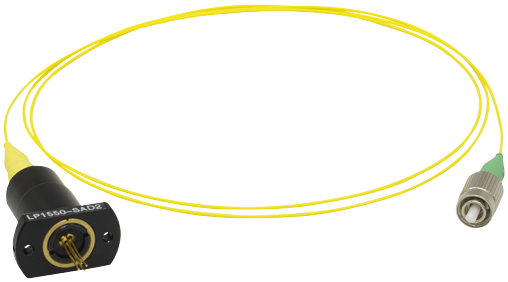
1550 nm, 2 mW, Pigtailed DFB Laser Diode

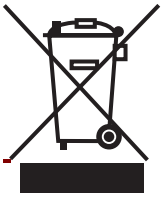
LP1550-SAD2



Description

Thorlabs' LP1550-SAD2 Single Mode Pigtailed DFB Laser Diode is a standard TO-packaged diode that has been pigtailed to a 1 m long single mode fiber (SMF-28e) with an FC/APC connector. This fiber pigtailed laser diode features an internal optical isolator to avoid back reflection for stable output power and single longitudinal mode. Each unit is tested before shipment. Please refer to the unit-specific test datasheet for optimal operating parameters.

Specifications

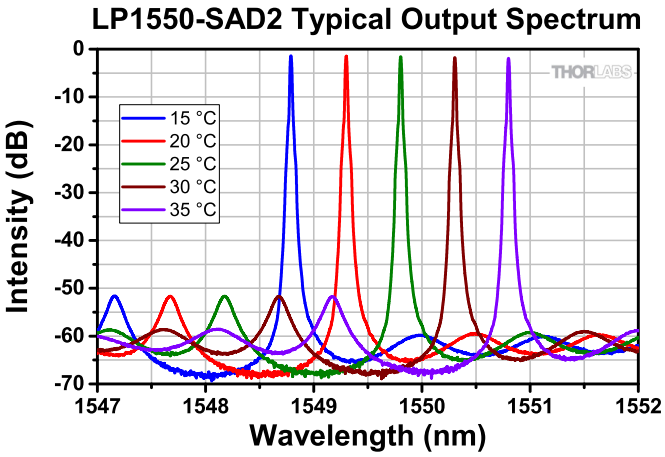


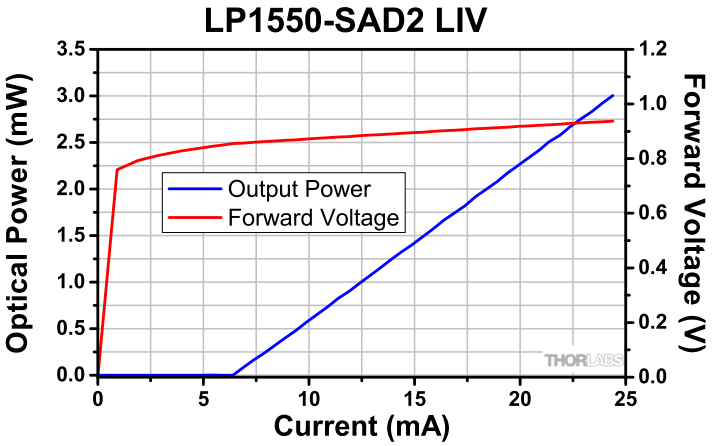
Absolute Maximum Ratings	
LD Reverse Voltage (Max)	2 V
PD Reverse Voltage (Max)	10 V
Absolute Max Current	40 mA
Absolute Max Power	3 mW
Storage Temperature	-10 to 65 °C
Physical Specifications	
Pin Code	5D
Fiber	SMF-28e
Connector	FC/APC

