



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*		
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

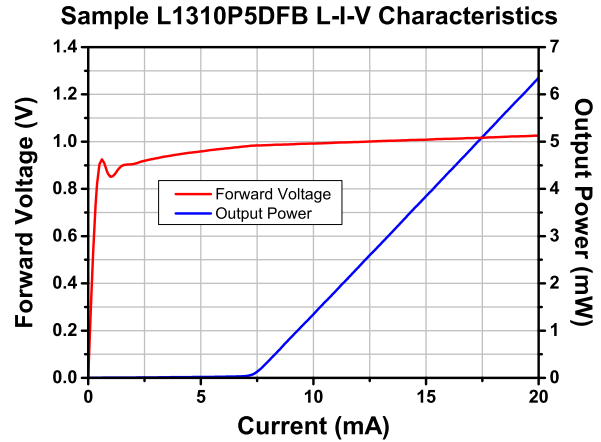
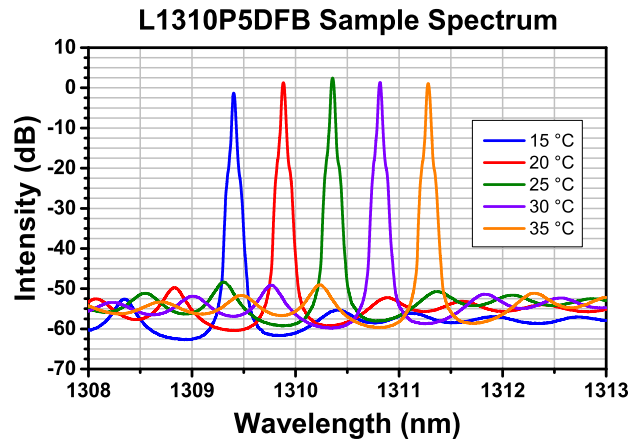


*Absolute Maximum Rating specifications should never be exceeded. Operating at or beyond these conditions can permanently damage the laser.

L1310P5DFB Specifications				
	Symbol	Min	Typ	Max
Output Power, CW	P_{op}	-	5 mW	-
Threshold Current	@ 25 °C	-	6 mA	13 mA
	@ 85 °C	-	30 mA	45 mA
Operating Current, CW @ P_{op} @ 25 °C	I_{op}	-	20 mA	40 mA
Operating Voltage @ P_{op} @ 25 °C	V_{op}	-	1.1 V	1.6 V
Slope Efficiency	η	-	0.30 W/A	-
Center Wavelength @ P_{op} @ 25 °C	λ_o	1307 nm	1310 nm	1313 nm
Spectral Width (@-20 dB)	$\Delta\lambda$	-	0.1 nm	1.0 nm
Wavelength-Temperature Coefficient	$\Delta\lambda/\Delta T$	-	0.12 nm/°C	-
Side-Mode Suppression Ratio	SMSR	35 dB	40 dB	-
Far-Field Beam Divergence (FWHM)	Parallel @ P_{op}	$\theta_{//}$	7°	-
	Perpendicular @ P_{op}	θ_{\perp}	9°	-
Rise/Fall Time (5 mW, 20% to 80%)	t_R, t_F	-	-	0.1 ns
Monitor Current @ P_{op}	I_{PD}	120 μ A	-	1000 μ A
Focal Position (See Drawing)		7.0 mm	7.5 mm	8.0 mm

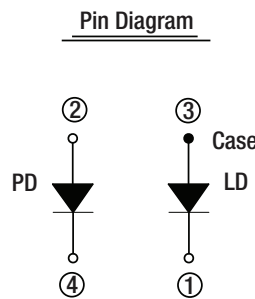
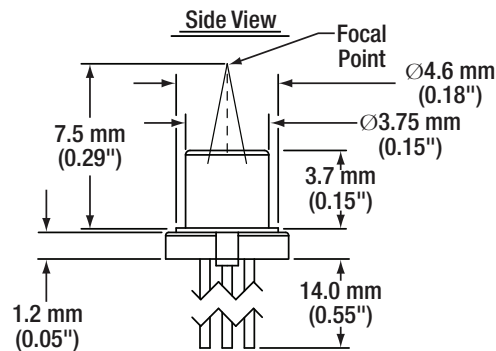
$T_{CASE} = 25^\circ\text{C}$ if not specified

Performance Plots



The data presented here is for one particular laser diode. Slight variations in performance data will occur from device to device. The sample spectrum of the L1310P5DFB laser diode was measured at 15 °C, 20 °C, 25 °C, 30 °C, and 35 °C and the L-I-V characteristics data was taken at 25 °C. Please visit our website for raw data L-I-V characteristics at 15 °C, 20 °C, 25 °C, 30 °C, and 35 °C.

Drawings



Pin	Description
1	Laser Cathode
2	Photodiode Anode
3	Laser Anode
4	Photodiode Cathode

