

# APPROVAL SHEET

To :

Customer P/N :

Singatron P/N : 2TJGM1-AD-0041

Description : RJ45 2X1 Module Jack

Through Hole

10G Base-T

Contact Area : 30 $\mu$ " Min. Gold

LED : L-Yellow; R-Green



Spec No.  
GM119002-00

Update Date  
2019/1/9

Revision  
A

Approved	Checked	Prepared

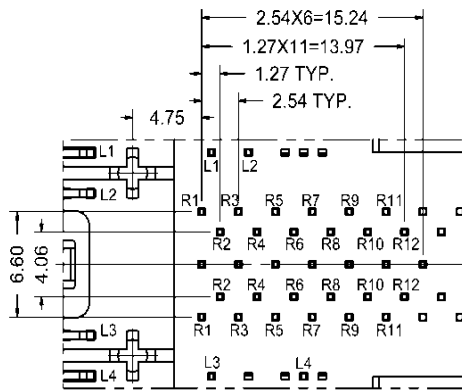
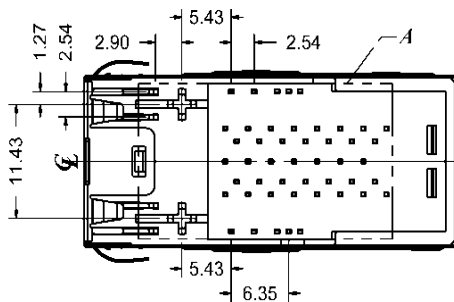
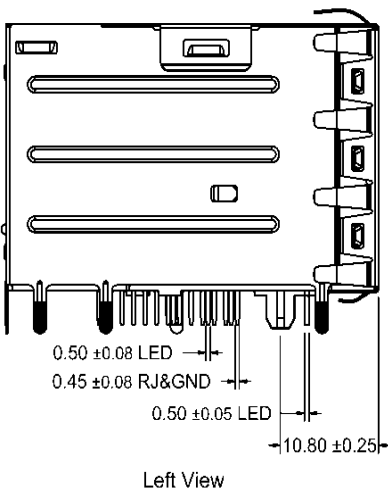
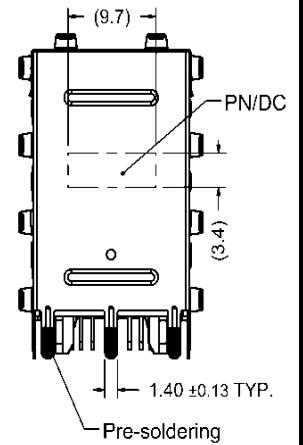
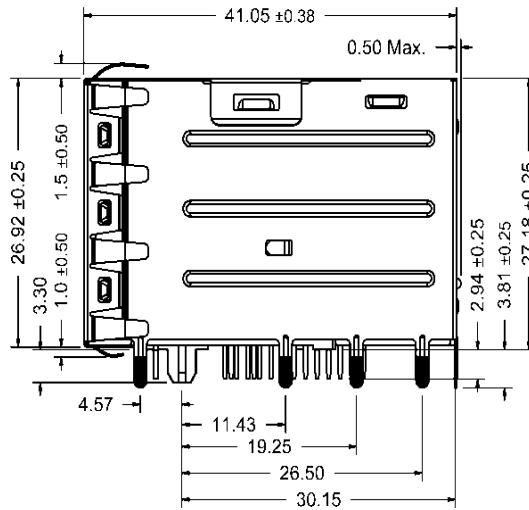
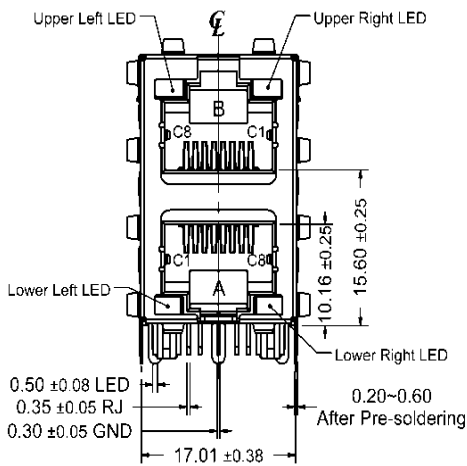
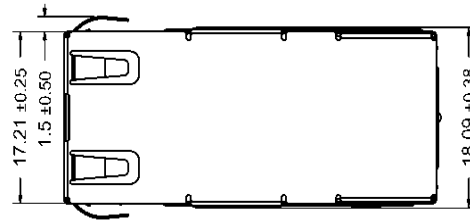
SINGATRON U.S.A.  
13925 MAGNOLIA AVE  
CHINO, CA 91710 USA



