

DFB Laser Diode 1877nm 5mW

FNPL-5S-1877-DFB



FNPL-5S-1877-DFB is a CW DFB semiconductor laser diode operating at 1877nm. 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

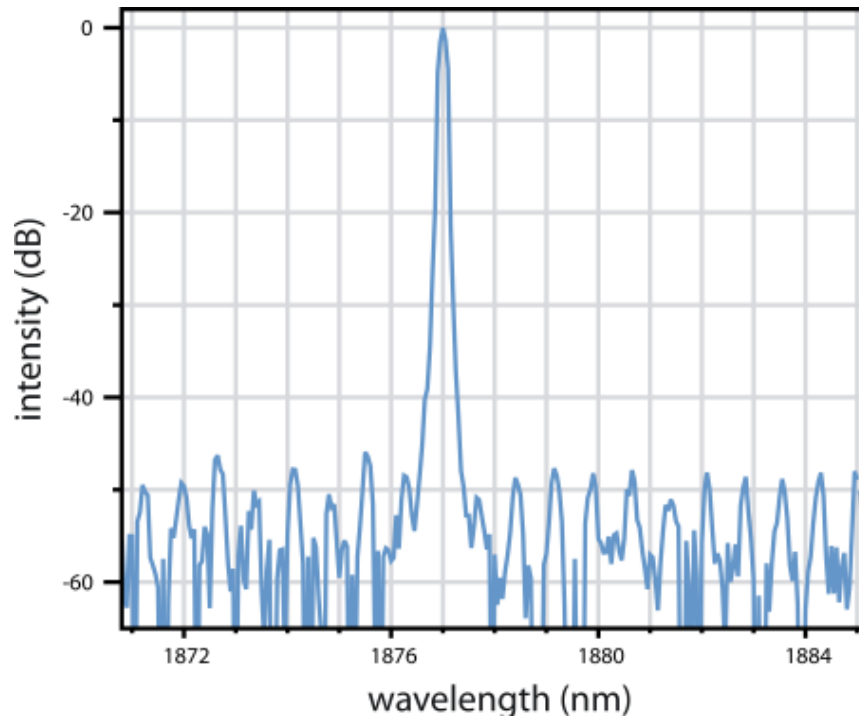
- High performance gas sensing, H₂O
- Precision metrology
- Atomic clocks
- Spectroscopy
- Space technology

Optical and electrical characteristics:

Operating parameters	Symbol	Min	Typ	Max	Unit
Optical Output Power	P_{out}		5		mW
Lasing Wavelength	λ	1876	1877	1878	nm
Threshold Current	I_{th}	20	35	65	mA
Forward Current	I_f		100		mA
Operating Voltage	V_{op}		4		V
Beam Divergence Parallel	$\Theta_{ }$	20	30	40	deg.
Beam Divergence Perpendicular	Θ_{\perp}	40	50	60	deg.
Emitting Area	WxH	3.0x1.0	4.0x1.5	5.0x2.0	μm
Slope Efficiency	dP_o/dI_{op}	0.07	0.1	0.23	mW/mA
Temp. Tuning Coefficient	C_T	0.17	0.2	0.23	nm/K
Current Tuning Coefficient	C_I	0.015	0.02	0.035	nm/mA
Operating Temperature	T_C	-20		+50	$^{\circ}\text{C}$
Storage Temperature	T_S	-40		+80	$^{\circ}\text{C}$

TYPICAL PERFORMANCE

Room Temperature CW Spectrum at 1877nm



Mode-hop Free Wavelength Current Tuning at Different Temperatures

