Balanced InGaAs Photodiodes to 25 GHzs



Overview

The BPD25 is "push-pull" InGaAs photodiodes with each photodiode capable of handling high optical power up to +14 dBm. High Common Mode Rejection Ratio (CMRR) and low Polarization Dependent Loss (PDL) make these devices ideal for both digital and analog applications. The broad wavelength response of these photodiodes allows for multiple wavelength usage.

Features

- Lowest PDL (typical 0.05 dB)
- Normalized CMRR exceeds 30 dB
- Useable spectral wavelength range of 800-1650 nm
- Improves sensitivity by canceling DC portion of RIN and ASE noise
- High optical power handling InGaAs PIN photodiodes
- Small form-factor fiber-pigtailed package
- Improved reliability for high optical power handling
- One device for multiple wavelengths reduces operational and inventory cost
- OIP3 exceeding + 40dBm for highly linear option

Specifications

Product Specifications (Unless otherwise specified, all tests are conducted at 25°C)

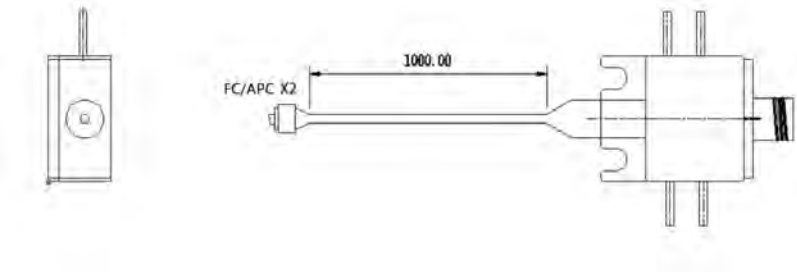
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Operating Temperature	T0		0		75	℃
Storage Temperature	Ts		-40		85	℃
Operating Wavelength	λ			1550		nm
Bias Voltage	Vb		3	5		V
Photosensitive Diameter	Φ			20		μm

Saturation Optical Power	Ps	λ = 1550 nm, Vb = 5 V	9	10		dBm
Responsivity	R	λ = 1550 nm, Vb = 5 V		0.7		A/W
Responsivity Imbalance	Imb			1.50%		
Dark Current	Id	Vb = 5 V		5	10	nA
3 dB Bandwidth	BW	Ps,o = 0 dBm, Vb = 5 V	25	26		GHz
Common Mode Rejection Ratio	CMRR	Ps,o = 0 dBm, Vb = 5 V	18	20		dB

Maximum Absolute Ratings

Parameter	Symbol	Rating	Unit
Optical Power	Ps	13	dBm
Forward Voltage	Vr	10	V
Operating Temperature	Top	-40 ~ +70	°C
Storage Temperature	Tstg	-40 ~ +85	°C
Soldering Temperature	Tp	260 (10s)	°C
Minimum Fiber Bending Radius	Rfiber	20	mm

Dimension



Custom sizes and pins are available upon request, with the minimum size being 16*16*8mm (with pigtails, pins, and mounting details).

Application

- DPSK/DQPSK: Differential Phase/Polarization Shift Keying or Differential Quadrature Phase Shift Keying
- High Dynamic Range, Analog RF Links over Fiber
- Rapid Doppler-shift LIDAR measurements
- Coherent Lightwave Systems
- Brillouin Scattering - OTDR
- Test and Measurement