1. MECHANICAL DIMENSION

Product Dimension

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



DETAIL A  
SCALE 2 : 1

Recommended PCB Layout. Component side of board

All dimension units are "mm".

All dimension tolerances are ±0.05mm unless otherwise specified.

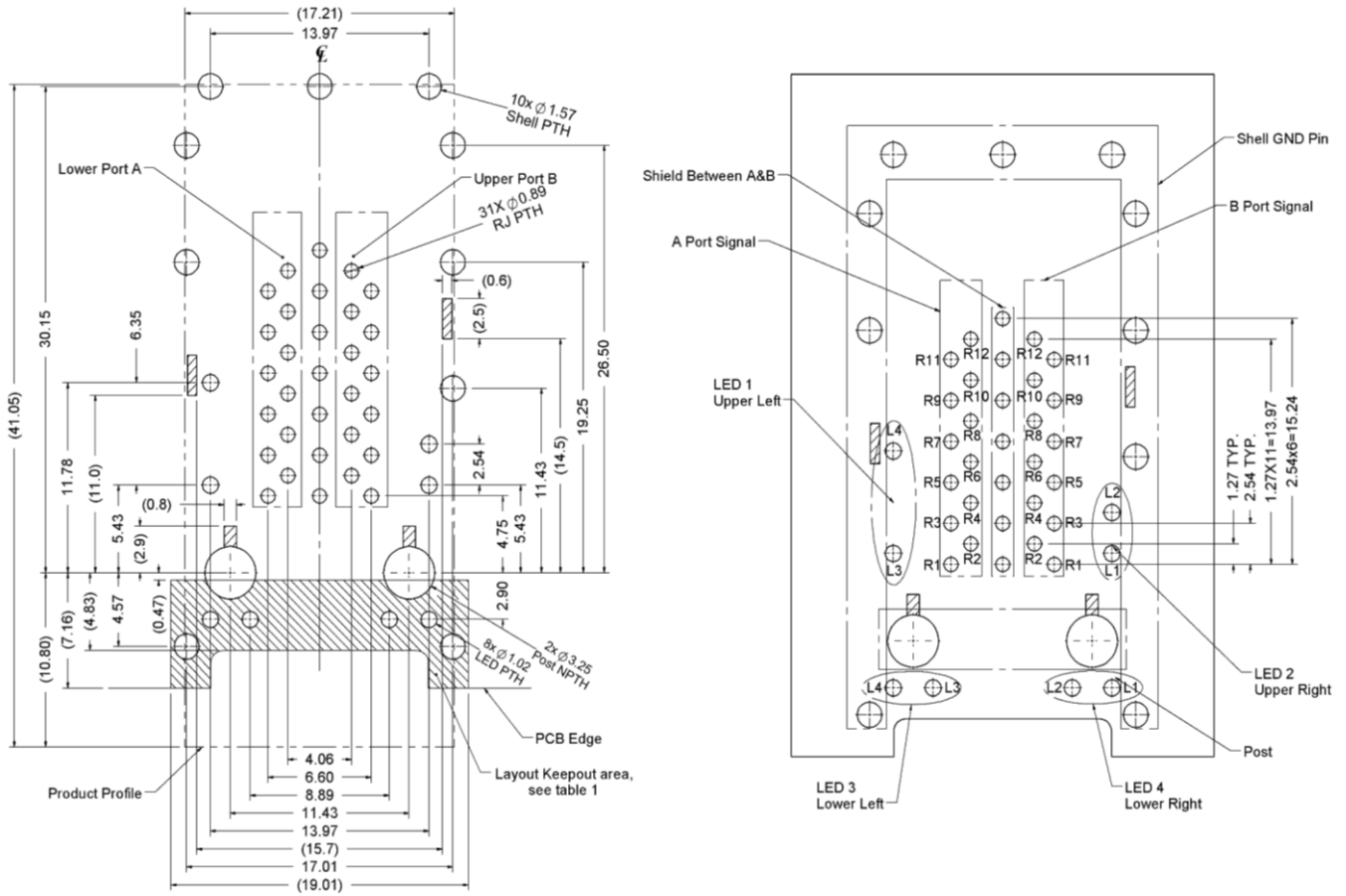
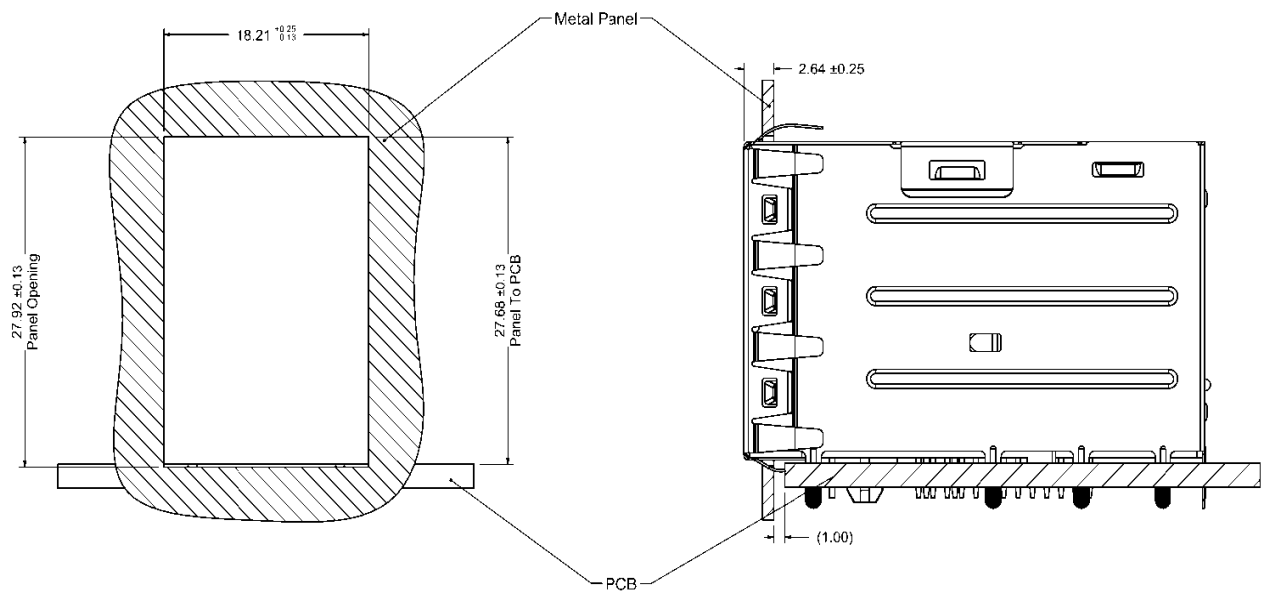


