.XX : ± 0.20



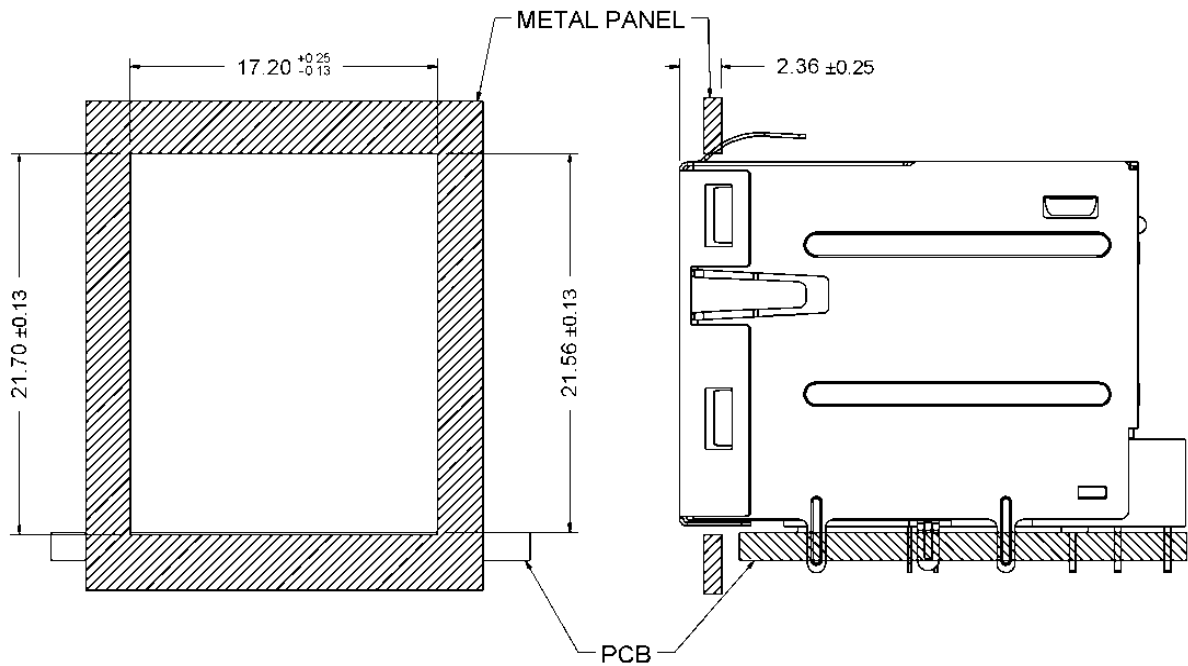
1.2 Recommended PCB Layout

Component Side of Board

All dimension tolerance are $\pm 0.05\text{mm}$ unless otherwise specified



1.3 Recommended Panel Cutout



