

# APPROVAL SHEET

To :

Customer P/N :

**SINGATRON P/N : 2TJM1A-AD-0001**

Description : RJ45 multiport 2X1  
Through Hole  
10/100/1000 Base-T  
Contact Area : 30 $\mu$ " min.Gold  
LED:L-Green/Orange; R-Green  
Light Pipe:Upper/Lower Port



Spec No.      Update Date      Revision  
M1A17004-00      3/14/2017      A

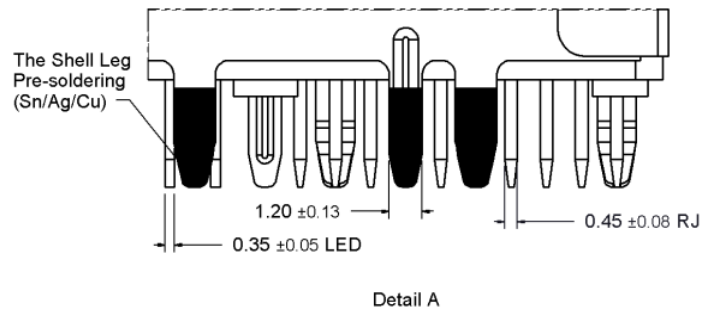
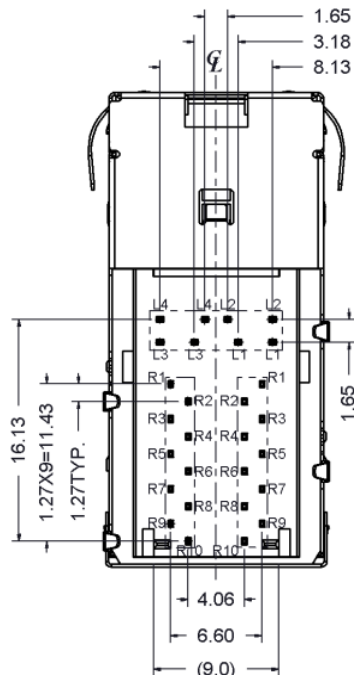
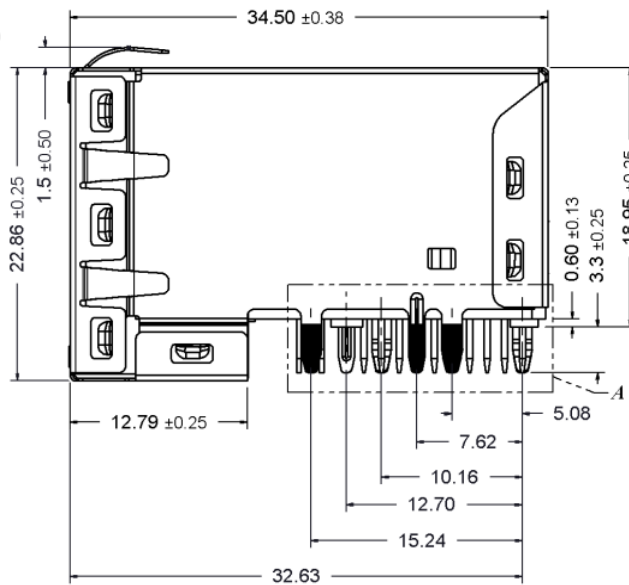
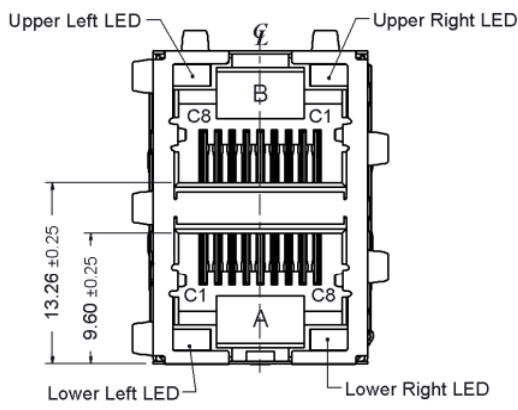
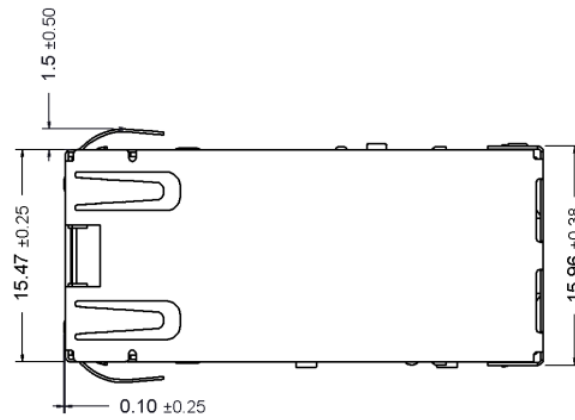
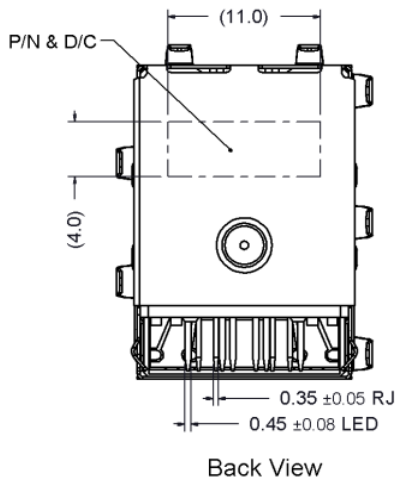
Approved	Checked	Prepared