Table1

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



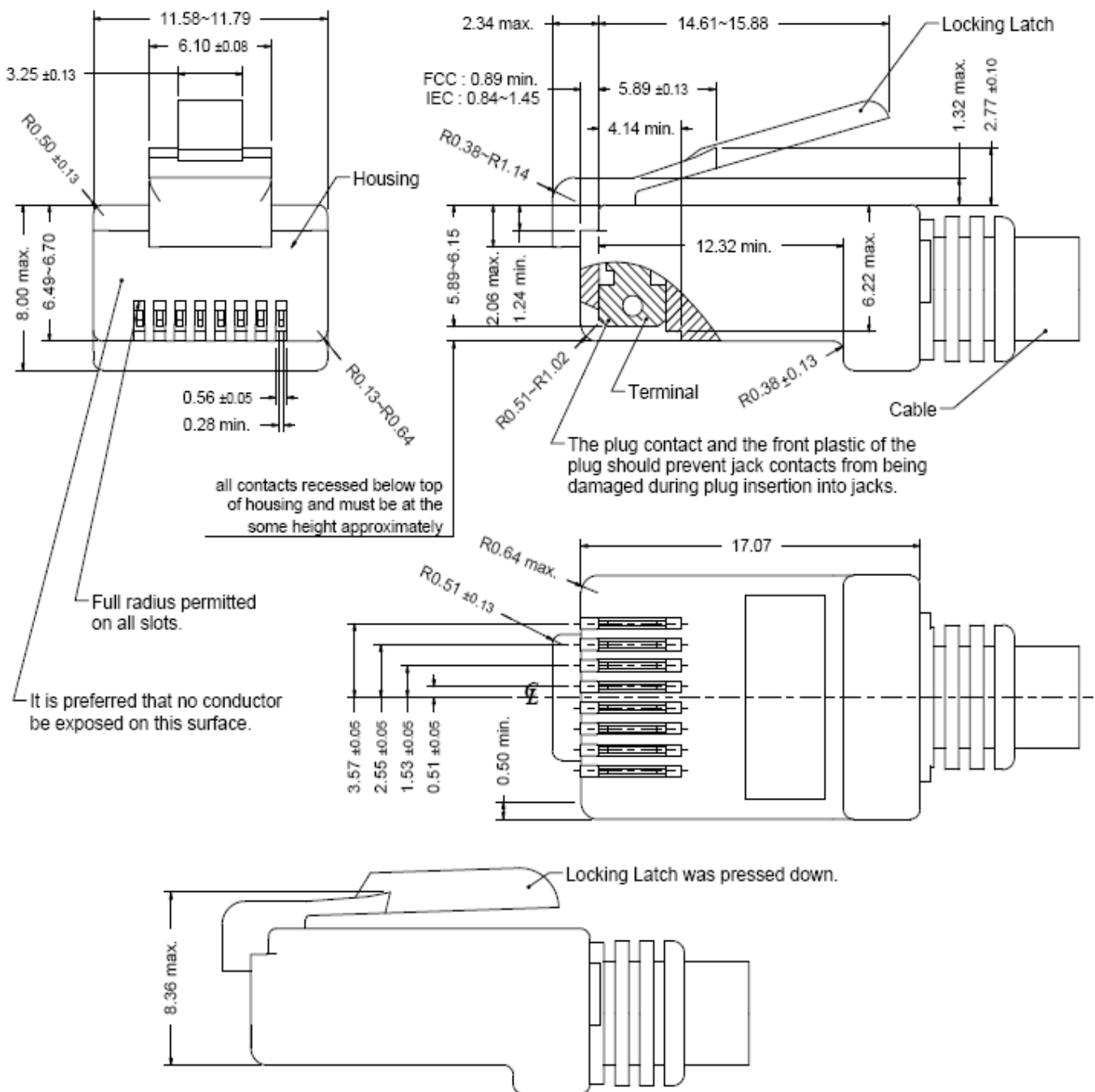
## 2. Packing Information

30 pcs finished goods per tray

4 trays(120 pcs finished goods) per inner box

4 Inner boxes(480 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. REQUIREMENTS

##### Design and Construction

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

##### Material

Terminal Parts ( Underplating : 50 $\mu$ " min. Nickel overall )