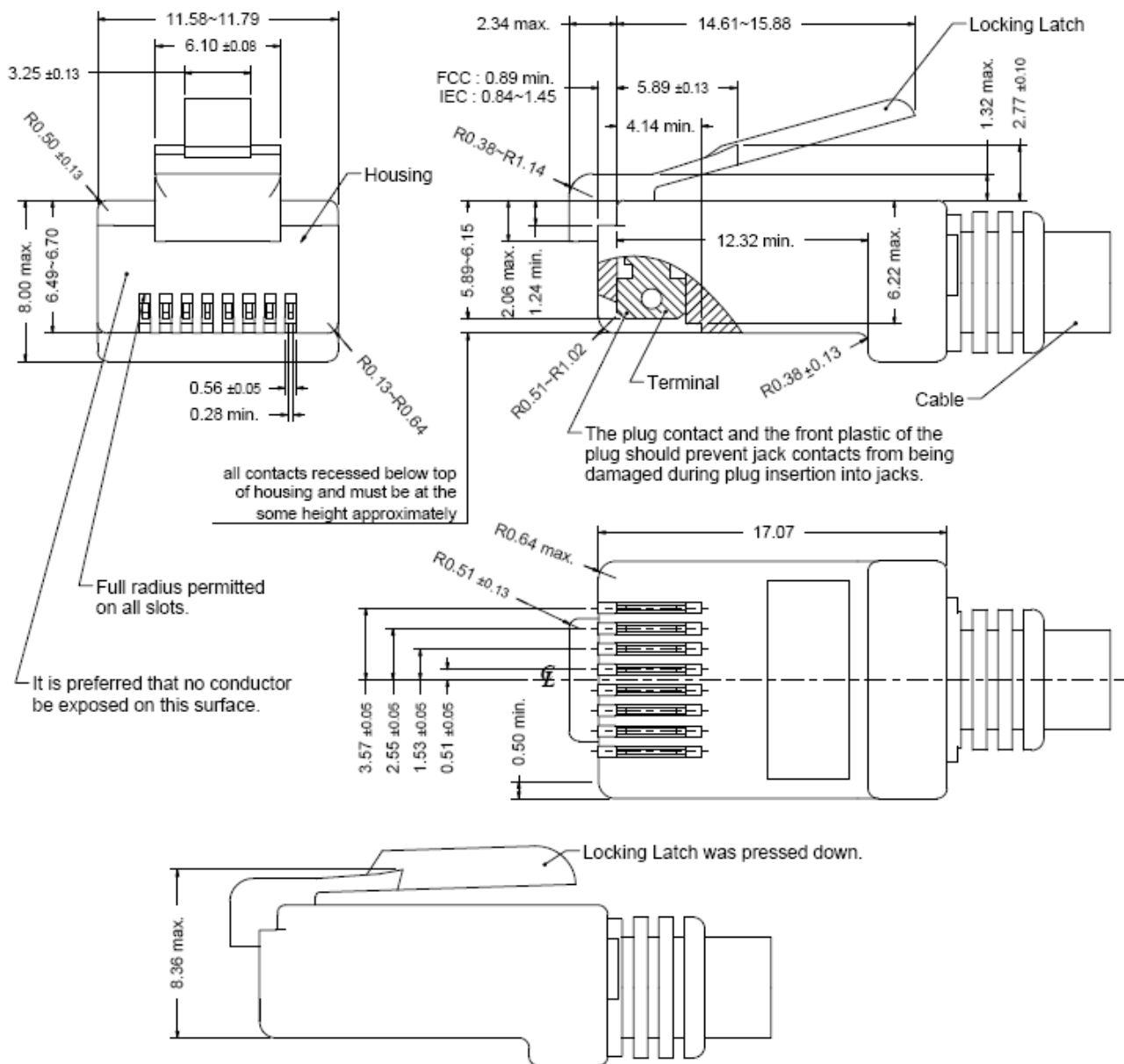
1.4 Packing Information

40 pcs finished goods per tray

7 trays(280 pcs finished goods) per inner box

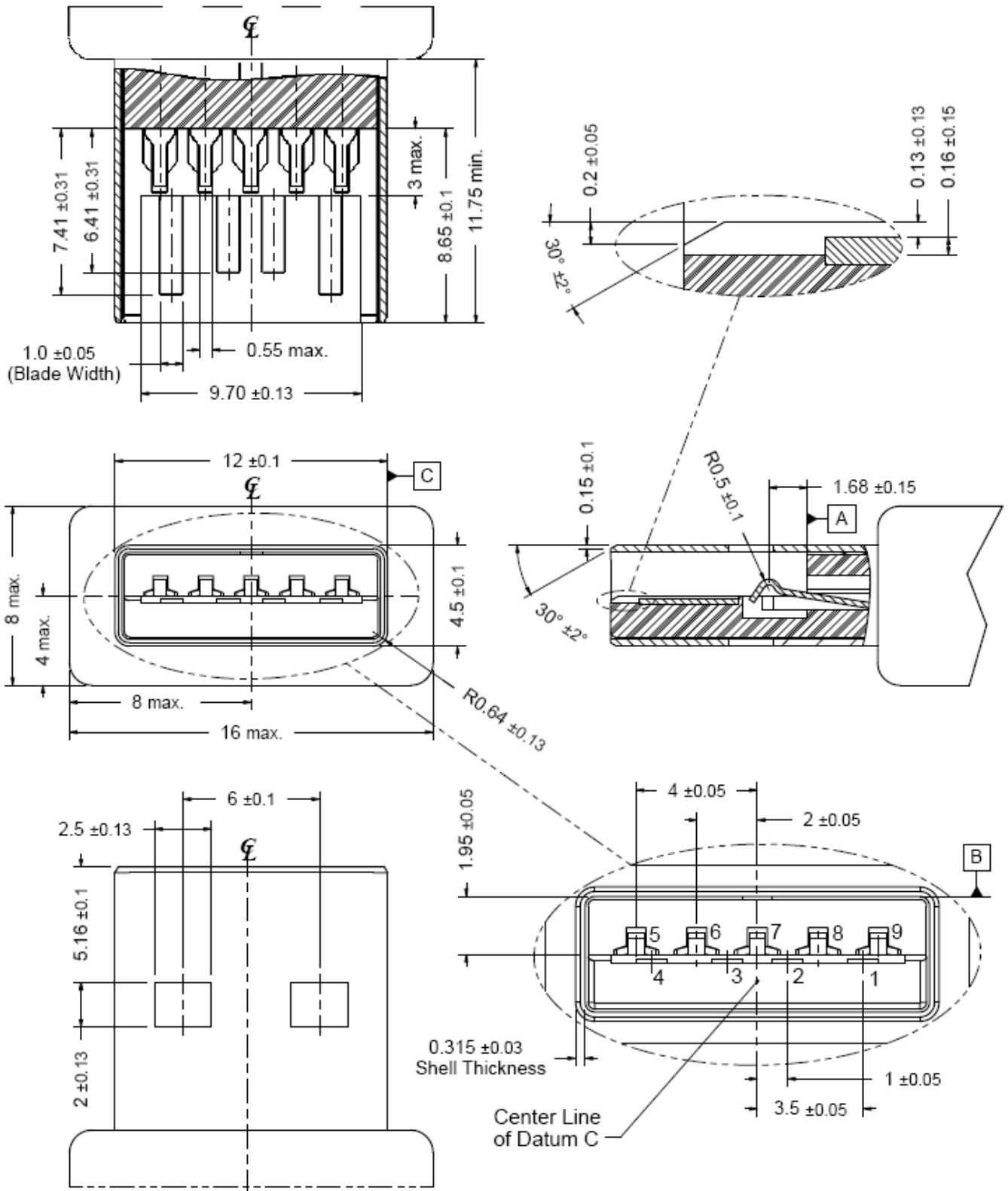
4 Inner boxes(1120 pcs finished goods) per master carton

