



NUMBER:RD-SD-RJSC-208LC1  
DATE :2011/11/28 H (REV:A3)

## 10/100 BASE-TX Filtered SMD Connector Module MODEL NO : RJSC-208LC1

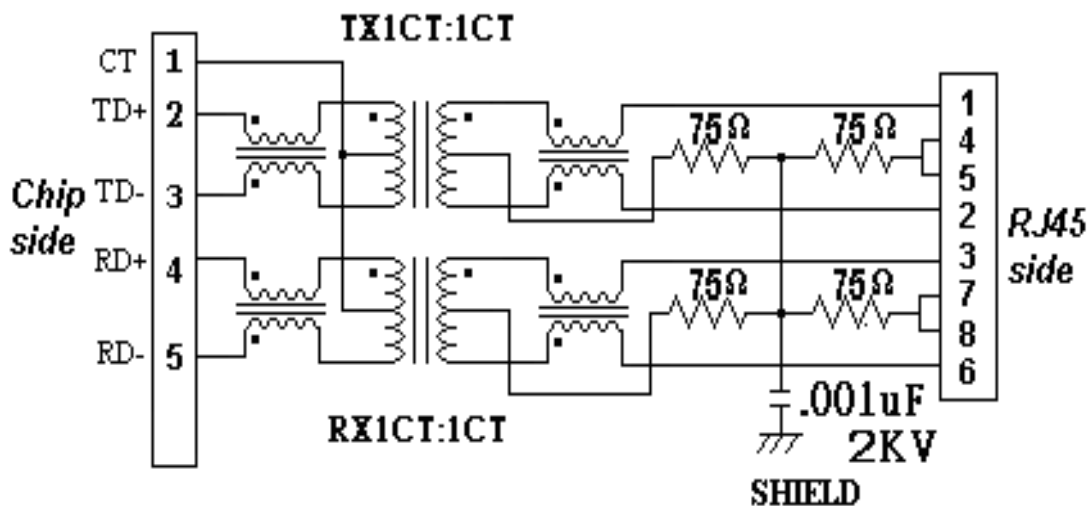
### Features:

- ⊙ RoHS Compliant
- ⊙ Do not use material and use that the prohibition that SS-00259 stipulates
- ⊙ Fully shielded magnetics protect data from internally generated digital noise
- ⊙ Reduces the overall length of the signal path for improved common mode performance
- ⊙ Implements full common mode termination scheme with used and unused twisted pairs
- ⊙ Meets IEEE802.3 Baseline Wander Compensation specification
- ⊙ Integrates high voltage capacitor to chassis ground
- ⊙ Supports all major transceivers with matched turns ration and complete integration of specified termination
- ⊙ Design for 100base-tx transmission over UTP-5 cable
- ⊙ Operating TEMP. range: -40°C to +85°C
- ⊙ Storage TEMP. range: -55°C to + 125°C
- ⊙ Primary OCL inductance: 350μH MIN. at 100KHz/0.1Vrms with 8mA DC bias

### Typical Performance Characteristics@ 25°C

| Insertion Loss<br>(dB MAX) | Return Loss<br>(dB Min @100±15Ω) |     |     |       | Differential to<br>Common<br>Mode Rejection<br>(dB MIN) | Cross talk<br>(dB MIN) |     |     |     |     | CMRR<br>(dB MIN) | Isolation<br>Voltage<br>(Vrms min) |
|----------------------------|----------------------------------|-----|-----|-------|---|------------------------|-----|-----|-----|-----|------------------|------------------------------------|
|                            | MHz                              | MHz |     |       |   | MHz                    | MHz |     |     |     |                  |                                    |
| 1~100                      | 1~30                             | 40  | 50  | 60~80 | 1~100   | 20                     | 40  | 60  | 80  | 100 | 1~100            | 1500                               |
| -1.0                       | -16                              | -14 | -12 | -10   | -33   | -47                    | -40 | -37 | -35 | -33 | -30              |                                    |

