PD-LD Inc. offers its' DFB Series of coaxial style laser diodes with integral single stage optical isolators. The addition of these isolators ensures a minimum optical isolation of 33dB at either 1310 or 1550nm at 25°C. Optical isolation is temperature dependent and is specified as 20dB minimum over the temperature range of −40 to +85°C. The lasers may be operated from −40 to 85°C, but the DFB spectral characteristics are guaranteed from 0 to 70°C. These units are available in ready-to-use, fiber-pigtailed packages and are available with FC, SC and LC style optical connectors.

The InGaAsP DFB laser diodes offered by PD-LD are of proven design and manufacture; the standard wavelengths are centered at 1310 and 1550nm. Fiber-coupled CW (continuous-wavelength) output powers range from 0.1 - 2 mW, depending on the desired performance level. The highly stable YAG Laser welded packaging ensures a low tracking error of +/- 1.0 dB maximum over OTR 0 to 70°C.

Optional board- or panel-mount flanges are available for pigtailed devices; contact PD-LD Sales.

### Features
- Internal Monitor Photodiode
- Compact, reliable, coax fiber-coupled package
- 0.1 - 2.0 mW singlemode (9/125)
- 30dB minimum side mode supression
- 0.15nsec typical rise/fall time

### Applications
- Fiberoptic communications
- Fiberoptic test instrumentation
- Analog Signal transmission
- 2.5GBs Optical Networks

### PD-LD Part No. 1

|-------------------|----------------|-----------------------------|------|-----|-----|------------------------|------|-----|------------------------|------|-----|------------------------|------|
| Continuous Wavelength InGaAsP Lasers @ 25C

<table>
<thead>
<tr>
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<tr>
<td>PL13U001100B-R-I-01</td>
<td>1290</td>
<td>1310</td>
<td>1330</td>
<td>1 mW</td>
<td>6</td>
<td>20</td>
<td>18</td>
<td>40</td>
<td>InGaAs</td>
<td>0.1</td>
<td>0.8</td>
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<td>PL13U.0.51FAA-0-I-01</td>
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<td>1310</td>
<td>1330</td>
<td>0.5mW FC/PC</td>
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<td>20</td>
<td>18</td>
<td>40</td>
<td>InGaAs</td>
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<td>0.8</td>
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<td>1325</td>
<td>2 mW FC/APC</td>
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<td>40</td>
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<td>PL15AA0021FAG-0-I-01</td>
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<td>1550</td>
<td>1570</td>
<td>2 mW FC/PC</td>
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<td>30</td>
<td>30</td>
<td>60</td>
<td>InGaAs</td>
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<tr>
<td>PL15M0.51FAC-R-I-01</td>
<td>1530</td>
<td>1550</td>
<td>1570</td>
<td>0.5 mW FC/PC</td>
<td>10</td>
<td>30</td>
<td>30</td>
<td>60</td>
<td>InGaAs</td>
<td>0.1</td>
<td>0.8</td>
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<tr>
<td>PL15M001FAG-R-I-01</td>
<td>1530</td>
<td>1550</td>
<td>1570</td>
<td>1 mW FC/PC</td>
<td>10</td>
<td>30</td>
<td>30</td>
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<td>InGaAs</td>
<td>0.1</td>
<td>0.8</td>
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<table>
<thead>
<tr>
<th>Parameter</th>
<th>Condition</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
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<tbody>
<tr>
<td>Optical Isolation</td>
<td>Temp. = +25°C</td>
<td>30</td>
<td>45</td>
<td>—</td>
<td>dB</td>
</tr>
<tr>
<td></td>
<td>Temp. = −40° to +85°C</td>
<td>20</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>
PL13/15 Isolated DFB Series
Laser Diodes for Fiber Optics

Ordering Information

Lasers - Pigtailed

**PLWWWPPPFCCB-0-I-LL**

- **L** = Laser
- **WWW** = Wavelength and Pin-out
  - 1310nm=13M
  - 1310nm=13AG
  - 1550nm=15M
  - 1550nm=15AA
- **PPP** = Fiber-Coupled Power
  - 0.1 = 0.10 mW (100 μW)
  - 0.2 = 0.20 mW (200 μW)
  - 0.5 = 0.5 mW (500 μW)
  - 0.8 = 0.8 mW (800 μW)
  - 001 = 1.0 mW
  - 002 = 2.0 mW
- **F** = Fiber Type
  - 1 = 9/125 SMF
  - 2 = 50/125 MMF
  - 3 = 62.5/125 MMF
  - 4 = 100/140 MMF
  - 9 = Customer Supplied
- **B** = Bracket Type
  - **A** = None
  - **B** = Panel Mount
  - **G** = Board Mount
  - **A** = Bracket Shipped Loose (pigtailed units only)
  - Specify orientation as required
- **O** = Orientation
  - 0 = None
- **I** = Single Stage Optical Isolator
- **CC** = Connector Type
  - **ST** = ST/PC
  - **SC** = SC/PC
  - **SA** = SC/APC
  - **FC** = FC/PC
  - **FA** = FC/APC
  - **FU** = FC/UPC
  - **OO** = None

**LL** = Length in meters (01, 02, 0.5 etc.) (pigtailed devices only)

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ST is a registered trademark of AT&T

6-04 Isolated DFB.Rev.2

PD-LD, Inc.
30-B Pennington-Hopewell Rd., Pennington NJ 08534 FON: 609-564-7900 FAX: 609-564-7901 EMAIL: info@pd-
# Optical Characteristics for 1550nm DFB Lasers

## Absolute Maximum Ratings (Tc=25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
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<tr>
<td>Optical Output Power</td>
<td>P₀</td>
<td>3.5</td>
<td>mW</td>
</tr>
<tr>
<td>LD Reverse Voltage</td>
<td>V_{RLD}</td>
<td>2</td>
<td>V</td>
</tr>
<tr>
<td>PD Reverse Voltage</td>
<td>V_{RPD}</td>
<td>10</td>
<td>V</td>
</tr>
<tr>
<td>PD Forward Current</td>
<td>I_{FPD}</td>
<td>2</td>
<td>mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>T_{OPR}</td>
<td>0 to 70</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>T_{STG}</td>
<td>-40 to 100</td>
<td>°C</td>
</tr>
</tbody>
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