



DFB Laser Diode 1178nm 20mW

FNPL-20S-1178-DFB



FNPL-20S-1178-DFB is a CW DFB semiconductor laser diode operating at 1178nm. 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

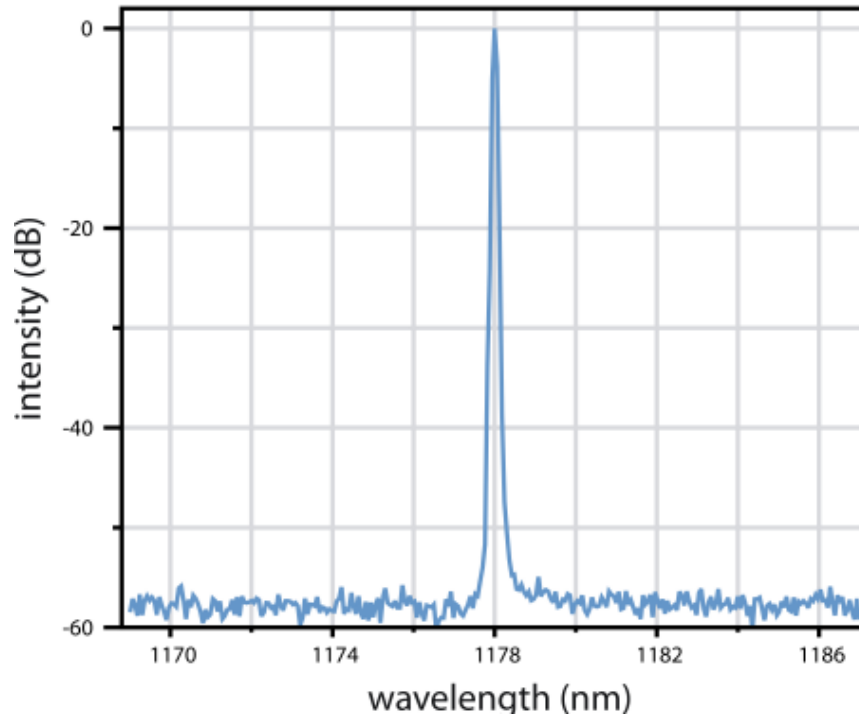
- High performance gas sensing
- Precision metrology
- Atomic clocks
- Spectroscopy
- Space technology

Optical and electrical characteristics:

Operating parameters	Symbol	Min	Typ	Max	Unit
Optical Output Power	P_{out}		20		mW
Lasing Wavelength	λ	1177	1178	1179	nm
Threshold Current	I_{th}	12	15	25	mA
Forward Current	I_f		70		mA
Operating Voltage	V_{op}		2		V
Beam Divergence Parallel	$\Theta_{ }$	12	15	20	deg.
Beam Divergence Perpendicular	Θ_{\perp}	45	50	55	deg.
Emitting Area	WxH	1.8x1.8	2.0x2.0	2.5x2.3	μm
Slope Efficiency	dP_o/dI_{op}	0.35	0.4	0.5	mW/mA
Temp. Tuning Coefficient	C_T	0.07	0.08	0.09	nm/K
Current Tuning Coefficient	C_I	0.007	0.01	0.015	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 1178nm



Mode-hop Free Wavelength Current Tuning at Different Temperatures

