



### Features

- Un-cooled laser diode with multi-quantum-well structure
- High temperature operation without active cooling
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Complies with Telcordia Technologies GR-468-CORE
- Single frequency operation with high SMSR
- TOSA
- FC/ST/SC receptacle package with 2-hole flange
- Fiber pigtailed with FC/ST/SC/MU/LC connector
- Design for 2.5Gbps high speed optic networks
- RoHS Compliant available

### Absolute Maximum Ratings (Tc=25°C)

| Parameter                  | Symbol           | Rating                  | Unit |
|----------------------------|------------------|-------------------------|------|
| Fiber Output Power L/M/H/2 | P <sub>f</sub>   | 1(L)/1.5(M)/2.5(H)/3(2) | mW   |
| 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> | 2                       | mA   |
| Operating Temperature      | T <sub>opr</sub> | 0 ~ 70                  | °C   |
| Storage Temperature        | T <sub>stg</sub> | -40 ~ 85                | °C   |

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

### Optical and Electrical Characteristics (Tc=25°C)

| Parameter             | Symbol                          | Min.                 | Typ.                 | Max.               | Unit | Notes  |
|-----------------------|---------------------------------|----------------------|----------------------|--------------------|------|--|
| Threshold Current     | I <sub>th</sub>                 | -                    | 10                   | 15                 | mA   | CW   |
| Optical Output Power  | P <sub>f</sub>                  | 0.2<br>0.5<br>1<br>2 | -<br>-<br>1.6<br>2.5 | 0.5<br>1<br>-<br>- | mW   | CW, I <sub>th</sub> +20mA, kink free                             |
| Peak Wavelength       | λ                               | 1295                 | 1310                 | 1325               | nm   | Note 3   |
| Side mode Suppression | S <sub>r</sub>                  | 30                   | 35                   | -                  | dB   | CW, P <sub>f</sub> = P <sub>f</sub> (Min), 0 ~ 70°C              |
| Forward Voltage       | V <sub>F</sub>                  | -                    | 1.2                  | 1.5                | V    | CW, P <sub>f</sub> = P <sub>f</sub> (Min)                        |
| Rise / Fall Time      | T <sub>r</sub> / T <sub>f</sub> | -                    | -                    | 150                | ps   | I <sub>bias</sub> =I <sub>th</sub> , 20~80%<br>Lead length=1mm   |
| Tracking Error        | ΔP <sub>f</sub> /P <sub>f</sub> | -1.5                 | -                    | 1.5                | dB   | APC, 0 ~ 70°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                                  |

**Note:**

1. Pin assignment can be customized.
2. Specifications subject to change without notice.
3. Selected wavelength is available for WDM application.

**Pin Assignment**



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



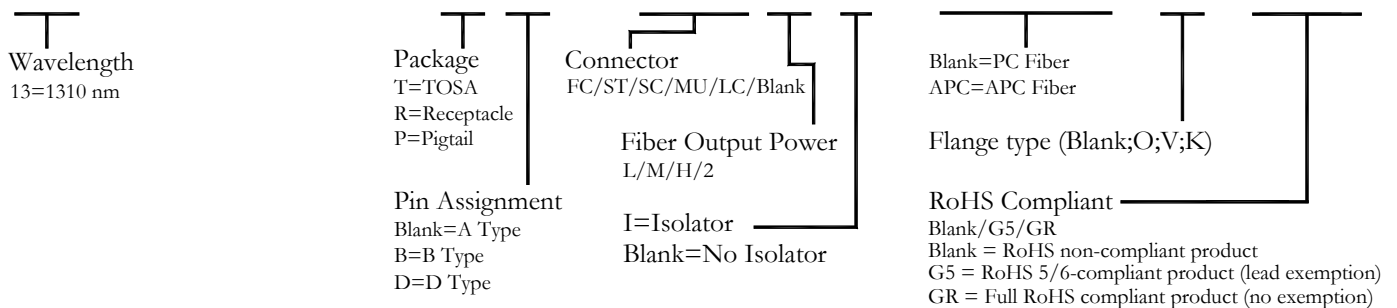
- Pin 1 : Monitor Diode Anode
- Pin 2 : Laser Anode and Case Gnd
- Pin 3 : Laser Cathode
- Pin 4 : Monitor Diode Cathode



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

**Ordering Information**

**C-13-DFB2.5-XX-SXXXX/XXX-X-XX**



Packaging Dimensions (Units in mm)

