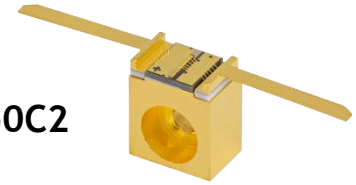
9150 nm Quantum Cascade Laser, 200 mW

QF9150C2



Description

The QF9150C2 is a single spatial mode, Fabry-Perot Quantum Cascade Laser designed and manufactured by Thorlabs. This laser operates in Continuous Wave (CW) mode at room temperature. The QF9150C2 is mounted on an open heatsink C-mount package. The laser cathode is electrically isolated from the heatsink base. This discrete semiconductor laser is a compact light source suited to many applications. There is no monitor photodiode.

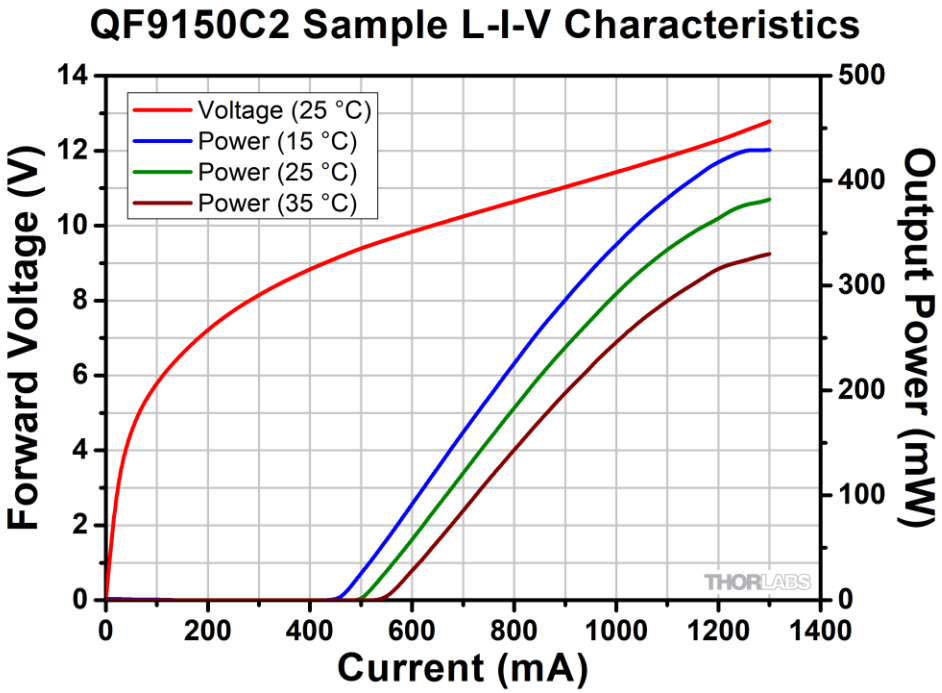
Specifications

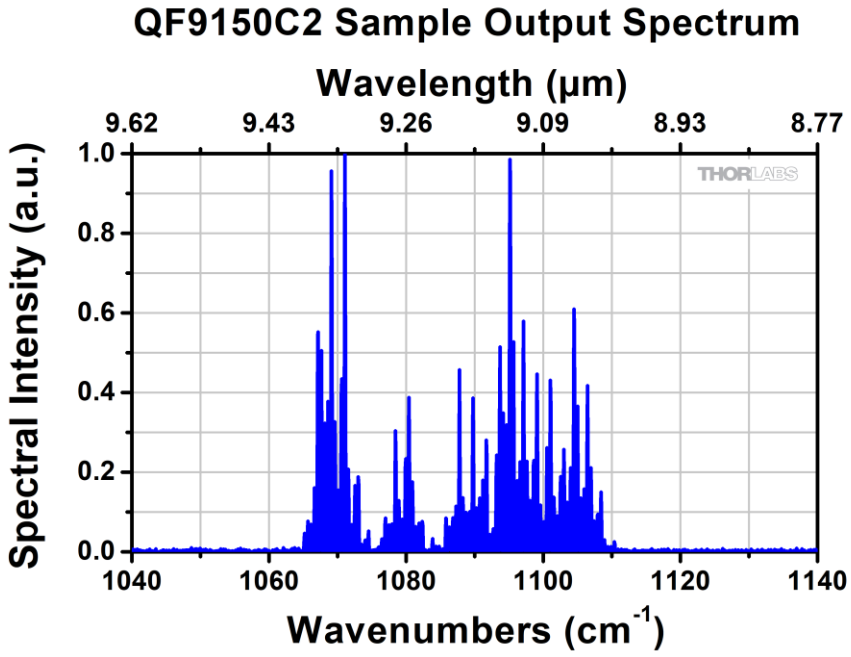
Absolute Maximum Ratings	
LD Reverse Voltage (Max)	1 V
Absolute Max Current[a]	1.3 A
Absolute Max Output Power	500 mW
Operating Temperature[b]	15 to 35 °C
Storage Temperature[b]	-40 to 85 °C

