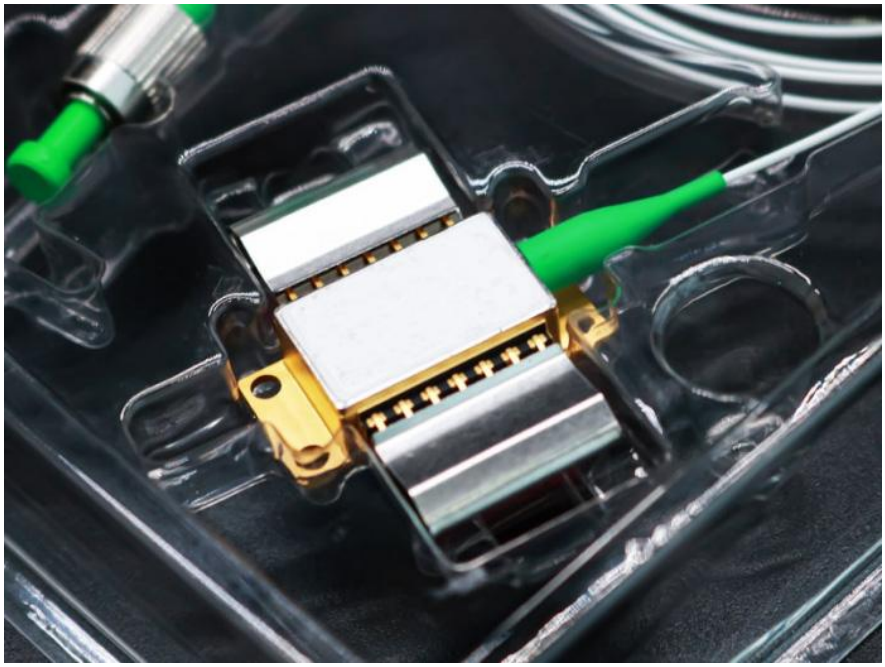
# 1600nm 10mW PM SLD Laser Diode



## Product Description

**The 1600nm SLD is a broadband SLD operating in inherent superluminescent emission mode. Its superluminescent characteristic delivers broader spectral bandwidth under higher driving current, while conventional ASE-based SLEDs feature narrowed spectral bandwidth at elevated current. Its low coherence suppresses Rayleigh backscattering noise. Combined with high output power and wide spectral width, it counteracts optical receiver noise and improves spatial resolution for OCT and measurement sensitivity for sensing applications. This 1600 nm SLED**

adopts a 14-pin butterfly package and complies with Bellcore GR-468-CORE specifications.The device emits incoherent light with a broad spectral half-width and high output power from a polarization-maintaining fiber (PMF).

## Product features

Broad-spectrum output; polarization-maintaining fiber coupling; low coherence; high stability; intelligent control