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

1. MECHANICAL DIMENSION

1.1 Product Dimension

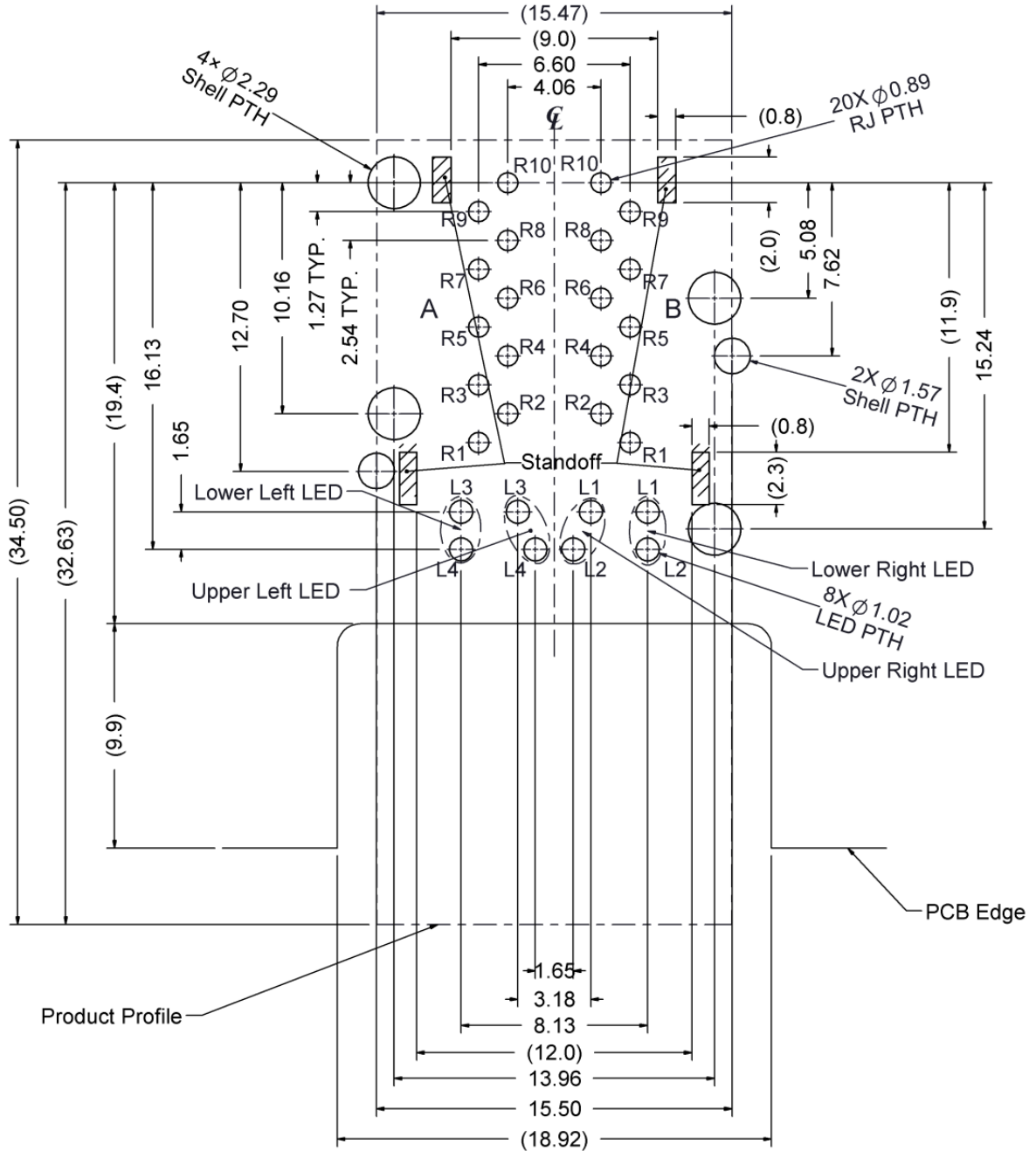
Unit : mm	General Tolerance :	X.X : ± 0.38
		X.XX : ± 0.20



