

1654 nm, 80 mW (Min) DFB TO-56 Diode Laser

DFB1654T



Description

Thorlabs' DFB1654T Distributed Feedback (DFB) laser is a 1654 nm, 80 mW (min) single-frequency laser. The DFB1654T laser is packaged in a TO-56 package with E-pin configuration, and is designed for high power, single-frequency operation at multiple temperatures. It is a low-noise pump source for near infrared spectroscopy (NIRS), telecommunication, LIDAR, and general sensing.

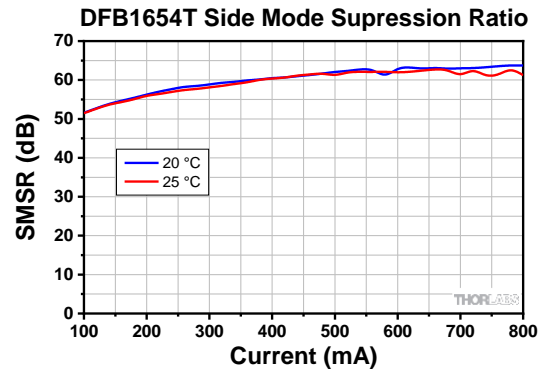
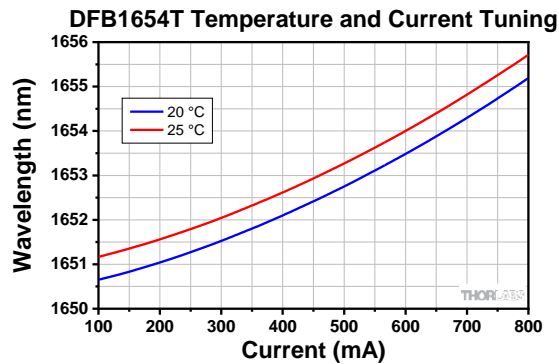
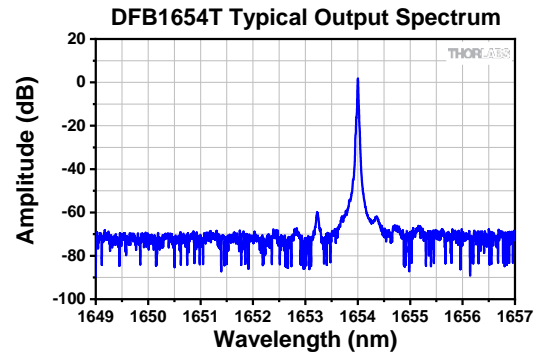
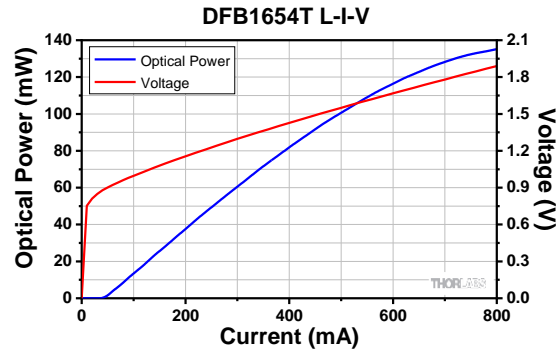
Specifications

DFB1654T; T _{Case} = 25 °C				
	Symbol	Min	Typical	Max
Center Wavelength	λ_c	1650 nm	1653 nm	1656 nm
Laser Linewidth	$\Delta\nu$	-	150 kHz	-
Output Power CW @ I _{OP}	P _{OP}	80 mW	120 mW	-
Operating Current	I _{OP}	-	600 mA	800 mA
Mode-Hop-Free Operating Current ^a	$\Delta I_{\text{Mode-Hop-Free}}$	250 mA	-	-
SMSR in Mode-Hop-Free Range ^b	SMSR	30 dB	50 dB	-
Threshold Current	I _{TH}	-	45 mA	-
Forward Voltage	V _F	-	1.4 V	1.5 V
Slope Efficiency	$\Delta P / \Delta I$	-	0.18 W/A	-
Current Tuning	$\Delta \lambda / \Delta I$	-	0.008 nm/mA	-
Temperature Tuning	$\Delta \lambda / \Delta T$	-	0.10 nm/°C	-

- Continuous tuning range above this value where mode-hops are not observed.
- As measured with an optical spectrum analyzer (OSA) with spectral resolution of 0.02 nm to empirically determine single frequency range. Laser 30 dB bandwidth and SMSR are subject to monochromator settings and OSA internal algorithms and will differ from instrument to instrument.



Typical Performance Plots



Drawings