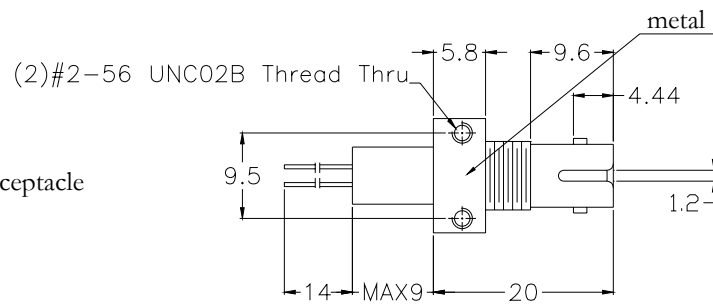
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FC Receptacle



ST Receptacle

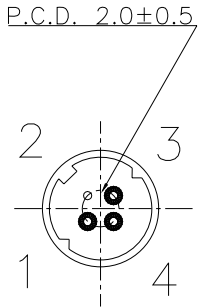


SC Receptacle

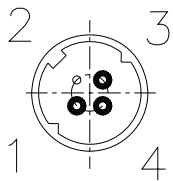
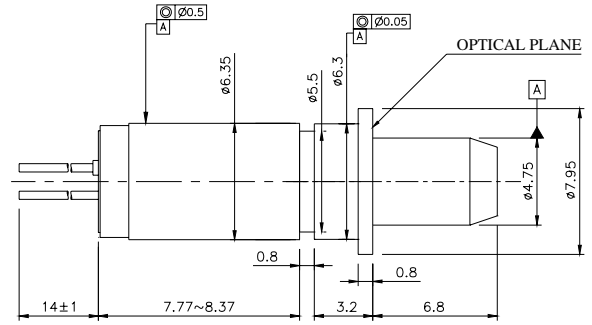


Packaging Dimensions (Units in mm)

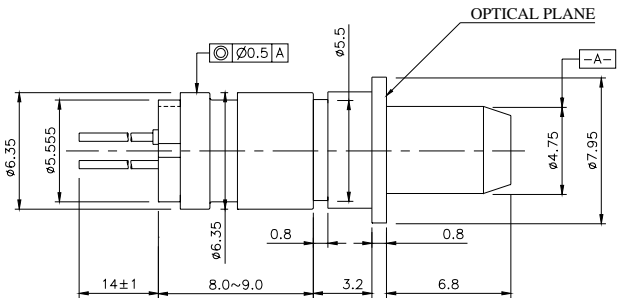
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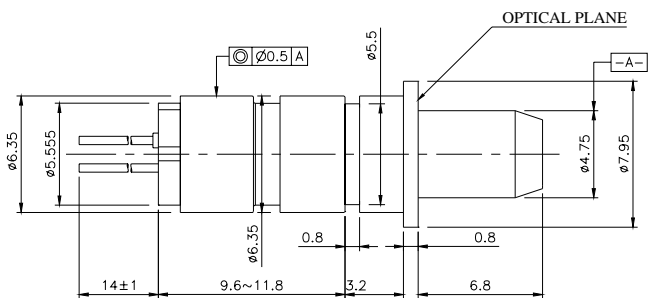
SC TOSA (L&M Power)  
C-13-DFB2.5-TX-SSCXX-XX



SC TOSA (L&M Power with Isolator)  
C-13-DFB2.5-TX-SSCXI-XX

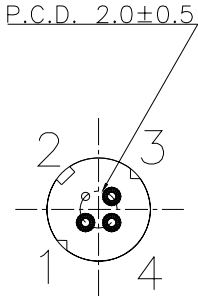


SC TOSA (H&2 Power)  
C-13-DFB2.5-TX-SSCXX-XX

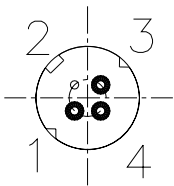


Packaging Dimensions (Units in mm)

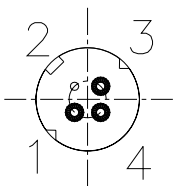
Part Number: C-13-DFB2.5-TX-SLCXX-XX



LC TOSA (L&M Power)  
C-13-DFB2.5-TX-SLCX-XX



LC TOSA (L&M Power)  
C-13-DFB2.5-TX-SLCXI-XX



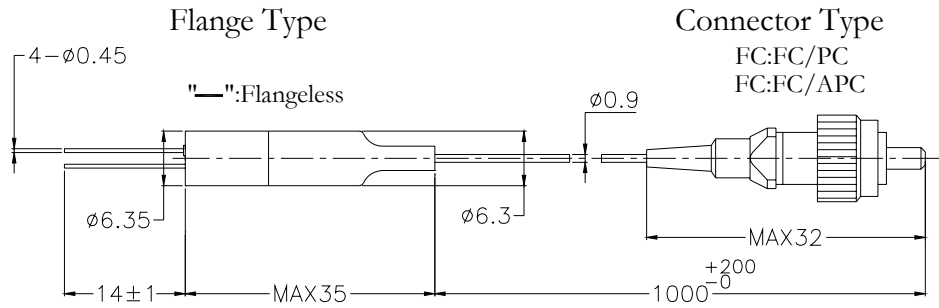
LC TOSA (H&2 Power)  
C-13-DFB2.5-TX-SLCXX-XX



