

**PD1000-xx-xx-H-B**

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**Description**

The PD1000-xx-xx-H-B series of photodetectors are low-cost components that are well suited for high-performance optical network applications. The devices feature low capacitance, high linearity, frequency response up to 1000MHz, a wide operating temperature range, and high responsivity. The PD1000 is designed for use in a variety of applications including CATV Forward/Return Path, PON, QAM systems, EDFA monitors, and FTTC/FTTH networks.

**Features**

- ❑ Low Capacitance,  $\leq 2.0$  pF
- ❑ 1000MHz frequency response
- ❑ High Responsivity:
  - $\geq 0.85$  @ 1310-nm
  - $\geq 0.95$  @ 1550-nm

**Applications**

- ❑ CATV Forward/Return Path
- ❑ PON
- ❑ QAM System
- ❑ EDFA Monitors
- ❑ FTTC/FTTH Networks



**Absolute Maximum Ratings**

Parameter	Symbol	Condition	Min	Max	Unit
Operating Case Temperature	Top	I=Iop	-40	85	°C
Storage Temperature	Tstg	--	-40	100	°C
Saturation Input Power	Ps	--	--	10	mW
Forward Current	If	--	--	10	mA
Reverse Bias	V <sub>r</sub>	--	--	30	V

**Electrical/Optical Characteristics**

Parameters are over operating temperature range unless otherwise noted.

Parameter	Symbol	Min	Typ	Max	Unit
Active Diameter	A <sub>d</sub>	--	40	80	μm
Detection Wavelength Range	λ	1100	--	1650	nm
Responsivity	R	--	≥ 0.85@1310nm ≥ 0.95@1550nm	--	mA/mW mA/mW
Frequency Bandwidth	F <sub>b</sub>	1	--	1000	MHz
Frequency Response	F <sub>r</sub>	--	+/- 0.5	--	dB
Second Order Intermodulation	IMD2*	--	≤ -75	--	dBc
Third Order Intermodulation	IMD3*	--	≤ -85	--	dBc
Back Reflection	RL	--	-45	-40	dB
Dark Current	I <sub>d</sub>	--	0.1	1	nA
Capacitance	C	--	1.0	2.0	pF

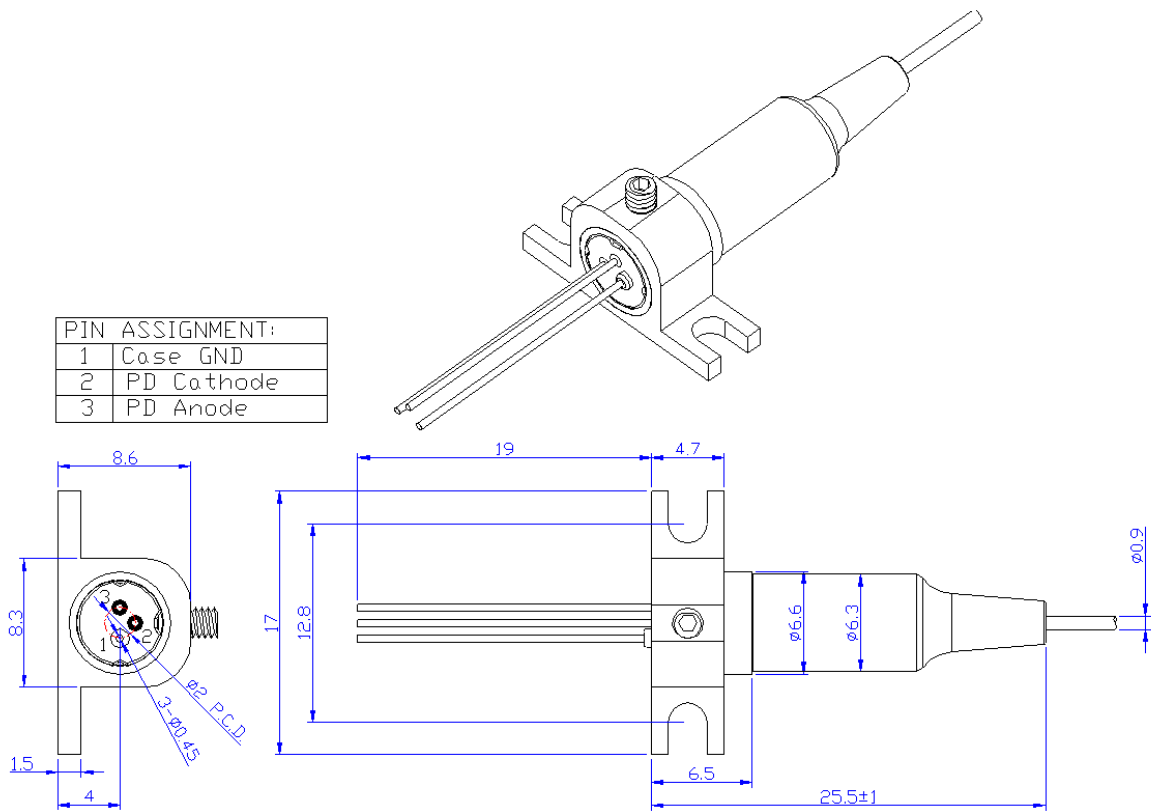
\*Two laser test at 1310nm and each laser has 40% modulation index. Total received power is 0dBm.

