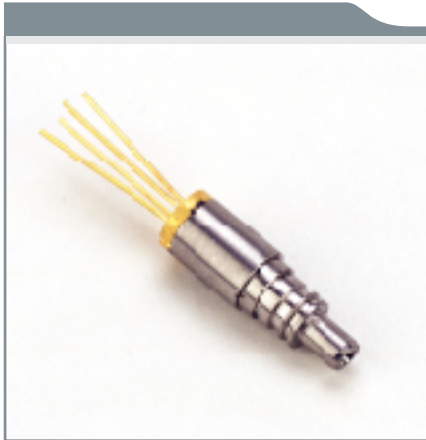


## C-13-001-TX-SXXX



### Features

- Uncooled laser diode with MQW structure
- High temperature operation without active cooling
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Complies with Bellcore TA-NWT-000983
- Operation at -40 to +85°C
- SC or LC connector

### Application

- Designed for fiber optical networks
- OC-3, OC-12 and Gigabit

### Absolute Maximum Ratings (T<sub>c</sub>=25°C)

| Parameter             | Symbol           | Value      | Unit |
|-----------------------|------------------|------------|------|
| Fiber Output Power:   |                  |            |      |
| L                     | P <sub>f</sub>   | 1          | mW   |
| M                     |                  | 1.5        |      |
| H                     |                  | 2          |      |
| LD Reverse Voltage    | V <sub>rld</sub> | 2          | V    |
| PD Reverse Voltage    | V <sub>rpd</sub> | 10         | V    |
| PD Forward Current    | I <sub>fpd</sub> | 1          | mA   |
| Operating Temperature | T <sub>opr</sub> | -40 to +85 | °C   |
| Storage Temperature   | T <sub>stg</sub> | -40 to +85 | °C   |

### Optical and Electrical Characteristics (T<sub>c</sub> = 25°C)

| Parameter            | Symbol                          | Min  | Typ  | Max  | Unit | Test Condition  |
|----------------------|---------------------------------|------|------|------|------|---|
| Threshold Current    | I <sub>th</sub>                 | -    | 10   | 15   | mA   | CW  |
| Fiber Output Power:  |                                 |      |      |      |      |   |
| L                    | P <sub>f</sub>                  | 0.2  | -    | 0.4  | mW   | CW, I <sub>th</sub> +15 mA,<br>kink free                        |
| M                    |                                 | 0.5  | -    | 1    |      |   |
| H                    |                                 | 1    | -    | 2    |      |   |
| Peak Wavelength      | λ                               | 1290 | 1310 | 1330 | nm   | CW, P <sub>f</sub> = P <sub>f</sub> (Min)                       |
| Spectrum Width (RMS) | Δλ                              | -    | -    | 3    | nm   | CW, P <sub>f</sub> = P <sub>f</sub> (Min)                       |
| Forward Voltage      | V <sub>F</sub>                  | -    | 1.2  | 1.5  | V    | CW, P <sub>f</sub> = P <sub>f</sub> (Min)                       |
| Rise Time, Fall Time | t <sub>r</sub> , t <sub>f</sub> | -    | -    | 0.3  | ns   | I <sub>bias</sub> =I <sub>th</sub> , 10 to 90%                  |
| Tracking Error       | ΔP <sub>f</sub> /P <sub>f</sub> | -    | -    | ±1   | dB   | APC, -40 to +85°C   |
| PD Monitor Current   | I <sub>m</sub>                  | 100  | -    | -    | μA   | CW, P <sub>f</sub> =P <sub>f</sub> (Min), V <sub>rpd</sub> = 2V |
| PD Dark Current      | I <sub>DARK</sub>               | -    | -    | 0.1  | μA   | V <sub>rpd</sub> = 5V   |
| PD Capacitance       | C <sub>t</sub>                  | -    | 6    | 15   | pF   | V <sub>rpd</sub> = 5V, f= 1MHz                                  |

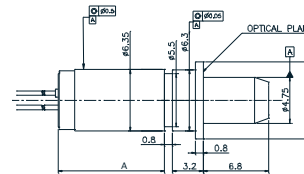
(All optical data refer to a coupled 9/125 μm SM fiber)

## C-13-001-TX-SXXX

### Outline Drawing-Conections



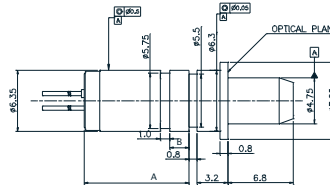
SC TOSA (L&M Power)



DIMENSION A (L&M POWER): 7.9-8.6mm



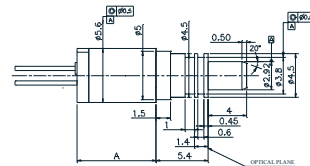
SC TOSA (Hi Power)



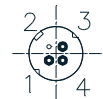
DIMENSION (HIGH POWER) A : 10.0-10.7mm  
B: 1.5-2.5mm



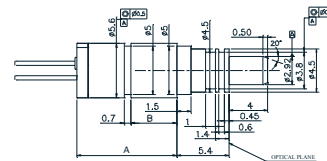
LC TOSA (L&M Power)



DIMENSION A (L&M POWER): 7.9-8.6mm



LC TOSA (Hi Power)



DIMENSION (HIGH POWER) A : 10.0-10.7mm  
B: 4.4-5.1 mm

### Warnings

**Handling Precautions:** This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

**Laser Safety:** Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

### Legal Notice

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## Ordering Information

# C-13-001-TX-SXXX

**Wavelength**  
13=1310nm

**Package**  
T=TOSA

**Connector**  
SC/LC

### Pin Assignment

A=A Type  
B=B Type  
D=D Type

**Fiber Output Power**  
L/M/H

## LD Modules-TOSA

### Packaging Dimensions

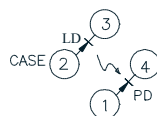
Units in mm

## Type A



Pin 1 : Laser Cathode  
Pin 2 : Laser Anode and Case Gnd  
Pin 3 : Monitor Diode Anode  
Pin 4 : Monitor Diode Cathode

## Type B

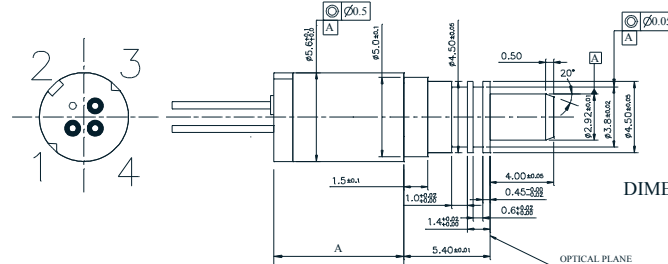


Pin 1 : Monitor Diode Anode  
Pin 2 : Laser Anode and Case Gnd  
Pin 3 : Laser Cathode  
Pin 4 : Monitor Diode Cathode

## Type D



Pin 1 : Laser Anode and Monitor Diode Cathode  
Pin 2 : Case Gnd  
Pin 3 : Laser Cathode  
Pin 4 : Monitor Diode Anode



DIMENSION A (L&M POWER):7.9~8.6mm  
(H POWER):10.0~10. mm