1.5 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

1.6 Standard USB 3.0 Plug Specification



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

Figure 5-2. USB 3.0 Standard Plug-A interface dimensions

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

- Drawing for mating interface dimensions only.

Views may not show realistic manufacturing condition.

2. REQUIREMENTS

2.1 Design and Construction

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

2.2 Material

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

2.2.1.1 RJ Terminal :Phosphor Bronze, Thickness=0.30mm

Finish : Contact Area : Gold Flash

Solder Tail : 100 μ " min. Matte Tin

2.2.1.2 USB 2.0&3.0 Terminal : Brass, Thickness=0.20mm

Finish : Contact Area : Gold Flash

Solder Tail : 100 μ " min. Matte Tin

2.2.1.3 Input Terminal : Brass, Thickness=0.35mm

Finish : 100 μ " min. Matte Tin

2.2.1.4 Module Terminal : Brass, Thickness=0.30mm

Finish : 100 μ " min. Matte Tin

2.2.2 Plastic Parts <UL94V-0>

2.2.2.1 Housing : PA6T, Black

2.2.2.2 Case : PA6T, Black

2.2.2.3 USB Housing : PA9T,Blue(300C)

2.2.2.4 USB Spacer : PA9T, Blue(300C)

2.2.2.5 Spacer : PA6T, Black

2.2.3 Shield Parts

2.2.3.1 Front Shield : Stainless, Thickness=0.20mm, unplating

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

2.2.3.3 USB Shield :Stainless, Thickness=0.25mm

2.3 Operating and Storage Temperature

Operating Temperature : 0°C to +70°C

Storage Temperature : -40°C to +85°C

2.4 RJ45 specifications

Insertion force with the latch depressed :22N max

Removal force with the latch depressed :44N max