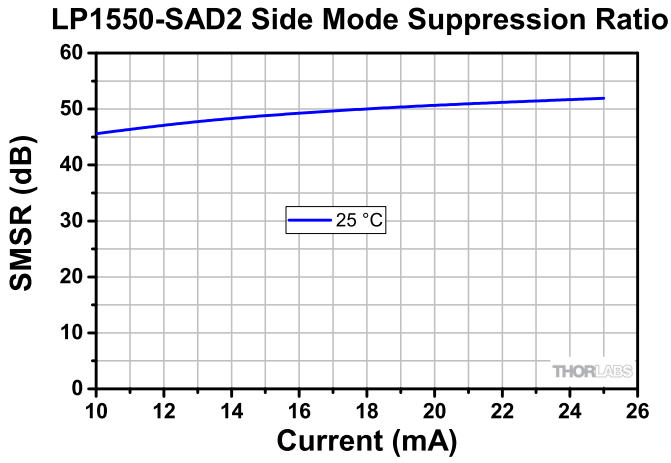
LP1550-SAD2 Specifications				
	Symbol	Min	Typical	Max
Center Wavelength*	λ_C	1547 nm	1550 nm	1553 nm
Typical Output Power*	P_{op}	-	2.0 mW	-
Operating Current @ P_{op} = 2 mW *	I_{op}	-	20 mA	40 mA
Temperature Tuning Range	T_{TR}	15 °C	-	35 °C
Threshold Current*	I_{TH}	-	6 mA	20 mA
Side Mode Suppression Ratio (SMSR)	SMSR	35 dB	40 dB	-
Wavelength Shift over Current	$\Delta\lambda/\Delta I$	-	0.005 nm/mA	-
Wavelength Shift over Temperature	$\Delta\lambda/\Delta T$	-	0.1 nm/°C	-
Operating Voltage @ P_{op} = 2 mW*	V_F	-	1.0 V	2.0 V
Monitor Current @ P_{op}	I_{PD}	120 µA	-	1000 µA
Slope Efficiency @ P_{op} = 2 mW *	$\Delta P/\Delta I$	-	0.2 mW/mA	-
Laser Linewidth (-20 dB) @ P_{op} = 2 mW *	Δv	-	0.1 nm	1.0 nm