RJ Terminal : Phosphor Bronze, Thickness=0.25mm

Finish : Contact Area : 30 $\mu$ " min. Gold

Input Terminal : Brass, Thickness=0.35mm

Finish : 100 $\mu$ " min. Matte. Tin

Case Terminal : Brass, Thickness=0.30mm

Finish : 100 $\mu$ " min. Matte. Tin

LED Terminal : Brass, Thickness=0.30mm

Finish : 100 $\mu$ " min. Matte. Tin

GND Terminal : Phosphor Bronze, Thickness=0.30mm

Finish : 100 $\mu$ " min. Matte. Tin

##### Plastic Parts

Housing : PA6T, Black,<UL94V-0>

Upper&Lower Row Case : PA6T, Black&Nature,<UL94V-0>

RJ IM&LED IM: PA6T, Black,<UL94V-0>

Top&Back Cover : PA6T, Black,<UL94V-0>

Bottom Holder : PA6T, Black,<UL94V-0>

##### Shield Parts

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

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

## 5. Operating and Storage Temperature

Operating Temperature : 0°C to +70°C

Storage Temperature : -40°C to +85°C

## 6. 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

## 7. 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.

## 8. Packaging and Packing

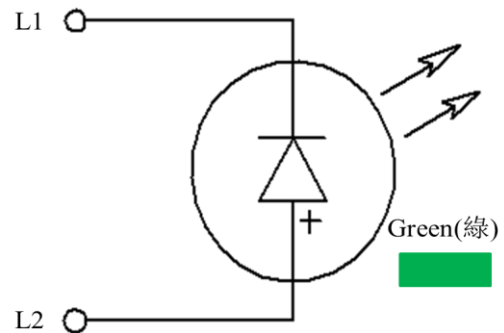
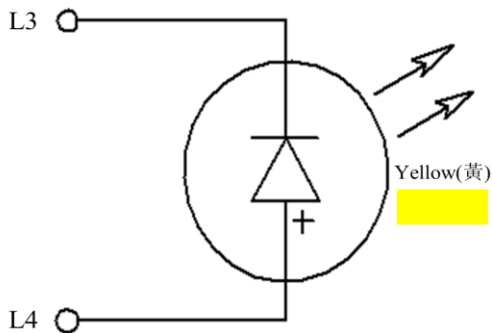
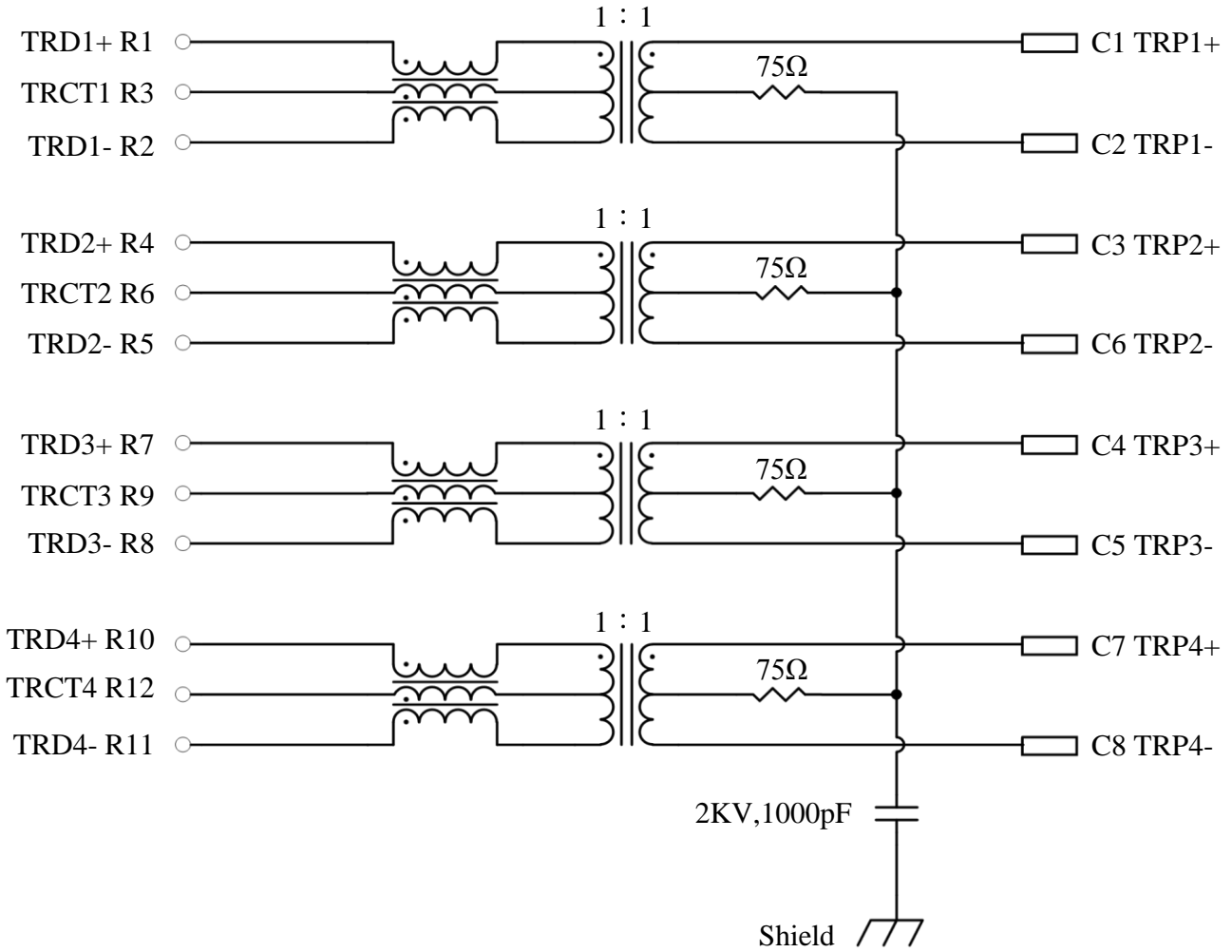
All parts shall be packaged and packed to protect against physical damage, corrosion and deterioration during shipment and storage.