a. The maximum current for each device may be lower than this value and is specified on a device-by-device basis in the individual datasheets.
b. Non-Condensing Environment

QF9150C2 Specifications, T_{case} = 25 °C, CW Current Operation				
	Symbol	**Min**	**Typical**	**Max**
Center Wavelength	λ_C	8.95 µm	9.15 µm	9.35 µm
Spectral Bandwidth (5% - 95% Integrated Power)	$\Delta\lambda$	-	300 nm	-
Output Power	P_{out}	200 mW	-	-
Operating Current	I_{op}	-	850 mA	1300 mA
Threshold Current	I_{TH}	-	500 mA	-
Forward Voltage	V_F	-	11 V	14 V
Slope Efficiency	$\Delta P/\Delta I$	-	1.8 W/A	-
Divergence Angle, Perpendicular (FWHM)	$\theta_\perp$	-	60°	-
Divergence Angle, Parallel (FWHM)	$\Theta_\parallel$	-	40°	-

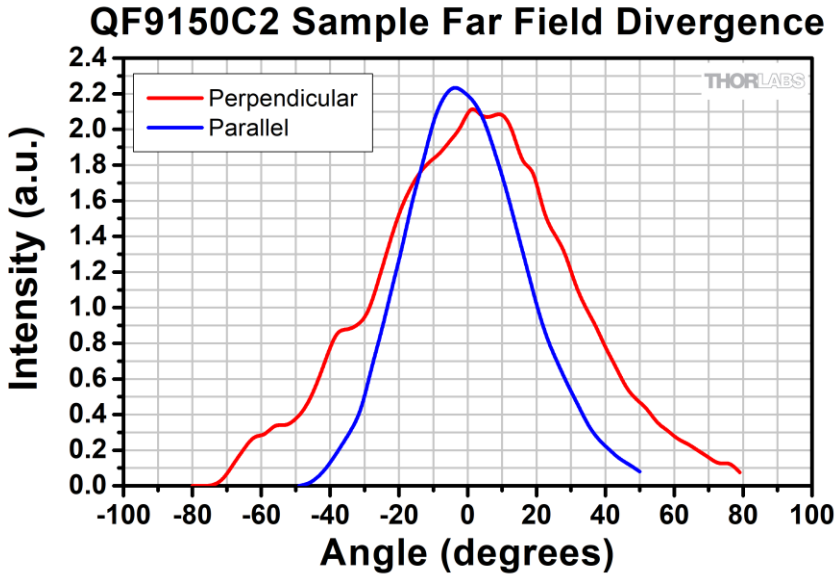
Sample Performance Plots





The spectrum above shows the fine structure of the Fabry-Perot modes. Please note that the resolution bandwidth of this measurement is 0.125 cm^{-1} (3.75 GHz).

Performance Plots (Cont.)



Far field divergence values are measured at 25 °C and at a distance of 89.4 mm from the laser. The detector's aperture is Ø10 mm, and the sampling step size is 3°. The angle subtended by the detector is 6.4°.

Drawings for QF9150C2