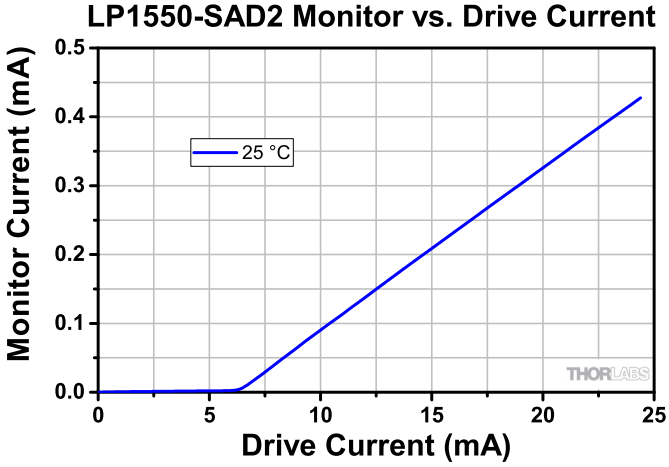
*Temperature = 25 °C

Performance Plots



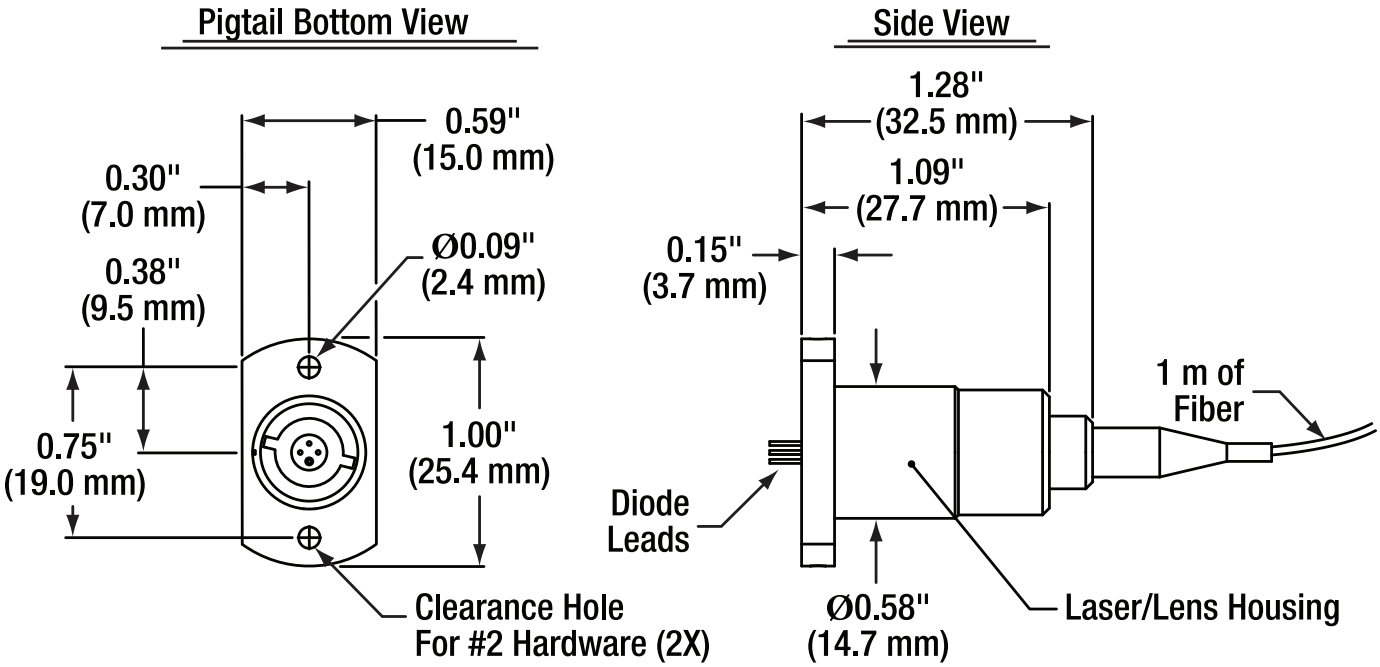


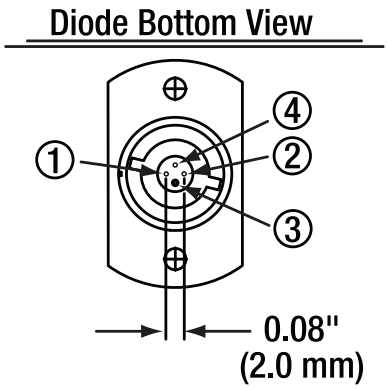


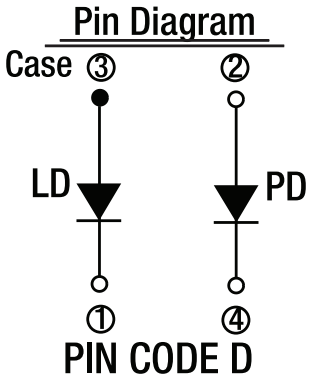


The data presented here is for one particular laser diode. Slight variations in performance data will occur from device to device.

Drawing


Pigtail Bottom View
0.59"
(15.0 mm)
0.30"
(7.0 mm)
Ø0.09"
(2.4 mm)
0.38"
(9.5 mm)
0.75"
(19.0 mm)
1.00"
(25.4 mm)
Clearance Hole
For #2 Hardware (2X)
Side View
1.28"
(32.5 mm)
1.09"
(27.7 mm)
0.15"
(3.7 mm)
1 m of
Fiber
Diode
Leads
Ø0.58"
(14.7 mm)
Laser/Lens Housing


Diode Bottom View
①
②
③
④
0.08"
(2.0 mm)


Pin Diagram
Case ③
②
LD
PD
①
④
PIN CODE D