

## Balanced Photodetector (BPD-002)



OCT and sensor systems require high performance balanced photodetectors to increase system signal to noise ratio. The BPD-002 is specially designed for use in research and development, with ease of use and high performance as the primary design goals. The device is fully enclosed in a compact, sturdy aluminum box with two optical input ports, a balanced RF output port, two 1-MHz monitor ports, and a power supply port. With a bandwidth up to 200 MHz, a trans-impedance gain larger than 30K and a saturation power larger than 130  $\mu$ W, the BPD-002 is ideal for integration into laboratory or commercial OCT, fiber sensor, and high performance optical measurement systems.

### Specifications:

Photodetector Type	InGaAs
Wavelength Range	1060nm, 1310nm, or 1550nm $\pm$ 50nm
PD Responsivity	0.7 mA / mW @ 1310 nm
Transimpedance Gain (Total, including TIA and OP-AMP)	$3 \times 10^4$ V / A
RF Bandwidth (3dB)	DC – 200, 100, 50, 10, or 5 MHz
CW Balanced Saturation Power	> 130 $\mu$ W @ 1310 nm
PD Input Power Linear Range at Monitor Channels	0 to 1 mW @ 1310 nm
NEP (DC – 100MHz)	< 10 pW / $\sqrt{\text{Hz}}$
Common Mode Rejection Ratio	> 25 dB
RF Output Impedance	50 $\Omega$
Electrical Connector	SMA
RF Output Voltage Range (at 50 $\Omega$ )	$\pm$ 1.8 V
DC Offset RF Output	< $\pm$ 3 mV
Monitor Output Impedance	200 $\Omega$
Monitor Gain	10 V / mW (high impedance)
Monitor Bandwidth (3dB)	> 1000 Hz
Monitor Voltage	4 V max.
PD Damage Threshold Power	20 mW
Power Supply	$\pm$ 12 V
Operating Temperature	10 to 50 $^{\circ}$ C
Storage Temperature	-40 to 85 $^{\circ}$ C
Dimensions	3.82" (L) $\times$ 2.40" (W) $\times$ 0.75" (H)

### Features:

- Ultra low noise
- Excellent CMRR
- High conversion gain
- Wide bandwidth
- Compact

### Applications:

- Optical Coherence Tomography
- Fiber sensing interrogator
- Instrumentation
- R&D

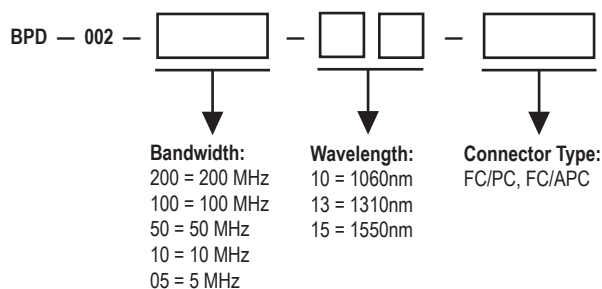
### Related Products:

- Balanced Detectors (BPD-003, PBPD-001)
- Polarization Diversity Detectors (PDD-001, PDD-003)

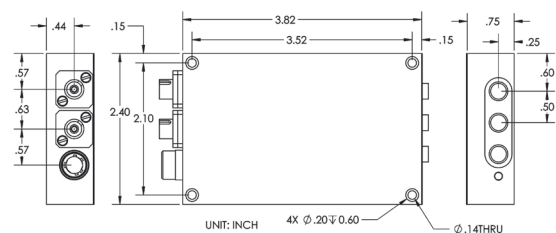
### Tech Info:

- Optical Coherence Tomography Technologies

### Ordering Information:



### Dimensions (in inches):



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