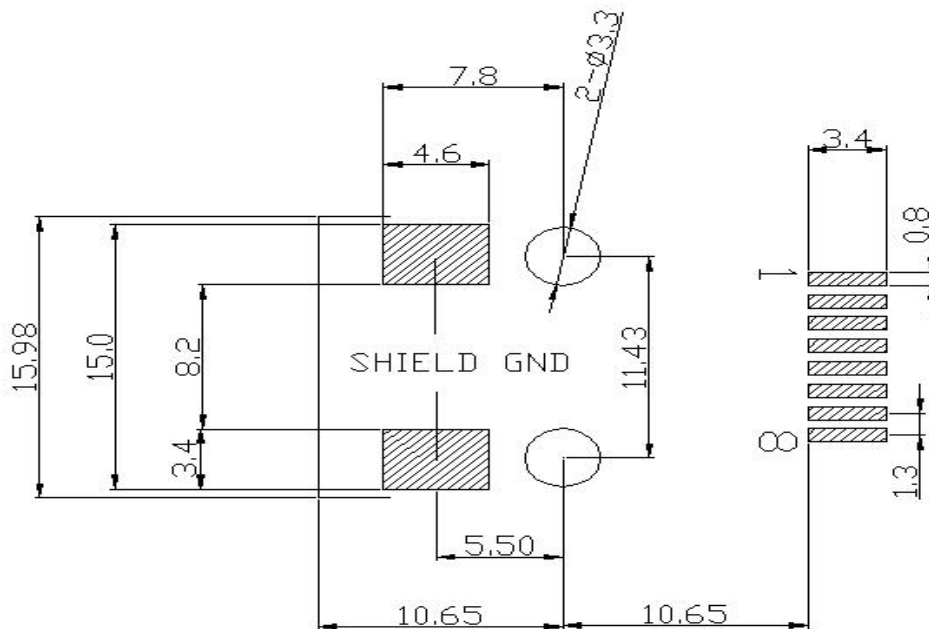
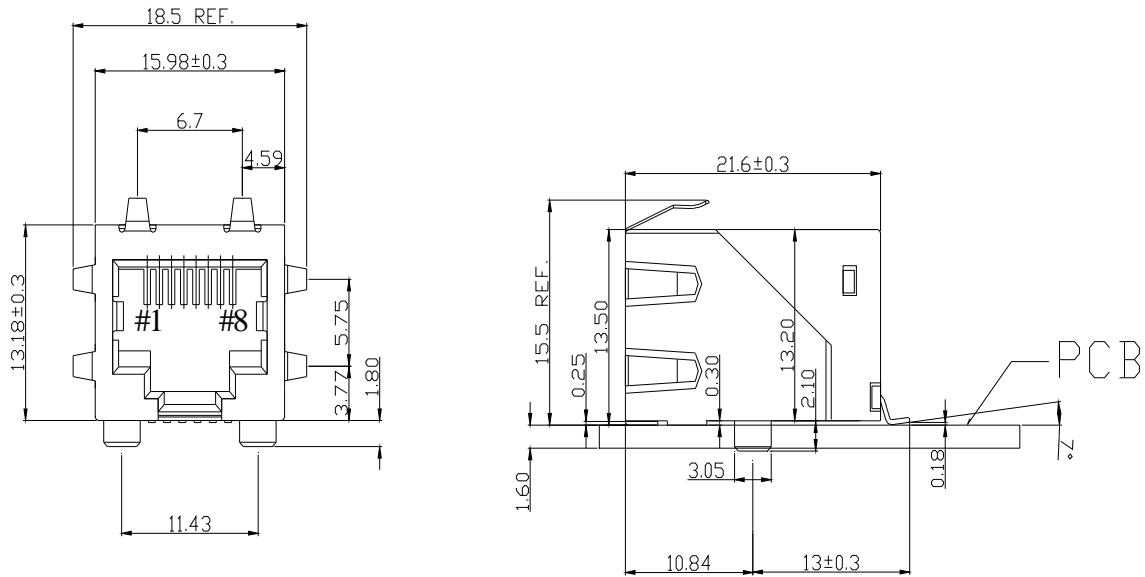
### Schematic:



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Dimension: mm

TOLERANCE:  $\pm 0.15$  (unless otherwise specified)



RECOMMENDED P.C.B LAYOUT  
COMPONENT SIDE OF BOARD



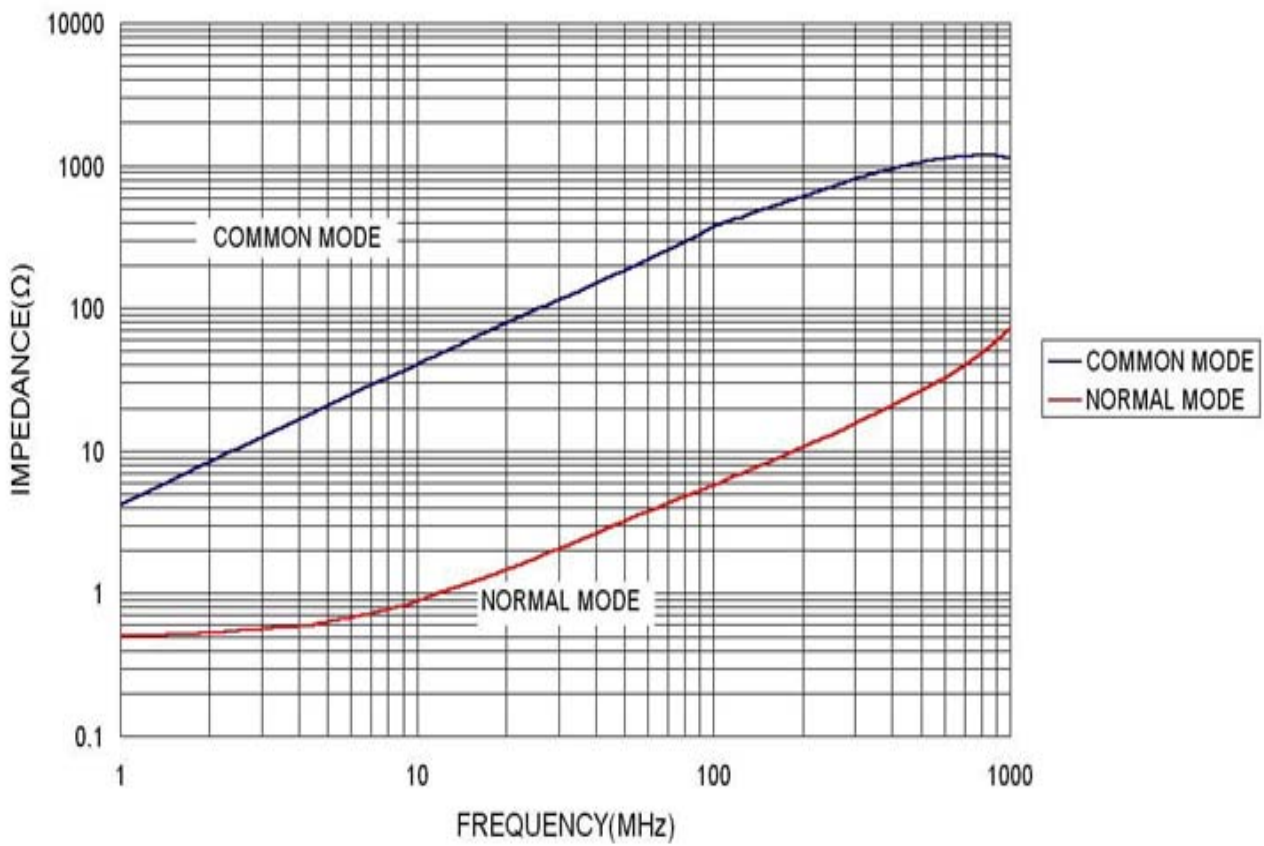
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CMC's Spec:

$$Z = 370 \pm 20\% (\Omega) @ 100\text{MHz}$$

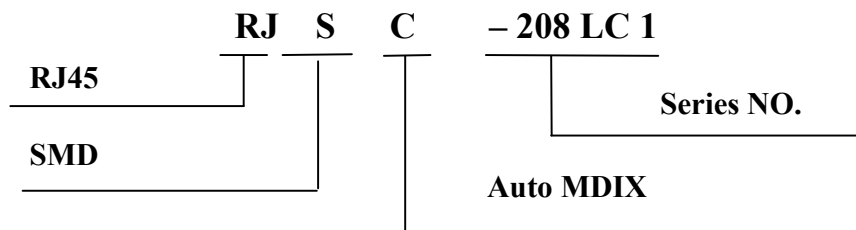
Curve:





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## MODEL NO : RJSC-208LC1 Ordering Information



### Requirements :

#### 1. Design and Construction

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

#### 2. Materials and Finish

##### A. Contact:

**RJ Contact : Phosphor Bronze, Thickness=0.30mm**

**Finish : Contact Area :5 $\mu$ "min. Gold over 50  $\mu$ "min. Nickel**

**RJ Joint Contact : Brass, Thickness=0.20mm**

**Finish : 80 $\mu$ "min. Sn over 50  $\mu$ "min. Nickel**

##### B. Plastic Part :

- (1) **Set Housing : Thermoplastic, LCP, Black**  
**UL FILE NO. : E106764**  
**Manufacturer : POLYPLASTICS CO LTD.**  
**Grade : E130i(d)(e)**  
**Flame Class : UL 94V-0**
- (2) **Insert : Thermoplastic, LCP, Black**  
**UL FILE NO. : E106764**  
**Manufacturer : POLYPLASTICS CO LTD.**  
**Grade : E130i(d)(e)**  
**Flame Class : UL 94V-0**
- (3) **Spacer : Thermoplastic, LCP, Black**  
**UL FILE NO. : E106764**  
**Manufacturer : POLYPLASTICS CO LTD.**  
**Grade : E130i(d)(e)**  
**Flame Class : UL 94V-0**

##### C. Shield Material :

**Cartridge t=0.25 $\pm$ 0.05mm**

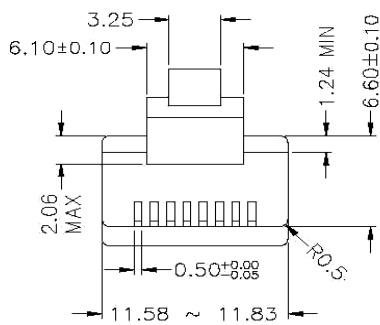
**10 $\mu$ "-20 $\mu$ " Thick Nickel over Brass**

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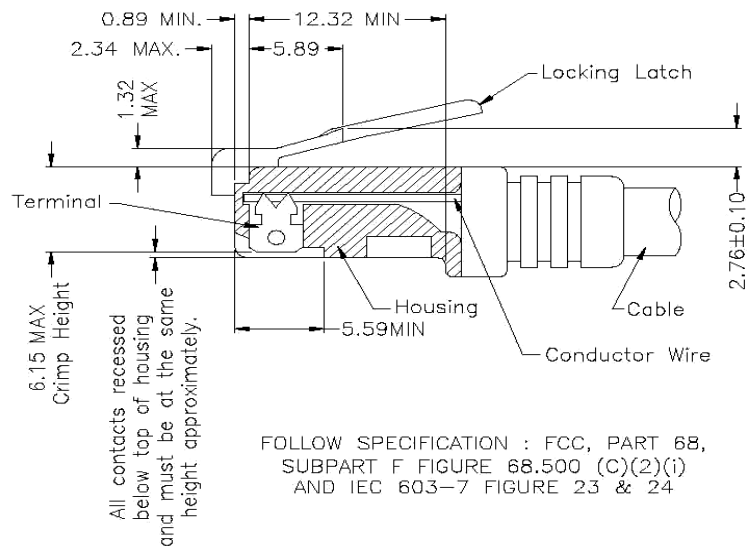
### Durability :

