

OEM Balanced Photodetector

BPD-002-OEM

OCT and sensor systems require high performance balanced photodetectors to increase system signal to noise ratio. The BPD-002-OEM is a compact, high performance, AC coupled balanced detector specially designed for OEM applications. It is fully enclosed in a compact shielding box, with two optical input ports, a balanced RF output port, and two monitor ports. With a bandwidth of up to 400 MHz, a high conversion gain and a saturation power larger than 100 μ W, the BPD-002-OEM is ideal for integration into laboratory or commercial OCT, fiber sensor, and high performance optical measurement systems.



Specifications¹

Photodetector Type	InGaAs
Wavelength Range	1060 nm, 1310nm, or 1550nm \pm 50nm
PD Responsivity ²	0.8 mA/mW at 1550 nm
Maximum Input Power	10 mW
PDL	<0.2 dB
Return Loss	>45 dB
RF Bandwidth (3dB)	\geq 400 MHz
Coupling	AC
Lower Cutoff Frequency	<1 MHz
Transimpedance Gain at 50 Ω (Total, including TIA and OP-AMP)	>18 \times 10 ³ mV/mA
Conversion Gain at 50 Ω	>14 \times 10 ³ mV/mW at 1550nm
CW Balanced Saturation Power	>120 μ W at 1550 nm
Common Mode Rejection Ratio	>25 dB
NEP (10 - 100MHz)	<6 μ W / $\sqrt{\text{Hz}}$
RF Output Impedance	50 Ω
RF/Monitor Output Connectors	SMA
RF Output Voltage Linear Range (Vpp)	>-1V to 1V at 50 Ω load >-2V to 2V at high impedance
Monitor Output Impedance	200 Ω
Monitor Gain ³	0.42 \times 10 ³ mV/mW (high impedance)
Monitor Bandwidth (3dB)	DC to 1 kHz
Monitor Voltage (high Z and DC input)	4 V max.
Power Supply	\pm 5V/200 mA
Fiber Type	SMF-28e or equiv. (1310 or 1550nm)
Operating Temperature	0 to 50 $^{\circ}$ C
Storage Temperature	-40 to 85 $^{\circ}$ C
Dimensions	2.21"(L) \times 1.81"(W) \times 0.65"(H)

Notes: Values are referenced without connectors.

1. All specifications in this table are tested under 23 \pm 5 $^{\circ}$ C
2. Includes the coupling loss of fiber to photodiode.
3. If the output voltages for the monitor ports are equal, then the photocurrents are equal.

Applications:

- Optical Coherence Tomography
- Fiber Sensing Interrogator
- Instrumentation
- R&D

Unique Features:

- AC Coupled
- Excellent CMRR
- High Conversion Gain
- Wide Bandwidth
- Compact

Ordering Information:

BPD - 002 - OEM - XX - XX - XXX

Bandwidth:
400 - 400 MHz

Connector type:
FC/PC, FC/APC

Wavelength:
10 - 1060nm
13 - 1310nm
15 - 1550nm

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A Part of Luna Innovations

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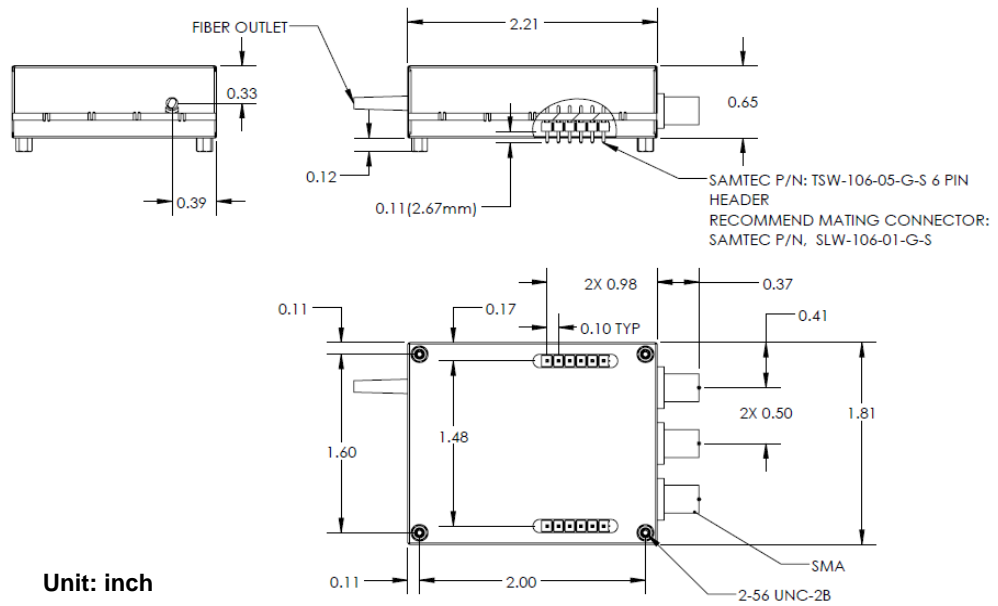
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OEM Balanced Photodetector

BPD-002-OEM

Dimensions:



Unit: inch



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