

13.4 μ m 80mW DFB Quantum Cascade Laser

FNPL-80S-13400-DFB



FNPL-80S-13400-DFB is a DFB quantum cascade semiconductor laser diode operating at 13.4 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 C₂H₂
 Sensing of liquids
 Free space communications
 Illumination

Optical and electrical characteristics:

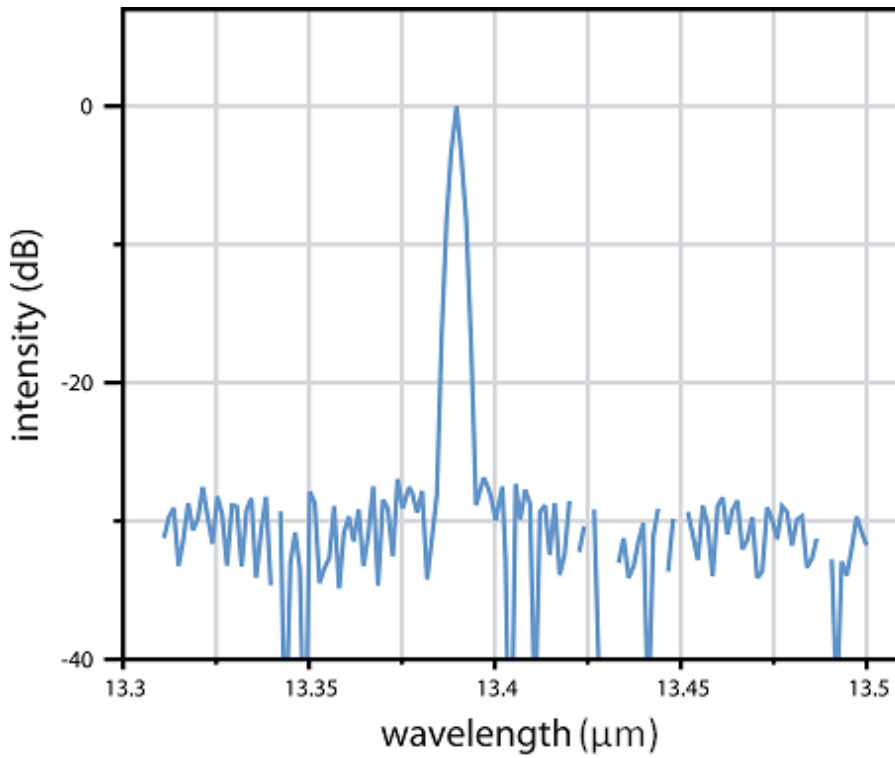
Operating parameters	Symbol	Min	Typ	Max	Unit
Optical Peak Power Output	P _{out peak}		80		mW
Lasing Wavelength	λ	13.3	13.4	13.7	μ m
Threshold Current	I _{th}	1.0	1.5	2.0	A
Forward Current	I _f		3.0		A
Operating Voltage	V _{op}		18		V
Beam Divergence Parallel	Θ_{\parallel}	20	30	35	deg.
Beam Divergence 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	0.9	0.95	1.0	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 to +80°C

TYPICAL PERFORMANCE

Room Temperature Spectrum at 13.4 μ m



Mode-hop Free Wavelength Temperature Tuning

