

### L1310P5DFB



### Description

This 1310 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 <sup>a</sup>		
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

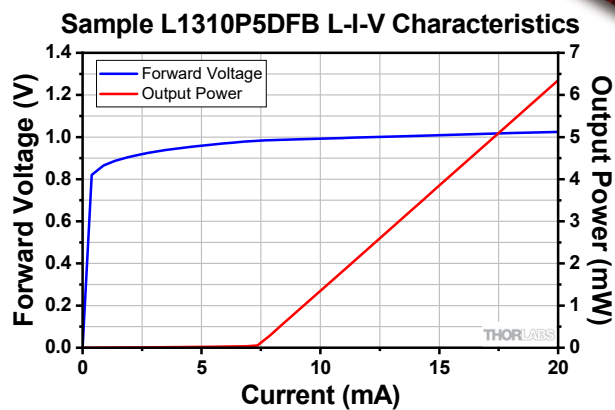
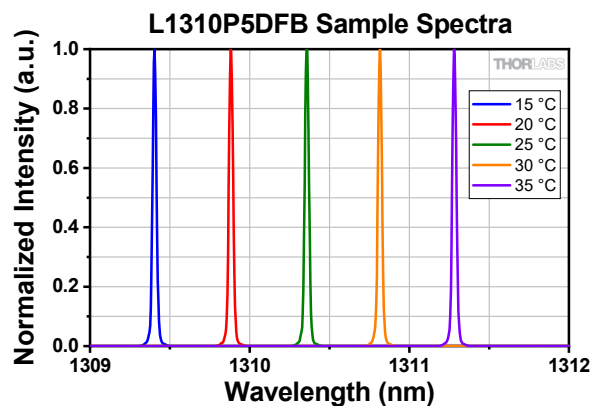
a. Absolute Maximum Rating specifications should never be exceeded. Operating at or beyond these conditions can permanently damage the laser.



L1310P5DFB Specifications <sup>b</sup>					
		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 @ $P_{op}$		$I_{op}$	-	16 mA	40 mA
Operating Voltage @ $P_{op}$		$V_{op}$	-	1.0 V	1.6 V
Slope Efficiency		$\eta$	-	0.46 W/A	-
Center Wavelength @ $P_{op}$		$\lambda_o$	1307 nm	1310 nm	1313 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 @ $P_{op}$	$\theta_{  }$	-	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 $\mu$ A	-	1000 $\mu$ A
Focal Position (See Drawing)			7.0 mm	7.5 mm	8.0 mm
Focus Spot Size (1/e <sup>2</sup> Diameter)		$\Phi_F$	-	12.7 $\mu$ m	-

b.  $T_{CASE} = 25$  °C if not specified.

## Performance Plots



## Drawing