## Part Number

MP-SLD-1600-10-A81-14BF-PA

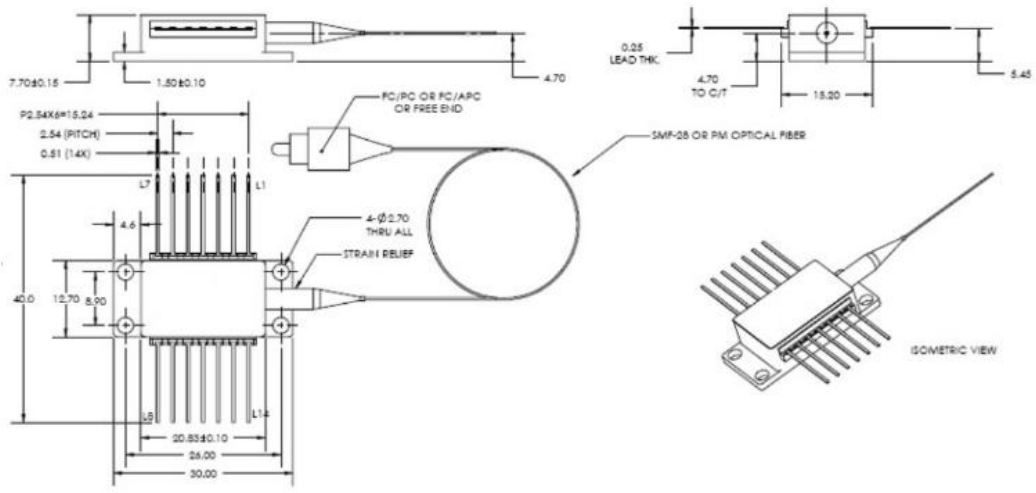
## Application area

Optical Coherence Tomography | Fiber Optic Gyroscope | Fiber Sensing | Device Testing | Biological Detection

## Core parameters

| Center Wavelength | Output Power |
|---|---|
| 1600 nm | 5 mW |

## Dimension Drawing




## General Parameters

**Technical Specifications**

**(TSLED = 25 ℃)**

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Operating Current | Iop | — | — | 200 | 225 | mA |
| Forward Voltage | VF | Iop | — | — | 2 | V |
| Single-mode Fiber Output Power | Po | Iop | 5 | — | — | mW |
| Center Wavelength | λ | Iop | 1580 | 1600 | 1620 | nm |
| Spectral Width (FWHM) | BFWHM | Iop | 50 | 55 | — | nm |

| | | | | | | |
|---|---|---|---|---|---|---|
| Spectral Ripple | R | Iop | — | 0.15 | 0.3 | dB |
| Thermistor Resistance | Rtherm | T = 25 °C | 9.5 | 10 | 10.5 | kΩ |
| TEC Voltage | VTEC | Iop | — | — | 2.5 | V |
| TEC Current | ITEC | Iop | — | — | 1.1 | A |

TSLED temperature is monitored by the internal thermistor.

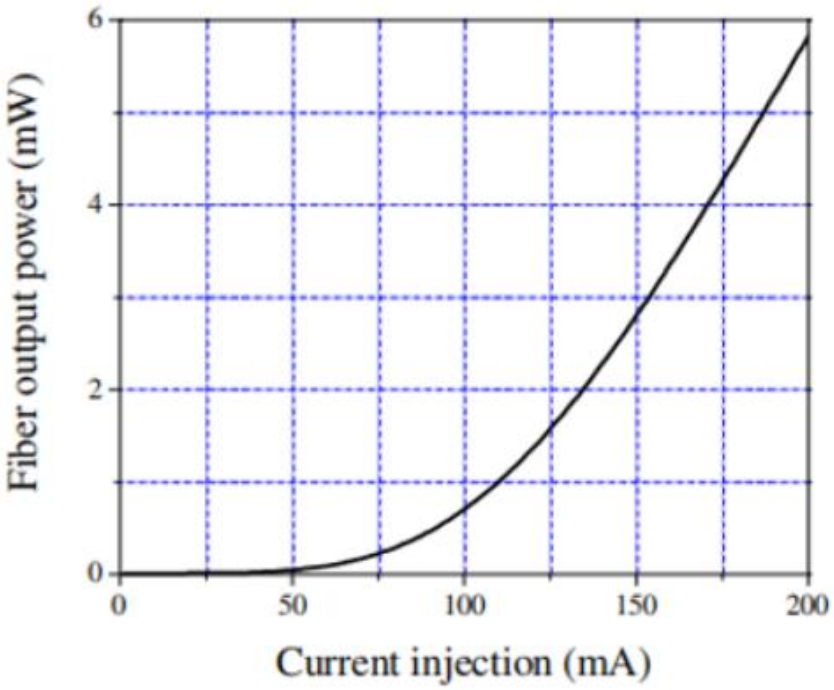
## Absolute Maximum Ratings

| Parameter | Symbol | Condition | Min. | Max. | Unit |
|---|---|---|---|---|---|
| Reverse Voltage | VR | — | — | 2 | V |
| Forward Current | IF | — | — | 275 | mA |
| Forward Voltage | VF | Iop | — | 2.5 | V |
| Case Temperature | Tc | Iop | -40 | 70 | °C |
| SLED Temperature | TSLED | Iop | 0 | 70 | °C |
| TEC Voltage | VTEC | — | — | 3.0 | V |
| TEC Current | ITEC | — | — | 1.8 | A |
| Storage Temperature | Tstg | Unbiased | -40 | 85 | °C |

