



## T62D-PYZ-WM-I-D

### 1625nm Coaxial DFB Pigtail Laser Diode with Optional Isolator

#### Description

The Lasermate T62D-PYZ-WM-I-D is a 1625nm wavelength, Distributed Feedback (DFB) laser diode in pigtailed package with output power up to >2mW, optional isolator, and capable of reaching 2.5Gbps data rate operation. The laser is designed for use in telecommunication applications.



#### Features

- 1625nm InGaAsP/InP MQW-DFB laser diode (LD)
- Data Rate: 155Mbps up to 2.5Gbps
- Uncooled operation at -40 to 85°C
- Hermetically sealed active component
- Built-in InGaAs monitor PIN photodiode (PD)
- Optional with single-stage isolator

#### Packaging

- Single-mode Fiber pigtailed with optional FC/ST/SC/LC connector

#### Applications

- ATM/SONET OC-3/OC-12/OC-24
- SDH STM-1/STM-4/STM-8
- Stable emitting source at specific wavelength

#### Ordering Information

| Read Model No.        | T62D-PYZ-WM-I-D   |
|-----------------------|---|
| T62D = Laser          | 1625nm DFB laser  |
| P = Package           | Pigtailed with 9/125um SM fiber   |
| Y = Connector         | None <b>(NO)</b> ; FC/PC <b>(FC)</b> ; SC/PC <b>(SC)</b> ; ST/PC <b>(ST)</b> ; LC/PC <b>(LC)</b> ; FC/APC <b>(FA)</b> ; SC/APC <b>(CA)</b> ; ST/APC <b>(TA)</b> |
| Z = Output power      | >0.5mW <b>(M)</b> ; >1mW <b>(H)</b> ; >2mW <b>(2)</b>   |
| W = Pin configuration | A pinout <b>(A)</b> ; C pinout <b>(C)</b>   |
| M = Mount             | No flange <b>(0)</b> ; Horizontal mount <b>(1)</b>  |
| I = Isolator          | Without isolator <b>(N)</b> ; With isolator <b>(I)</b>  |
| D = Data rate         | 1.25Gbps <b>(1G)</b> ; 2.5Gbps <b>(2G)</b>  |



## Specifications

| Absolute Maximum Ratings   |                  |            |      |            |
|----------------------------|------------------|------------|------|------------|
| Parameters                 | Symbol           | Value      | Unit | Conditions |
| Storage temperature        | Tstg             | -40 to +85 | °C   |            |
| Operating case temperature | Top              | -40 to +85 | °C   |            |
| Peak optical output power  | Po               | 5          | mW   |            |
| Forward current (LD)       | I <sub>FLD</sub> | 100        | mA   |            |
| Reverse voltage (LD)       | V <sub>RLD</sub> | 2          | V    |            |
| Reverse current (PD)       | I <sub>RPD</sub> | 5          | mA   |            |
| Reverse voltage (PD)       | V <sub>RPD</sub> | 15         | V    |            |
| Soldering temperature      | Stemp            | 260        | °C   | 10 seconds |