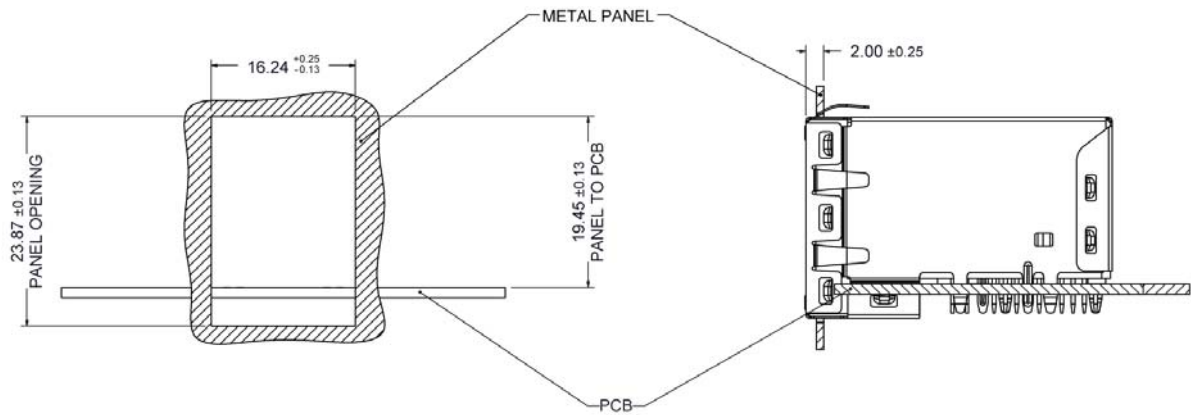
### 1.2 Recommended PCB Layout

#### Component Side of Board

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



### 1.3 Recommended Panel Cutout



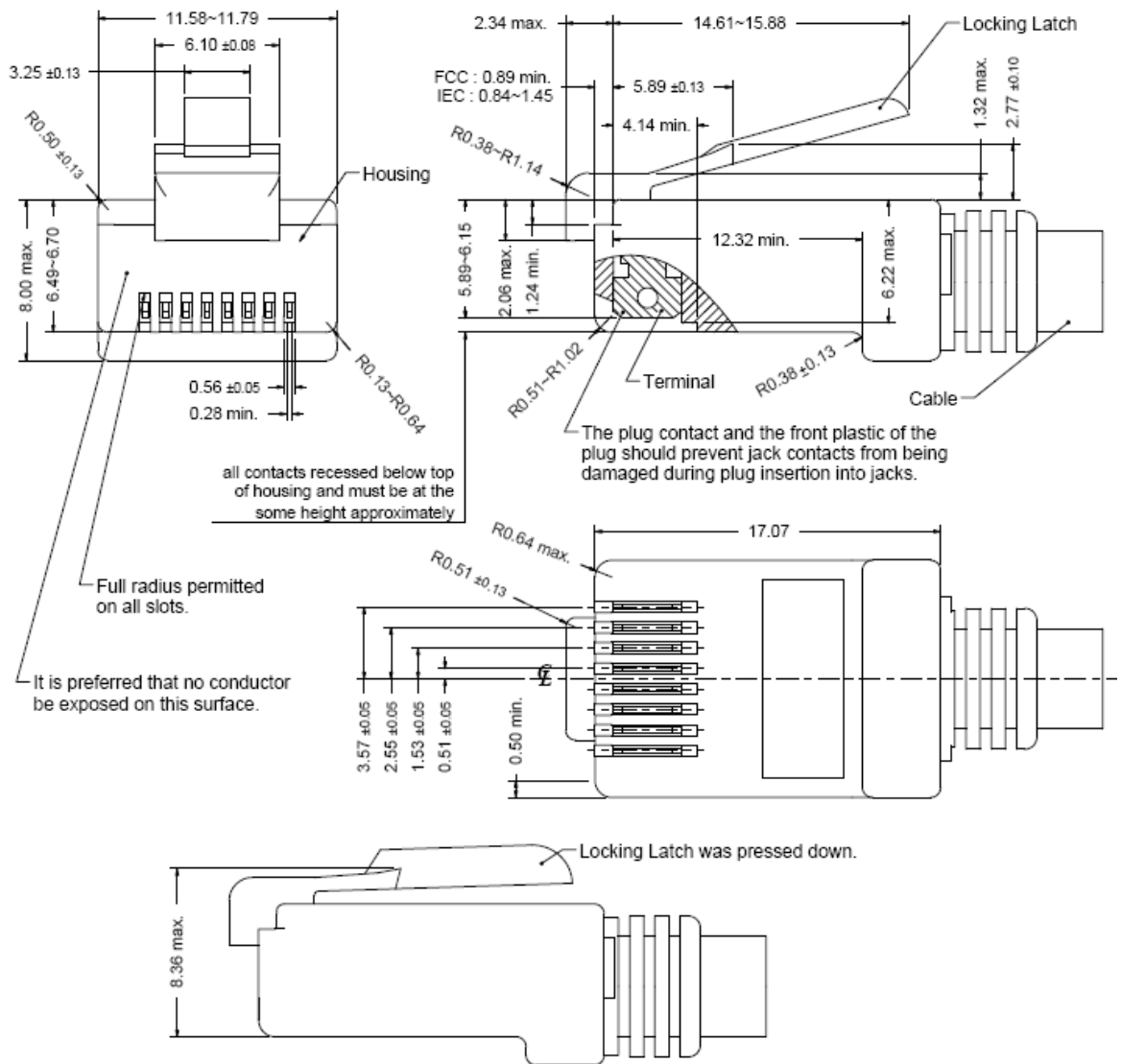
### 1.4 Packing Information

40 pcs finished goods per tray

5 trays(200 pcs finished goods) per inner box

4 Inner boxes(800 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

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

2.2.1.1 RJ Terminal : YCUT-FX-H, Thickness=0.25mm

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

2.2.1.2 Input Terminal : Brass, Thickness=0.35mm

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

2.2.1.3 Case Terminal : Brass, Thickness=0.30mm

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

2.2.1.4 LED Terminal : Brass, Thickness=0.30mm

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

#### 2.2.2 Plastic Parts

2.2.2.1 Housing :PA6T, Black, <UL94V-0>

2.2.2.2 Lower Case : PA6T, Nature, <UL94V-0>

2.2.2.3 Upper Case : PA6T, Black, <UL94V-0>

2.2.2.4 Spacer : PA6T, Black, <UL94V-0>

2.2.2.5 RJ IM : PA6T, Black, <UL94V-0>

2.2.2.6 Back Cover :PA6T, Black, <UL94V-0>

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

2.2.2.8 Light Pipe : PC, Transparent <UL94 HB>

#### 2.2.3 Shield Parts

2.2.3.1 GND Spring : PH. Bronze, Thickness=0.20mm

Finish : 100 $\mu$ " min. Tin

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

### 2.3 Operating and Storage Temperature

Operating Temperature : -40°C to +85°C

Storage Temperature : -40°C to +85°C

### 2.4 RJ45 specifications

Insulation Resistance 500M $\Omega$  min.

