Balanced Photodetector

Heterodyne balanced photodetector is widely used in advanced OCT systems, fiber sensor applications and R&D research labs. The excellent signal to noise ratio, CMRR, high conversion gain and various bandwidth options provide customers with high performance, ease of installation and cost effective solutions. Coupled with Optowaves interferometer modules, the integration becomes even easier. The photo detector module is fully enclosed in a compact sturdy case and magnetic shield built inside for further protection. It has two optical inputs, one balanced RF output, two monitor outputs and one ±12V DC power port. Bandwidth can run in various options from DC up to 1.2GHz.

Features

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

Applications

- **OCT system**
- **Fiber sensor system**
- **Optical instrument**
- **Research and development**

Specifications

Item	Specifications
Detector	
Detector type	InGaAs/PIN or Si/PIN
Optical inputs	FC/APC or others
Operating wavelength	840, 1060, 1310, 1550nm
Fiber Type	SMF-28e+ or others
Responsivity	0.85 A/W @1310nm Typ.
Back reflection	< -40dB
Input breakdown optical power	1~10mW
RF output	
Common mode rejection ratio	> 30dB
RF output coupling	DC or AC
RF output impedance	50Ω
NEP (DC to 100MHz)	8.5pW/√Hz Typ.
Overall output voltage noise	< 7mV$_{RMS}$ Typ.

Model No.	BP1200	BP500	BP400	BP300	BP200
DC Bandwidth (MHz)	0-1200	0-500	0-400	0-300	0-200
AC Bandwidth (MHz)	0.03-1200	0.01-500	0.01-400	0.01-300	0.01-200
RF OUTPUT (KV/A) transimpedance gain	16-30	16-32	16-32	16-50	32-100

Model No.	BP100	BP80	BP40	BP20	BP10
DC Bandwidth (MHz)	0-100	0-80	0-40	0-20	0-10
AC Bandwidth (MHz)	0.01-100	0.01-80	0.01-40	0.01-20	0.01-10
RF OUTPUT (KV/A) transimpedance gain	50-200	250	500	1000	2000

Note: Other specifications can be customized.

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Monitor output	
Monitor output impedance	200Ω
Monitor output bandwidth (3dB)	DC to 3MHz
Monitor output conversion gain High Z load	⩾ 9V/mW (Max.12V)
Overall output voltage noise	< 0.6mV$_{RMS}$ Typ.
DC offset	< ±2mV Typ.
General	
Electrical outputs	SMA
DC power supply	± 12V@200mA
Operating temperature	0~40°C
Storage temperature	-40 to 70°C
Dimensions (L x W x H)	60mm x 50mm x 28mm

Ordering Information