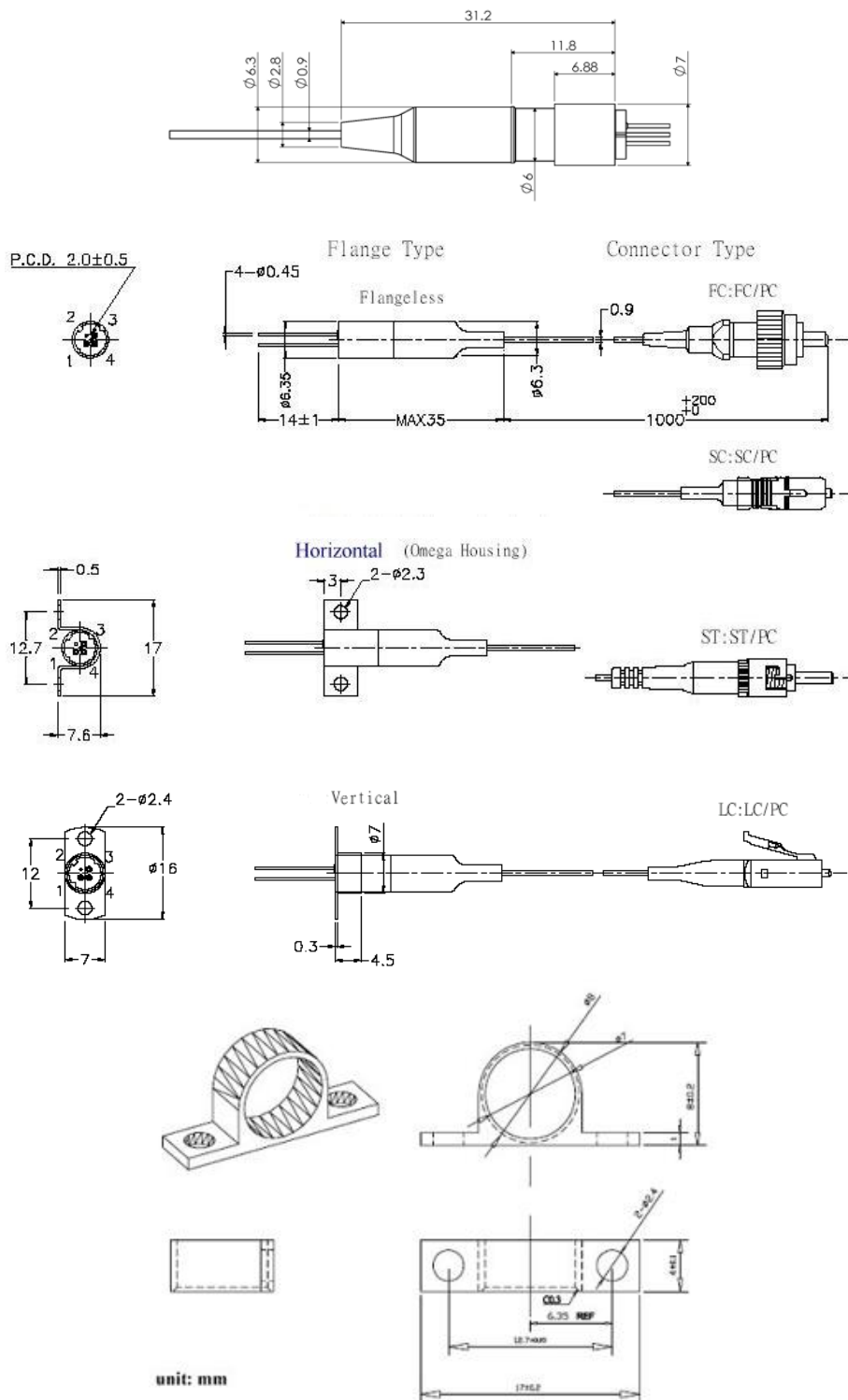
| Electro-Optical Characteristics (CW @ T <sub>c</sub> = 25°C unless otherwise noted) |                                |      |      |      |      |  |
|---|--------------------------------|------|------|------|------|--|
| Parameters  | Symbol                         | Min. | Typ. | Max. | Unit | Conditions                                 |
| Central wavelength  | $\lambda_c$                    | 1620 | 1625 | 1630 | nm   | CW, Pf                                     |
| Side mode suppression ratio   | SMSR                           | 30   | 40   | -    | dB   | Pf   |
| Spectral width  | $\Delta\lambda$                | -    | 0.2  | 1    | nm   | Pf   |
| Threshold current   | I <sub>th</sub>                | -    | 10   | 15   | mA   | CW   |
| Fiber output power  | Pf                             | 0.5  |      |      | mW   | CW, I <sub>f</sub> =I <sub>th</sub> +20mA  |
|   |                                | 1.0  |      |      |      |  |
|   |                                | 2.0  |      |      |      |  |
| Operating voltage   | V <sub>op</sub>                | -    | 1.1  | 1.5  | V    | Pf   |
| Rise time / Fall time   | t <sub>r</sub> /t <sub>f</sub> | -    | 0.1  | 0.2  | nsec | I <sub>b</sub> = I <sub>th</sub> , 20%~80% |
| Monitor current   | I <sub>m</sub>                 | 100  | -    | 1000 | uA   | Pf, V <sub>rp</sub> =5V                    |
| Monitor dark current  | I <sub>d</sub>                 | -    | 0.1  | 100  | nA   | V <sub>rp</sub> =5V                        |
| Monitor capacitance   | C                              | -    | 10   | 20   | pF   | V <sub>rp</sub> =5V, f=1MHz                |
| Tracking error*   | $\Delta$ Pf/ Pf                | -    | ±1.0 | ±1.5 | dB   | APC, T <sub>c</sub> =-40~+85°C             |

\*I<sub>m</sub>=constant @ Pf, T<sub>c</sub>=25 °C

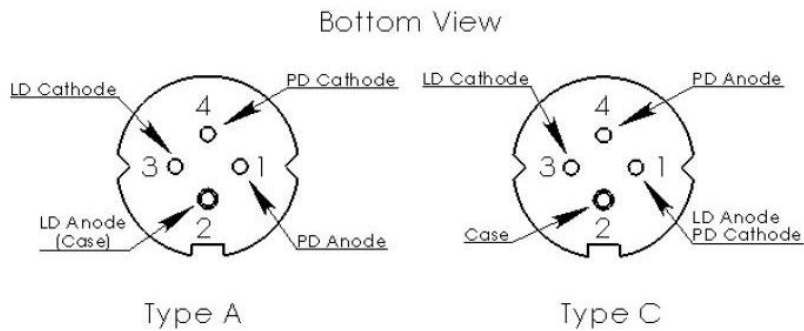
| Fiber Pigtail Specifications |  |      |      |      |      |  |
|------------------------------|--|------|------|------|------|--|
| Parameters                   | Symbol   | Min. | Typ. | Max. | Unit |  |
| Fiber type                   | Single Mode Fiber (Flame Retardant Hytrel Coating) |      |      |      |      |  |
| Cladding diameter            | D <sub>cl</sub>                                    | 122  | 125  | 128  | um   |  |
| Mode field diameter          | D <sub>mf</sub>                                    | -    | 10   | -    | um   |  |
| Coating diameter             | D <sub>bc</sub>                                    | -    | 0.9  | 1    | mm   |  |
| Pigtail length*              | L  | 0.9  | 1.0  | 1.1  | m    |  |
| Bending radius               | R <sub>b</sub>                                     | 30   | -    | -    | mm   |  |
| Connector                    | TBD  |      |      |      |      |  |

\*From the ferrule-end to the bottom of TO-header.

Outline Dimensions (unit: mm)



## Pin Assignment



| Pin Number | Type A          | Type C               |
|------------|-----------------|----------------------|
| 1          | PD Anode        | LD Anode, PD Cathode |
| 2          | LD Anode (case) | Case                 |
| 3          | LD Cathode      | LD Cathode           |
| 4          | PD Cathode      | PD Cathode           |

## Additional Notes

- Avoid eye or skin exposure to laser radiations.
- The device is sensitive to electro-static discharge (ESD). The device should be handled with ESD proof tools. To assemble the device on PCB, proper grounding is required to prevent ESD.
- Specifications are subject to change without notice.