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

Durability : 750 cycles

2.5 USB 3.0 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

2.6 Performance and Test Description

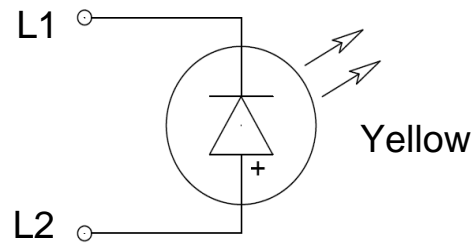
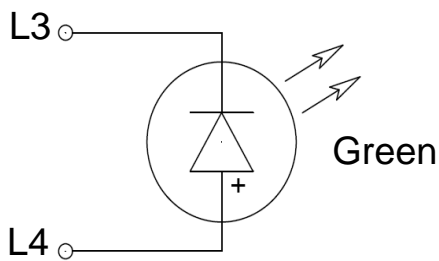
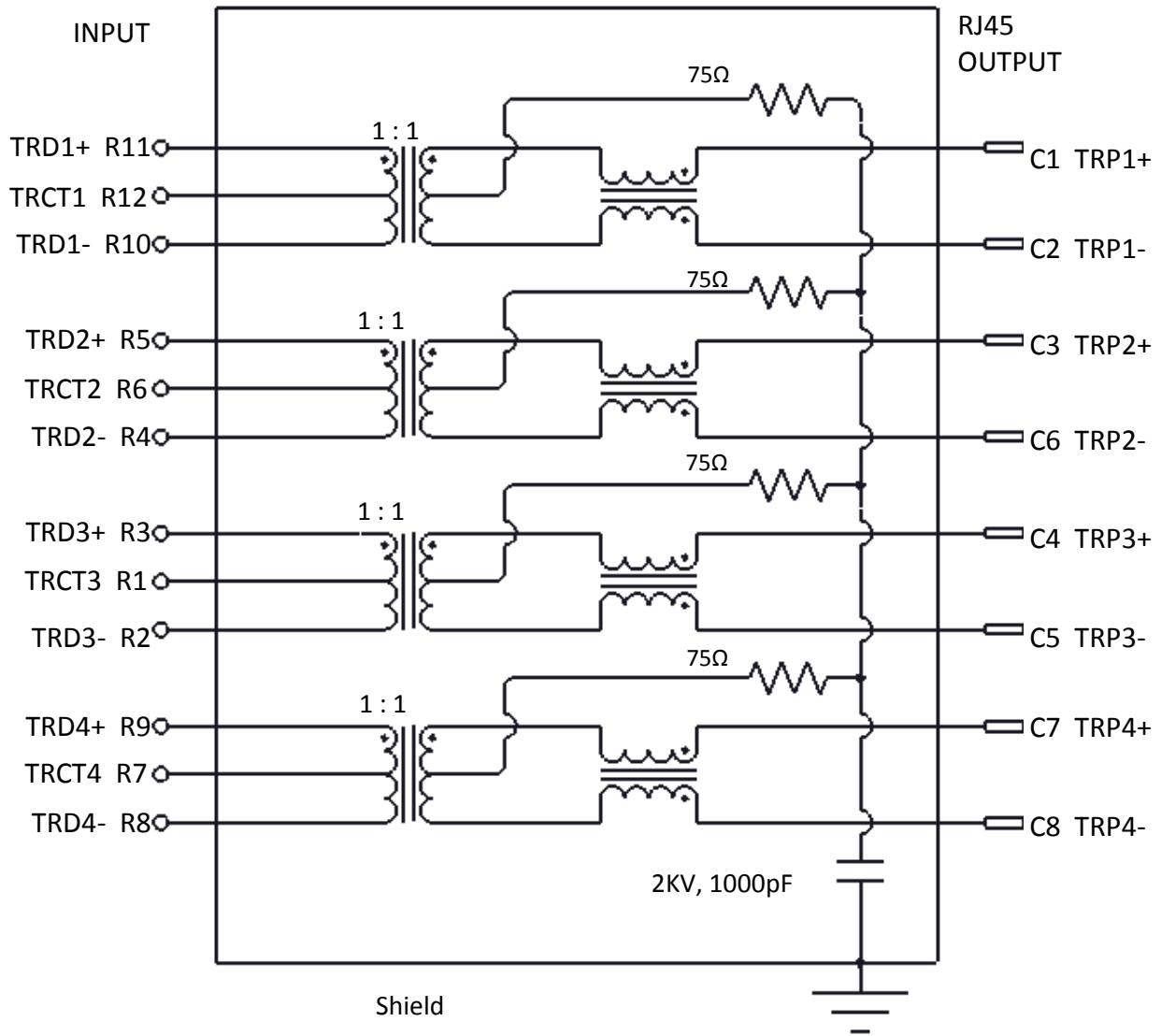
Product is designed to meet electrical, mechanical and environmental performance requirements specified in below table. All tests are performed at ambient environmental conditions per MIL-STD-1344A and EIA-364 unless otherwise specified.

2.7 Packaging and Packing

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

3. ELECTRICAL CHARACTERISTICS @ 25°C

3.1 Schematic



Emitting Color	λ_p (nm)	V_f @ $I_f=20\text{mA}$	I_r @ $V_r=5\text{V}$
Green	570	1.7 ~2.6 V	10 μA max.
Yellow	588	1.7 ~2.6 V	10 μA max.

3.2 Transmitter filter & Receiver filter

Type : Balance low pass 100Ω impedance

Insertion loss : 1~100 MHz -1.0dB max.

Return loss : 1~30 MHz -18dB min. load 100Ω

30~60MHz -16dB min. load 100Ω

60~80MHz -12dB min. load 100Ω

80~100MHz -10dB min. load 100Ω

3.3 Common Mode Rejection

@ 1~100 MHz -30dB min.

3.4 Cross Talk

@ 1~100 MHz -30dB min.

3.5 Inductance @ 100KHz, 0.1V, 8mA DC BIAS

Input (R11-R10), Input(R5-R4), Input (R3-R2), Input(R9-R8): 350 μH min.

3.6 HiPot Test

Input(R11-R10) To Output(C1-C2) : 1500Vac 60s or 2250Vdc 60s

Input(R5-R4) To Output(C3-C6) : 1500Vac 60s or 2250Vdc 60s

Input(R3-R2) To Output(C4-C5) : 1500Vac 60s or 2250Vdc 60s

Input(R9-R8) To Output(C7-C8) : 1500Vac 60s or 2250Vdc 60s

4. DIPPING TEMPERATURE PROFILE

Note :

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

