

5.2 μ m 200mW DFB Quantum Cascade Laser

FNPL-200S-5200-DFB



FNPL-200S-5200-DFB is a DFB quantum cascade semiconductor laser diode operating at 5.2 μ m. It is delivered in standard TO-5 and TO-8 packages with integrated TEC, thermistor and monitor diode, it is also available in a C-mount package. Custom mounts are available upon request.

Key Features

Very high spectral purity
 Excellent reliability
 Variety of packaging options
 Intrapulse and interpulse tuning

Applications

High performance gas sensing
 Gas Sensing NO
 Sensing of liquids
 Free space communications
 Illumination

Optical and electrical characteristics:

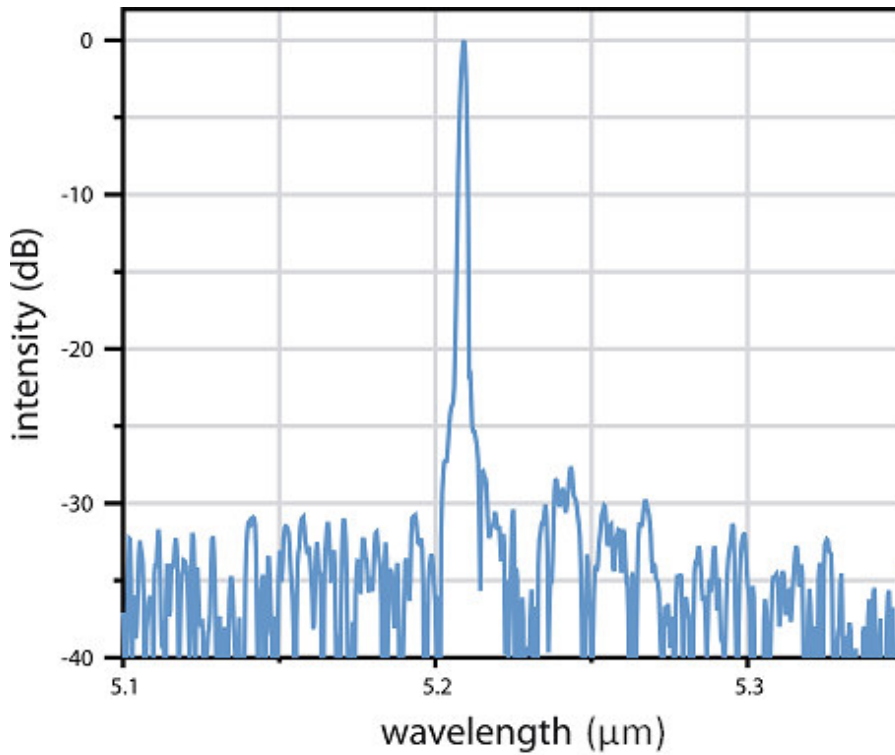
| Operating parameters | Symbol | Min | Typ | Max | Unit |
|-------------------------------|------------------|------|-------|-------|---------|
| Optical Peak Power Output | $P_{out\ peak}$ | | 200 | | mW |
| Lasing Wavelength | λ | 5.1 | 5.2 | 5.3 | μ m |
| Threshold Current | I_{th} | 0.5 | 1.0 | 1.5 | A |
| Forward Current | I_f | | 2.5 | | A |
| Operating Voltage | V_{op} | | 12 | | V |
| Beam Divergence Parallel | $\Theta_{ }$ | 20 | 30 | 35 | deg. |
| Beam Divergence Perpendicular | Θ_{\perp} | 50 | 55 | 60 | deg. |
| Emitting Area | WxH | 10x8 | 15x10 | 30x12 | μ m |
| Slope Efficiency | dP_o/dI_{op} | 20 | 100 | 200 | mW/A |
| Temperature Tuning rate | C_T | 0.45 | 0.5 | 0.55 | nm/K |
| Repetition Rate | | 0Hz | | 1 | MHz |
| Duty Cycle | | 0 | | 3 | % |
| Pulse Width | T_p | 10 | - | 300 | ns |

Absolute maximum ratings

- Operating temperature -20°C to +50°C
- Storage temperature -40°C - +80°C

TYPICAL PERFORMANCE

Room Temperature Spectrum at 5.2 μ m



Mode-hop Free Wavelength Tuning