Insertion force with the latch depressed 22N max

Removal force with the latch depressed 44N max

Locking Force of Plug Latch : 50N min. @ 60 $\pm$ 5 sec

Durability : 2500 cycles

### 2.5 Performance and Test Description

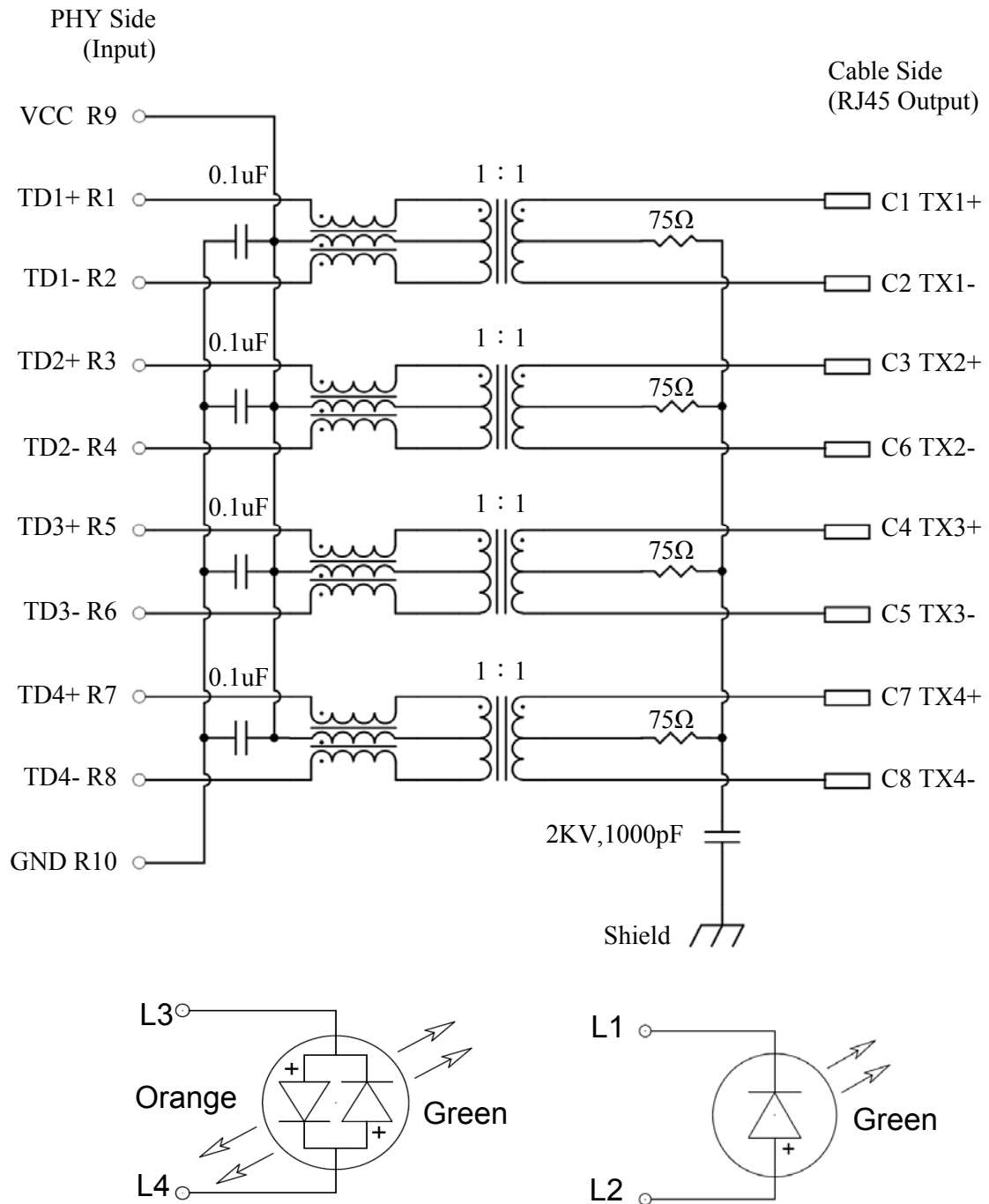
Product is designed to meet electrical, mechanical and environmental performance requirements specified in below table. All tests are performed at ambient environmental conditions per MIL-STD-1344A and EIA-364 unless otherwise specified.

### 2.6 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	$\lambda_p$ (nm)	$V_f @ I_f=20mA$	$I_r @ V_r=5V$
Green	570	1.7 ~2.6 V	10μA max.
Orange	605	1.7 ~2.6 V	10μA 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(R1-R2), Input(R3-R4), Input(R5-R6), Input(R7-R8) : 350 μH min.

### 3.6 HiPot Test

Input(R1-R2) To Output(C1-C2) : 1500Vac 60s or 2250Vdc 60s

Input(R3-R4) To Output(C3-C6) : 1500Vac 60s or 2250Vdc 60s

Input(R5-R6) To Output(C4-C5) : 1500Vac 60s or 2250Vdc 60s

Input(R7-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.

