

## LT-850080-PM-FC

850nm/80mW/Polarization Maintaining /Fiber Coupled Laser Diode



### ■ Features

- 850nm Infrared Diode Laser
- 5um PM Fiber
- Coaxial Package

### ■ Applications

- Bio & Medical
- Measurement

### ■ Absolute Maximum Ratings

| Parameter                            | Symbol     | Value     | Unit |
|--------------------------------------|------------|-----------|------|
| Reverse Voltage                      | $V_r$ (LD) | 2.0       | V    |
|                                      | $V_r$ (PD) | 30        | V    |
| Operating Temperature                | $T_{opr}$  | -10 ~ +60 | °C   |
| Storage Temperature                  | $T_{stg}$  | -40 ~ +85 | °C   |
| Lead soldering temperature (10 sec.) | $T_{sld}$  | 260       | °C   |

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

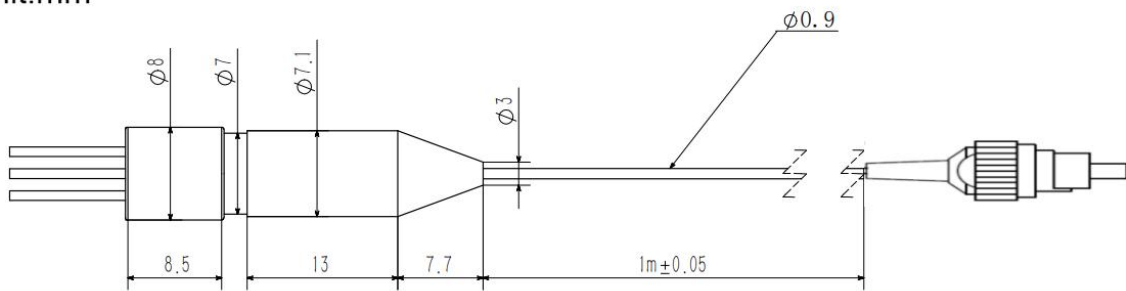
| Parameter             | Symbol          | Min                            | Typ | Max | Unit | Test Condition |
|-----------------------|-----------------|--------------------------------|-----|-----|------|----------------|
| Center Wavelength     | $\lambda_c$     | 840                            | 850 | 860 | nm   | Po=80mW        |
| Spectral Width (FWHM) | $\Delta\lambda$ | —                              | 2   | —   | nm   | Po=80mW        |
| Optical Output Power  | Po              | —                              | 80  | —   | mW   | Iop=240mA      |
| Fiber Type            | —               | Polarization Maintaining Fiber |     |     | —    | —              |
| Fiber Core            | —               | 5                              |     |     | um   | —              |
| Numerical Aperture    | NA              | 0.12                           |     |     | —    | —              |
| Fiber Connector       | —               | FC, SMA905, FC/APC selectable  |     |     | —    | —              |
| Fiber Length          | —               | 90                             | 100 | 110 | cm   | —              |
| Threshold Current     | Ith             | —                              | 55  | 80  | mA   | —              |
| Operating Current     | Iop             | 180                            | 210 | 240 | mA   | Po=80mW        |
| Operating Voltage     | Vop             | 1.8                            | 2.4 | 2.7 | V    | Po=80mW        |
| Monitor Current       | Im              | 0.1                            | 0.3 | 1.2 | mA   | Po=80mW        |
| Package Type          | —               | Coaxial                        |     |     | —    | —              |

■ **Beam Pattern**

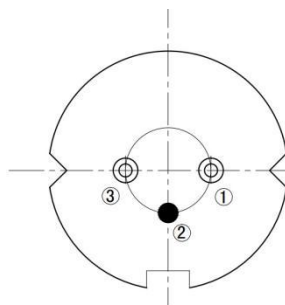


■ **Coaxial Package View**

Unit:mm



■ **PIN Bottom View**



|          |                        |
|----------|------------------------|
| <b>1</b> | <b>LD(-)</b>           |
| <b>2</b> | <b>LD(+)&amp;PD(-)</b> |
| <b>3</b> | <b>PD(+)</b>           |

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## ■ Cautions

1. Laser light can damage the human eye and skin. Do not expose the eye and skin to any laser light directly or through optical lenses. Focused laser beam through optical instruments will increase the chance of eye hazard.
2. The laser needs a stable driver to avoid surges. The instantaneous reverse current and reverse voltage should not exceed the absolute maximum ratings, otherwise it will damage the laser diode.
3. Semiconductor lasers are sensitive to temperature, working at high temperatures will reduce the photoelectric conversion efficiency and accelerate the aging of laser diode. It should be used under adequate heat dissipation or cooling conditions.
4. The laser should be used at the rated current and rated power, the output power is too high will accelerate the aging of laser diode.
5. Semiconductor lasers are electrostatic sensitive devices, anti-static measures should be taken during storage and transportation.
6. Lasers should be stored or work in a dry, ventilated environment to prevent damage to the laser from condensation.
7. The light emitting surface (cavity surface) is the key parts of the laser diode, any handling to damage the cavity surface should be strictly prohibited. It should be ensured that the laser diode is not contaminated, and damaged in mechanical.
8. The fiber should not be bent at large angles, it should be ensured that the diameter of the bend should be more than 300 times the diameter of the fiber.