- (1) 1000 cycles with no function damage for RJ-45 . Abnormalities shall be present after the test.
- (2) Low Level Contact Resistance :  $\Delta R=30m\Omega$  maximum (final)
- (3) The sample should be mounted in the tester and fully mated and unmated 500 times per hour at the rate of 25mm/min. EIA-364-09C.

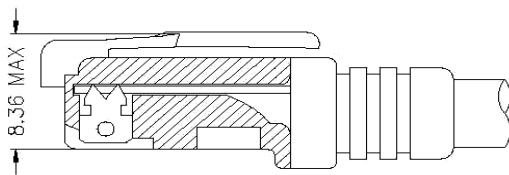
### RJ PLUG SPECIFICATION :



- \* There must be no damage to housing or locking latch. There must be no nicks or cuts in cable.
- \* Durability : 750 cycles generally



FOLLOW SPECIFICATION : FCC, PART 68,  
SUBPART F FIGURE 68.500 (C)(2)(i)  
AND IEC 603-7 FIGURE 23 & 24



FOLLOW SPECIFICATION : FCC, PART 68, SUBPART F  
FIGURE 68.500 (C)(2)(ii)

STANDARD MODULAR PLUG ASSEMBLY

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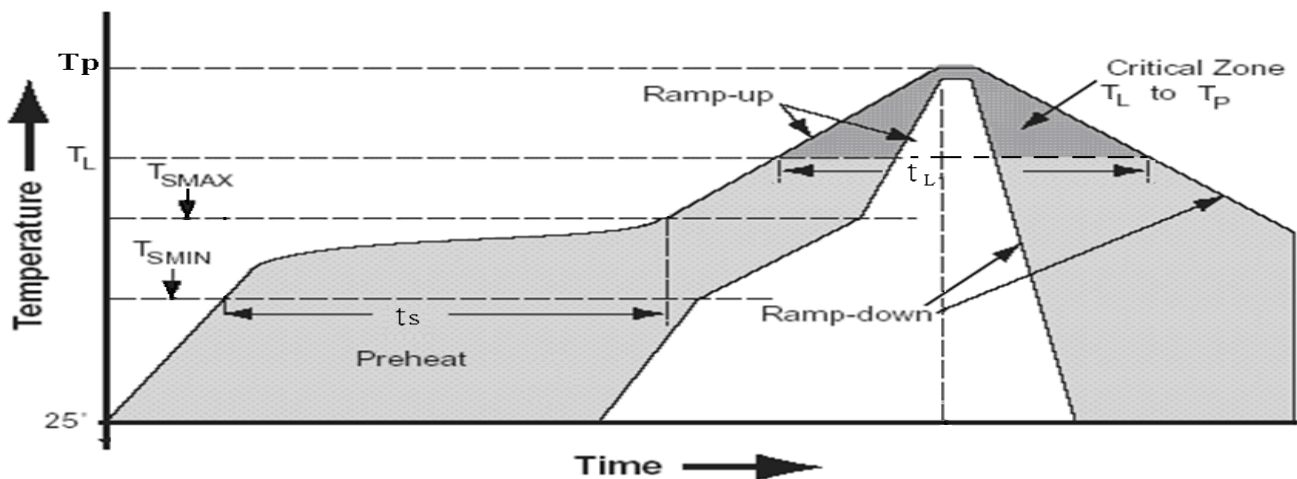
Solder Reflow profile for Lead-Free packages.

