Analog InGaAs PIN Detectors

PD-LD Inc. offers low noise, high responsivity analog InGaAsP photo detectors in convenient fiber coupled packages. These assemblies incorporate 70 micron diameter active area detector that responds optimally to both 1310 and 1550 nm light sources. Each module contains a semiconductor whose bandwidth is ideally suited to industry standard transmission rates from DC to 3.0 GHz (typ). The low intermodulation distortion values make them useful in multi-channel CATV applications. When fiber pigtailed with SMF these components are available with low back reflection performance. LBR is specified as –45 db maximum optical return loss.

These modules are available with either bare or connectorized fiber pigtails or in receptacle style housings suitable for board or panel mounting. These high reliability units are operational over industrial environmental conditions.

### Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Symbol</th>
<th>PDINBJ070 Series (V_R=5V, T=25 C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Wavelength</td>
<td>nm</td>
<td>Lambda</td>
<td>1100 to 1600 nm</td>
</tr>
<tr>
<td>Responsivity -1300 nm</td>
<td>A/W</td>
<td>R</td>
<td>0.80 min</td>
</tr>
<tr>
<td>Responsivity -1550 nm</td>
<td></td>
<td></td>
<td>0.80 min</td>
</tr>
<tr>
<td>Analog Bandwidth (-3 dB)</td>
<td>GHz</td>
<td>BW_e</td>
<td>3.0 min</td>
</tr>
<tr>
<td>Second Order Intermod Distortion Product</td>
<td>dBC</td>
<td>IM2</td>
<td>-70 max</td>
</tr>
<tr>
<td>Third Order Intermod Distortion Product</td>
<td>dBC</td>
<td>IM3</td>
<td>-80 max</td>
</tr>
<tr>
<td>Dark Current</td>
<td>nA</td>
<td>Id</td>
<td>1 max @25 C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100 max @ 85C</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>V</td>
<td>V_R</td>
<td>50 max</td>
</tr>
<tr>
<td>Breakdown Voltage</td>
<td>V</td>
<td>V_BD</td>
<td>55 typ @</td>
</tr>
<tr>
<td>Capacitance</td>
<td>pF</td>
<td>C</td>
<td>0.8 max</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.56 typ</td>
</tr>
<tr>
<td>Forward Current</td>
<td>mA</td>
<td>I_F</td>
<td>50 max</td>
</tr>
<tr>
<td>Optical Back Reflection w/SMF</td>
<td></td>
<td>OBR</td>
<td>-45</td>
</tr>
<tr>
<td>Polarization Dependent Loss</td>
<td>dB</td>
<td>PDL</td>
<td>+/- 0.1</td>
</tr>
</tbody>
</table>

1 IM2 measured at 5V reverse bias, 1 mW input optical power, 1310 nm, 50 ohm matched impedance ,f1+ f2 =850 MHz

Specifications are subject to change without notice. Please contact PD-LD Sales.
PDIN Series Analog InGaAsP PIN Photodiodes

Pinout & Mechanical Dimensions (mm)

Type A

Fiber Pigtailed Devices

PDINBJ070FCCB-O-V-MM

D= PIN Diode
070= Diameter

IN= InGaAs Photodiode
F= Fiber Type
1 = 9/125/900 SMF
2 = 50/125 MMF
3 = 62.5/125 MMF
5 = 9/125/900 LBR
9 = Supplied by cust

BJ= Analog PIN with “A” pin-out

CC = Connector Type
ST = ST
SC = SC
SA = SC/APC
FC = FC PC
FA = FC/APC
OO = No Connector

Bracket Type (pigtail only)
A = None
B = Panel Mount
D = Board Mount
E = Panel Mount (12mm hole spacing)
W = Shipped Separately with PIN TIA
X = Customer Supplied

O = Orientation of Leads
Z= Ground at 12:00

V=Version
O= standard

M = Length in meters (pigtail only)
10 = 10 meter
03 = 3 meters
01 = 1 meter
.1 = .1 meter
5 = 0.5 meters

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