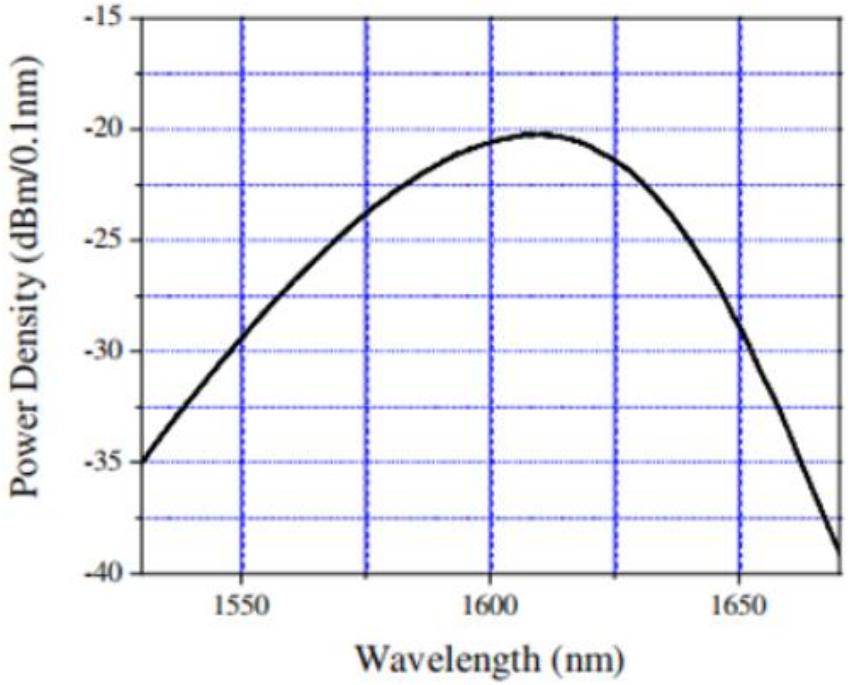
| | | | | | |
|---|---|---|---|---|---|
| Storage Humidity | — | — | 5 | 85 | %RH |
| ESD Withstand Voltage | VESD | Human Body Model | — | 500 | V |
| Lead Soldering Temperature | Stemp | — | — | 260 | °C |
| Lead Soldering Duration | Stime | — | — | 10 | sec |

## Typical Performance Characteristic Curves

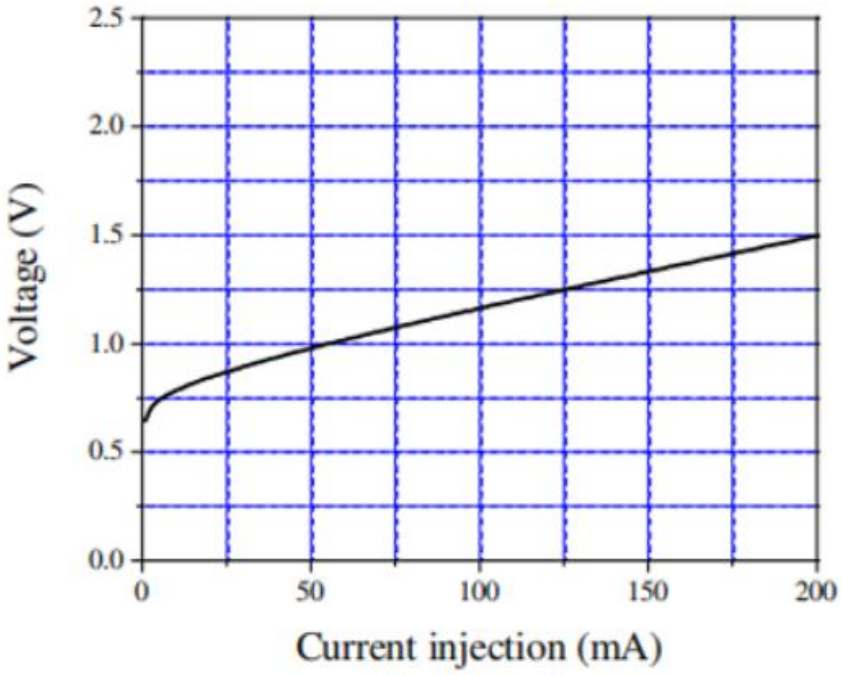
**(Operating condition: T SLED =25° C)**