**Packaging Dimensions (Units in mm)**

**Part Number: C-13-DFB2.5-PX-SXXXX/XXX-X-XX**

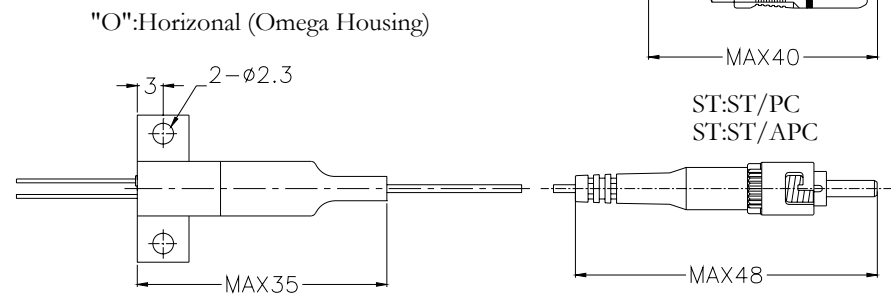
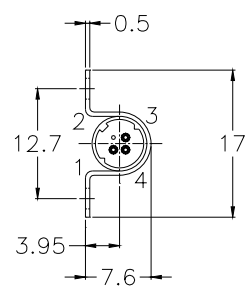
P.C.D.  $2.0 \pm 0.5$



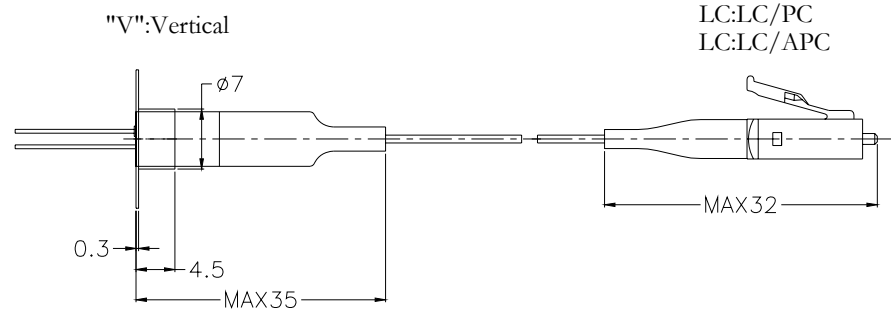
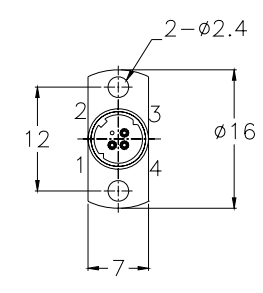
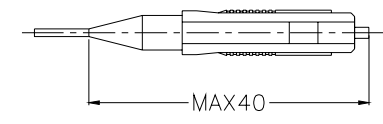
**Connector Type**

FC:FC/PC  
 FC:FC/APC

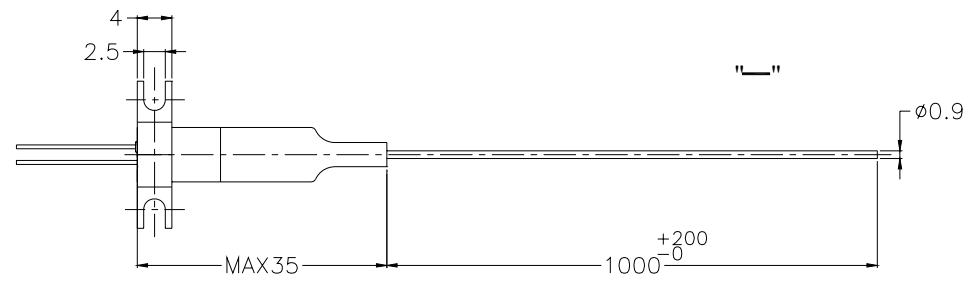
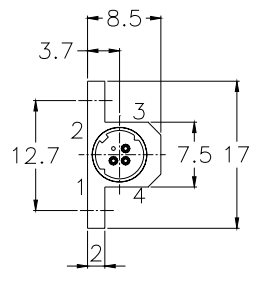
SC:SC/PC  
 SC:SC/APC



MU:MU Connector



"K": Horizontal (KX Housing)



## 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.

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