

## DFB Laser Diode 1877nm 3mW

### FNPL-3S-1877-DFB



**FNPL-3S-1877-DFB** is a CW DFB semiconductor laser diode. It is delivered in standard SOT-148 and TO-56 packages with optional monitor diode to stabilize power output and TO-5 and TO-8 packages with integrated TEC, thermistor and monitor diode. Custom mounts are available upon request.

#### Key Features

Excellent reliability  
Variety of packaging options

#### Applications

High performance gas sensing  
Gas Sensing  
Sensing of liquids  
Free space communications  
Spectroscopy

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

| Operating parameters          | Symbol           | Min  | Typ   | Max  | Unit          |
|-------------------------------|------------------|------|-------|------|---------------|
| Optical output power          | $P_{out}$        | -    | 3     | -    | mW            |
| Lasing wavelength             | $\lambda$        | 1876 | 1877  | 1878 | nm            |
| Threshold current             | $I_{th}$         | 40   | 45    | 55   | mA            |
| Forward current               | $I_f$            | 50   | 80    | 100  | mA            |
| Operating Voltage             |                  | -    |       | 2.5  | V             |
| Beam divergence parallel      | $\Theta_{  }$    | 25   | 30    | 35   | deg.          |
| Beam divergence perpendicular | $\Theta_{\perp}$ | 45   | 50    | 60   | deg.          |
| Side mode suppression         |                  | -    | 35    | -    | dB            |
| Spectral width (FWHM)         | $\Delta\lambda$  | -    | -     | 3    | MHz           |
| Emitting area                 | WxH              | -    | 2x1.5 | -    | $\mu\text{m}$ |
| Slope efficiency              | $dP_o/dI_{op}$   | 0.04 | 0.07  | 0.13 | mW/mA         |
| Current tuning rate           | $C_I$            | 0.01 | 0.015 | 0.03 | nm/mA         |
| Temperature tuning rate       | $C_T$            | 0.1  | 0.12  | 0.16 | nm/K          |
| Operating temperature         | $T_C$            | -20  |       | +50  | °C            |
| Storage temperature           | $T_S$            | -20  |       | +85  | °C            |

## TYPICAL PERFORMANCE

Room Temperature CW Spectrum at 1877nm