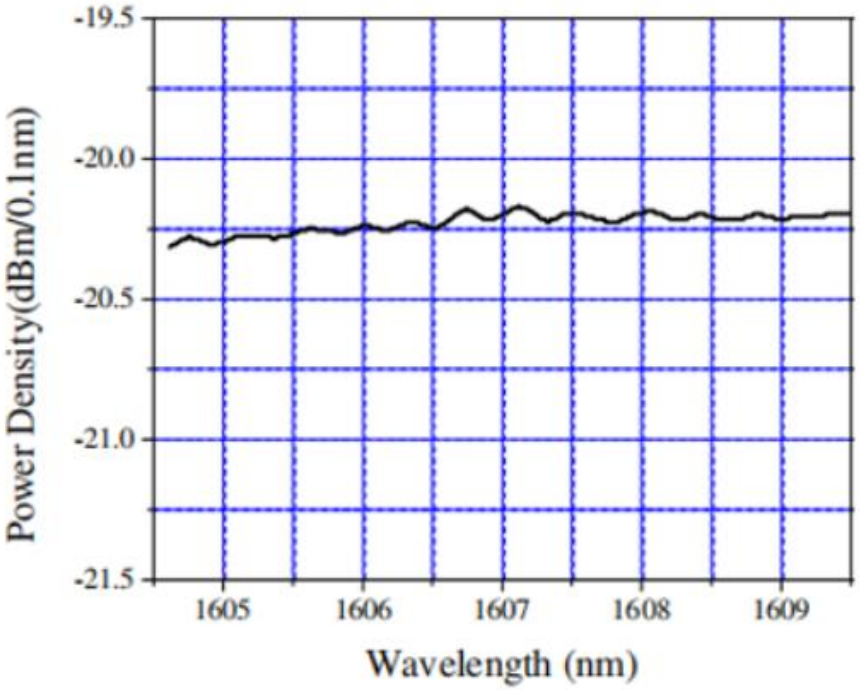

**P-I Curve**




**Spectrum**




**I-V Curve**




**Spectral Modulation**

## BTF Package

| Parameter | Description |
|---|---|
| Package Type | BTF |
| Fiber Type | SMF-28 |
| Mode Field Diameter (MFD) | 10 μm |
| Cladding Diameter | 125 μm |
| Coating Diameter | 245 μm |

| | |
|---|---|
| **Protective Sleeve** | **900 μm loose tube** |
| **Pigtail Length** | **1 m** |
| **Fiber Bending Radius** | **＞40 mm** |
| **Connector Type** | **FC/APC** |
| **Dimension Information** | **Refer to the figure below** |

| Pin Assignment | |
|---|---|
| 1 | TEC+ |
| 2 | THERMISTOR |
| 3 | – |
| 4 | – |
| 5 | THERMISTOR |
| 6 | – |
| 7 | – |
| 8 | – |
| 9 | – |
| 10 | SLED ANODE + |
| 11 | SLED CATHODE - |
| 12 | – |
| 13 | CASE |
| 14 | TEC - |