### Package Peak Reflow Temperatures

Classification Reflow Profiles

| Profile Feature  | Lead-Free Assembly             |
|--|--------------------------------|
| Average ramp-up rate( $T_L$ to $T_P$ )   | 3°C / Second Max.              |
| Preheat<br>Temperature Min.( $T_s$ min.)<br>Temperature Max.( $T_s$ max.)<br>Time (min to max) ( $t_s$ ) | 150 °C<br>200 °C<br>60-180 sec |
| $T_s$ max. to $T_L$<br>Ramp-up Rate  | 3°C / Second Max.              |
| Time maintained above<br>Temperature ( $T_L$ )<br>Time ( $t_L$ )   | 217 °C<br>60-150 sec           |
| Peak Tempure ( $T_p$ )<br>Time within 5 °C of actual peak<br>Temp.                                       | 250 +0 / -5 °C<br>20 to 40 Sec |
| Ramp-down  | 6°C / Second Max.              |
| Time 25 °C to Peak Temperature   | 8 minutees Max.                |

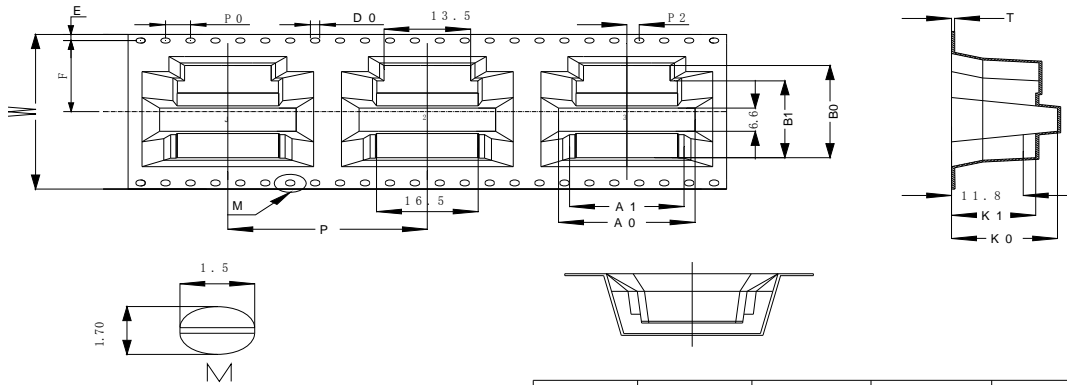
### Profile



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### PACKING :

1. Unit weight : 4.5 grams
2. Tape & Reel : 100pcs / Reel , 500pcs / Carton
3. Dry Pack : 1pcs
  - Product Description:(5g Silica Gel Desiccant)
  - PH: 4-8
  - Package Materials: Paper(Length 6.5±1cm , Width 5±1cm)
4. Reel Packed By Vacuum
5. Seal Per Jedec



|      |                        | $D_b$                  | $D_t$                  | $P_0$                  | $P_2$                  | $E$                    |                        |                        |                        |                        |
|------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|      |                        | $1.50^{+0.10}_{-0.10}$ | $0.00^{+0.10}_{-0.10}$ | $4.00^{+0.10}_{-0.10}$ | $2.00^{+0.10}_{-0.10}$ | $1.75^{+0.10}_{-0.10}$ |                        |                        |                        |                        |
| ITEM | W                      | $A_b$                  | $A_t$                  | $B_0$                  | $B_t$                  | $K_0$                  | $K_t$                  | P                      | F                      | T                      |
| DIM  | $44.0^{+0.30}_{-0.00}$ | $21.9^{+0.10}_{-0.10}$ | $19.5^{+0.10}_{-0.10}$ | $27.0^{+0.10}_{-0.10}$ | $21.9^{+0.10}_{-0.10}$ | $17.3^{+0.10}_{-0.10}$ | $13.8^{+0.10}_{-0.10}$ | $32.0^{+0.10}_{-0.10}$ | $20.2^{+0.10}_{-0.10}$ | $0.50^{+0.10}_{-0.10}$ |