

# BPR-20-M



## 20 GHz Balanced PhotoReceiver Module

The Optilab BPR-20-M is a 20 GHz balanced photo receiver module. This cost-effective receiver module operates under a single +5V power supply and can provide users with a turn key solution for applications such as balanced photo detection and 43 Gbit/s DQPSK receiver. With a single, differential linear trans-impedance/variable gain amplifier (TIA/VGA), BPR-20-M offers two gain control modes: manual and automatic. In manual mode, BPR-20-M provides a linear conversion gain of 1200 V/A. In automatic mode, the gain is automatically adjusted to deliver a constant differential output voltage up to 700 mV. It also includes a peak detector output for closed loop control of a front-end optical demodulator. An excellent electrical and optical phase propagation is achieved by a total skew of less than 5 ps between the balanced signal paths. Contact Optilab for more information.

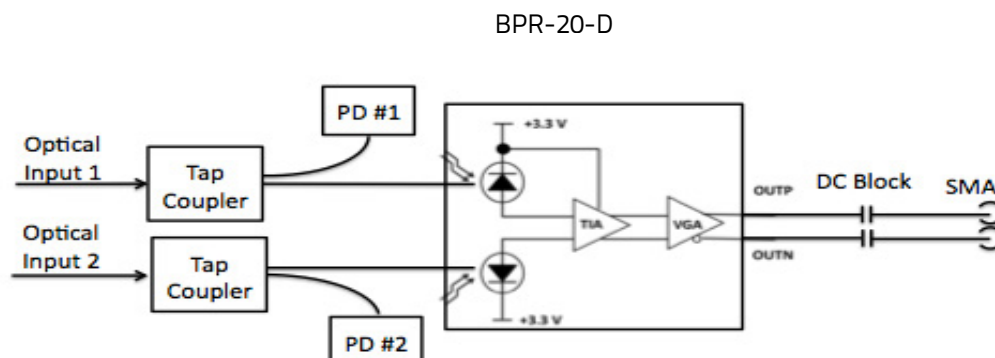
### Features

- Dual optical input balanced photodiode
- Differential RF output, Linear high gain TIA
- Built-in DC block for AC coupling
- Near ideal matching response
- High common mode rejection ratio
- Very low skew
- Auto / Manual gain control mode
- Input Protection

### Applications

- Balanced linear receiver up to 20 GHz
- 20 G analog RF link
- Low noise linear transmission system
- 43 Gbit/s DQPSK receiver

### Functional Diagram



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## OPTIONS

**BPR-20-M-x**

x Optical Connector:  
FC/APC or LC/APC

## TECHNICAL INFO

For technical info and support:

[sales@optilab.com](mailto:sales@optilab.com)

[www.optilab.com](http://www.optilab.com)

## WEB ORDER

To order, please click below.



## Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

General Specifications	
Optimized Operating Wavelength	1480 to 1620 nm
Optical Input Level	-10 to +4 dBm
S21 3 dB Bandwidth	20 GHz typ.
Conversion Gain	1500 V/W typ. 1300 V/W min.
Optical Return Loss	30 dB typ.
Optical PDL	0.5 dB max.
PD Reverse Bias Voltage	3.3 V
Output Return Loss	10 dB @ 11 GHz 7 dB @ 22.5 GHz
Operation Mode	MGC with fixed gain and AGC with adjustable output amplitude
Differential Voltage Swing	1200 mV max.
Coupling	AC-Coupled
Pulse Width	22 ps typ., 25 ps max.
Skew	5 ps typ. 20 ps max
Mechanical Specifications	
Operating Temperature	0 °C to +60 °C
Storage Temperature	-40 °C to +85 °C
Operating Humidity	85% max
Power Supply	5 V
Power Consumption	500 mW typ.
Housing Dimension	162 mm x 112 mm x 33 mm
Fiber Connector	FC/APC or LC/APC
Optical Fiber	SMF-28
RF Output Connector	SMA, differential

Typical S21 Characteristics