fm=548.5MHz, f1=109.25, f2=439.25

fm=529.25MHz, f1=349.25, f2=439.25

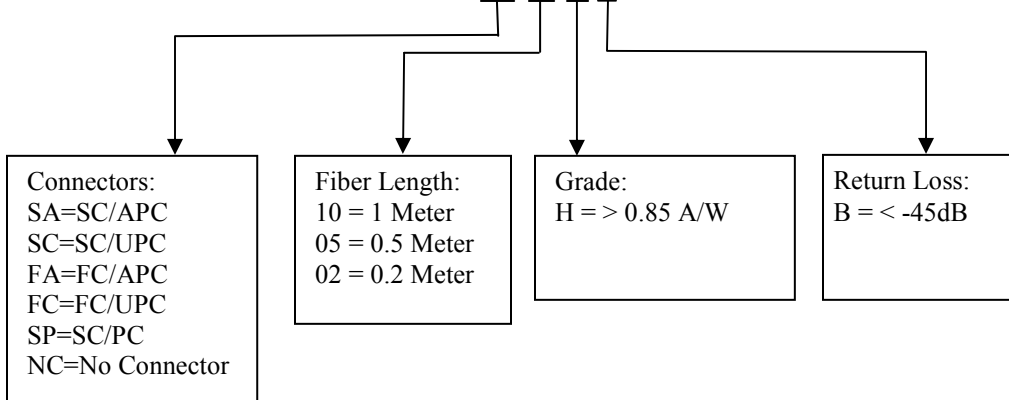
**PD1000-xx-xx-H-B**

**Dimensions (in mm)**



**Ordering Options**

**PD1000-xx-xx-H-B**



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**Shipping/Packing Requirements:**

Place the label as shown below on the exterior of all part Boxes, and Bags indicating:



13111 Jess Pirtle Blvd  
 Sugar Land, TX 77478  
 p :281.295.1800  
 f :281.295.1888  
 www.ao-inc.com

**Part Number:** PD1000-XX-XX-H-B

**Serial Number:** 600000002 i213i

**Manufacture Date:** April 12, 2006

Responsivity(mA/mW)	0.85
Optical RL(dB)	50
IMD2 * (dBc)	75.0
IMD3** (dBc)	85.0

Note: Two laser test at 1310nm and each laser has 40% modulation index. Total received power is 0 dBm.  
 \* fm=548.5MHz, f1=109.25, f2=439.25  
 \*\* fm=529.25MHz, f1=349.25, f2=439.25  
 Pin Assignment:

