

## DFB Laser Diode 852nm 10mW

### FNPL-10S-852-DFB



**FNPL-10S-852-DFB** is a CW DFB semiconductor laser diode operating at 852nm. It is delivered in standard TO-5.6 and TO-9 packages with optional monitor diode to stabilize power output and TO-5 and butterfly packages with integrated TEC, thermistor and monitor diode. Custom mounts are available upon request.

#### Key Features

Very high spectral purity  
Narrow Line width <3MHz  
Excellent reliability  
Variety of packaging options

#### Applications

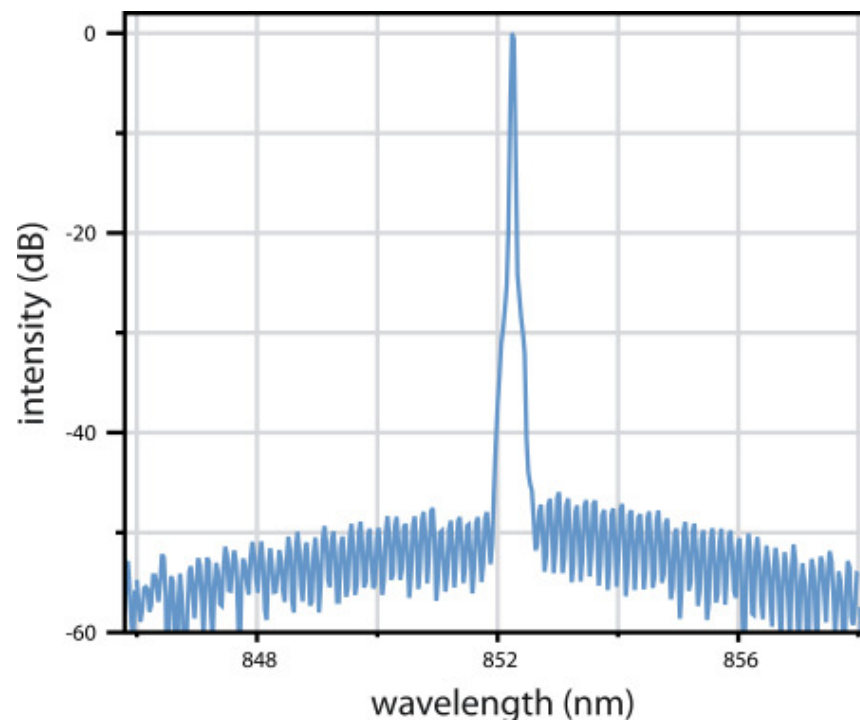
High performance gas sensing  
Precision metrology  
Atomic clocks  
Spectroscopy; Cs D2 transition  
Space technology

### Optical and electrical characteristics:

| Operating parameters          | Symbol           | Min     | Typ     | Max     | Unit        |
|-------------------------------|------------------|---------|---------|---------|-------------|
| Optical Output Power          | $P_{out}$        |         | 10      |         | mW          |
| Lasing Wavelength             | $\lambda$        | 851     | 852     | 853     | nm          |
| Threshold Current             | $I_{th}$         | 15      | 20      | 30      | mA          |
| Forward Current               | $I_f$            |         | 30      |         | mA          |
| Operating Voltage             | $V_{op}$         |         | 1.8     |         | V           |
| Beam Divergence Parallel      | $\Theta_{  }$    | 17      | 20      | 25      | deg.        |
| Beam Divergence Perpendicular | $\Theta_{\perp}$ | 25      | 30      | 40      | deg.        |
| Emitting Area                 | WxH              | 2.0x1.0 | 3.0x1.5 | 4.0x2.0 | $\mu m$     |
| Slope Efficiency              | $dP_o/dI_{op}$   | 0.4     | 0.7     | 0.9     | mW/mA       |
| Temp. Tuning Coefficient      | $C_T$            | 0.05    | 0.1     | 0.15    | nm/K        |
| Current Tuning Coefficient    | $C_I$            | 0.003   | 0.005   | 0.008   | nm/mA       |
| Operating Temperature         | $T_C$            | +10     |         | +50     | $^{\circ}C$ |
| Storage Temperature           | $T_S$            | -40     |         | +80     | $^{\circ}C$ |

**TYPICAL PERFORMANCE**

Room Temperature CW Spectrum at 852nm



Mode-hop Free Wavelength Current Tuning at Different Temperatures

