

Laser Diode 940nm 100mW



FPL-940-14BF-100 is single mode laser diode module designed for optical measurement and communication. The laser is packaged in 14-pin standard butterfly package with monitor photodiode and thermo-electric cooler (TEC). Module is pigtailed with 0,7-1,0 m of single mode polarization maintaining fiber and connectorized by FC/PC connector.

Key Features

- Optical output: 100mW
- Efficient coupling into single mode fiber
- CW or pulsed operation
- SM or PM Fiber
- FC-PC connector
- 14-pin butterfly package
- Internal monitor PD and TEC
- Low power consumption

Optical and electrical characteristics: (T = 25°C)

| Item | Symbol | Test condition | Min. | Typ. | Max. | Unit |
|--------------------|-----------------|-------------------------------------|------|------|------|------------|
| Output Power | P_f | | 100 | 120 | 150 | mW |
| Forward Voltage | V_F | $P_f=100mW$ | | | 2.5 | V |
| Threshold Current | I_{th} | | | 25 | 40 | mA |
| Forward Current | I_F | $P_f=100mW$ | | 200 | 300 | mA |
| Center Wavelength | λ_c | $P_f=100mW$ | 930 | 940 | 950 | nm |
| Spectral Width | $\Delta\lambda$ | $P_f=100mW$ | | 1 | 3 | nm |
| Monitor Current | I_m | $P_f=100mW, V_{RD}=5V$ | 40 | | 500 | μA |
| PD Dark Current | I_d | $V_{RD}=5V$ | | | 0.1 | μA |
| Cooler Voltage | V_C | $I_F=EOL, TC=70^\circ C$ | | | 2.7 | V |
| Cooler Current | I_C | $I_F=EOL, TC=70^\circ C$ | | | 1.4 | A |
| Thermal Resistance | R_o | $T_{LD}=25^\circ C, B=3900\pm 100K$ | 9.5 | 10.0 | 10.5 | k Ω |
| Extinction Ratio | X_P | $P_f=100mW$ | 17 | | | dB |

Absolute Maximum Ratings

| Item | Symbol | Rating | Unit |
|----------------------------|-----------|------------|------|
| LD Forward Current | I_f | 350 | mA |
| LD Reverse Voltage | V_r | 1.8 | V |
| PD Reverse Voltage | V_{RD} | 10 | V |
| Operation Case Temperature | T_c | -40 to +70 | °C |
| Storage Temperature | T_{stg} | -40 to +85 | °C |
| Cooler Current | I_c | 1.4 | A |

PACKAGING

| No. | FUNCTION | No. | FUNCTION |
|-----|--------------|-----|----------------|
| 1 | Cooler anode | 8 | NC |
| 2 | Thermistor | 9 | NC |
| 3 | PD anode | 10 | LD anode |
| 4 | PD cathode | 11 | LD cathode |
| 5 | Thermistor | 12 | NC |
| 6 | NC | 13 | Case |
| 7 | NC | 14 | Cooler cathode |

