1270 nm DFB Laser Diode, 5 mW

L1270P5DFB

Description

This 1270 nm, 5 mW, 2.5 Gbps, DFB laser diode is a Telcordia qualified product operable over a broad temperature range with a low temperature-wavelength coefficient. It is well suited for applications such as communications research, interferometry, and optical reflectometry for distance measurement in fiber or free space. Each device undergoes testing and burn-in.

This laser comes packaged in a 5.6 mm TO Can with D pin code. It contains an integrated aspheric focusing lens in the cap, allowing the focus spot and numerical aperture (NA) to be matched to SMF-28e+ fiber.

Specifications

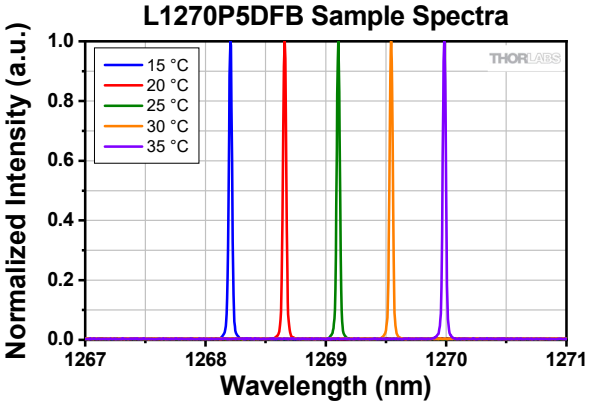
Absolute Maximum Ratings[a]		
Specification	**Symbol**	**Maximum**
Maximum Power	P_{Max}	10 mW
Forward Current	I_{FWD}	120 mA
Operating Case Temperature	T_{Case}	-20 to +85 °C
Storage Temperature	T_{Stor}	-40 to +100 °C
Laser Reverse Bias	V_R	2 V
Photodiode Reverse Bias	V_{RPD}	10 V

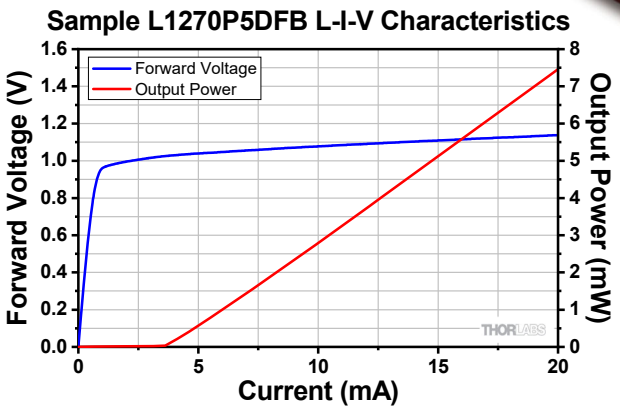
a. Absolute Maximum Rating specifications should never be exceeded. Operating at or beyond these conditions can permanently damage the laser.

L1270P5DFB Specifications[b]					
		Symbol	**Min**	**Typ.**	**Max**
Output Power, CW		P_{op}	-	5 mW	-
Threshold Current	**@ 25 °C**	I_{TH}	-	5 mA	13 mA
	@ 85 °C		-	30 mA	45 mA
Operating Current, CW @ P_{op}		I_{op}	-	15 mA	40 mA
Operating Voltage @ P_{op}		V_{op}	-	1.1 V	1.6 V
Slope Efficiency		η	-	0.48 W/A	-
Center Wavelength @ P_{op}		λ_o	1267 nm	1270 nm	1273 nm
Spectral Width (@-20 dB)		$\Delta\lambda$	-	0.1 nm	-
Wavelength-Temperature Coefficient		$\Delta\lambda/\Delta T$	-	0.09 nm/°C	-
Side-Mode Suppression Ratio		SMSR	35 dB	40 dB	-
Beam Divergence (FWHM)	**Parallel @ P_{op}**	$\Theta_{\parallel}$	-	7°	-
	Perpendicular @ P_{op}	$\theta_{\perp}$	-	9°	-
Rise/Fall Time (5 mW, 20% to 80%)		t_R, t_F	-	-	0.1 ns
Monitor Current @ P_{op}		I_{PD}	100 µA	-	1000 µA
Focal Position (See Drawing)			7.0 mm	7.5 mm	8.0 mm
Focus Spot Size ($1/e^2$ Diameter)		Φ_F	-	12.7 µm	-

b. T_{CASE} = 25 °C if not specified.

Performance Plots





Drawing