9. ELECTRICAL CHARACTERISTICS @25°C

PHY Side  
(Input)

Cable Side  
(RJ45 Output)



Emitting Color	$\lambda_p$ (nm)	$V_f$ @ $I_f=20mA$	$I_r$ @ $V_r=5V$
Yellow	588	1.7 ~2.6 V	10 $\mu$ A max.
Green	570	1.7 ~2.6 V	10 $\mu$ A max.

## Transmitter filter &amp; Receiver filter

Type : Balance low pass 100Ω impedance

Insertion loss : 1~400MHz -2.0dB(-1.4TYP) max.

Return loss :	1MHz	-20dB min.	load 100Ω
	100MHz	-20dB min.	load 100Ω
	200MHz	-18dB min.	load 100Ω
	300MHz	-15dB min.	load 100Ω
	400MHz	-10dB min.	load 100Ω
	500MHz	-8dB min.	load 100Ω

## Reflected CM to Diff Conversion(REF)

50MHz	-30dB min.
100MHz	-27dB min.
200MHz	-24dB min.
300MHz	-22dB min.
400MHz	-21dB min.
500MHz	-20dB min.

## Reflected Diff to CM Conversion(REF)

1MHz	-48dB min.
100MHz	-35dB min.
400MHz	-24dB min.
500MHz	-24dB min.

## CM to Diff Conversion (REF)

50MHz	-48dB min.
100MHz	-42dB min.
200MHz	-36dB min.
300MHz	-33dB min.
400MHz	-30dB min.
500MHz	-28dB min.

## CM to CM Attenuation (REF)

1MHz	-22dB min.
500MHz	-20dB min.
800MHz	-20dB min.
1000MHz	-17dB min.

## Cross Talk (REF)

1MHz	-34dB min.
350MHz	-23dB min.
500MHz	-23dB min.

## A NEXT (REF)

1-500MHZ      -58 dB Min

## Inductance (OCL) @ 25°C, 100KHz, 100mV, 8mA DC BIAS

Input(TRD1+,TRD1-);(TRD2+,TRD2-); (TRD3+,TRD3-); (TRD4+,TRD4-):160uH min.

## HiPot Test

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

### 10. WAVE SOLDERING TEMPERATURE PROFILE

Note :

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

