

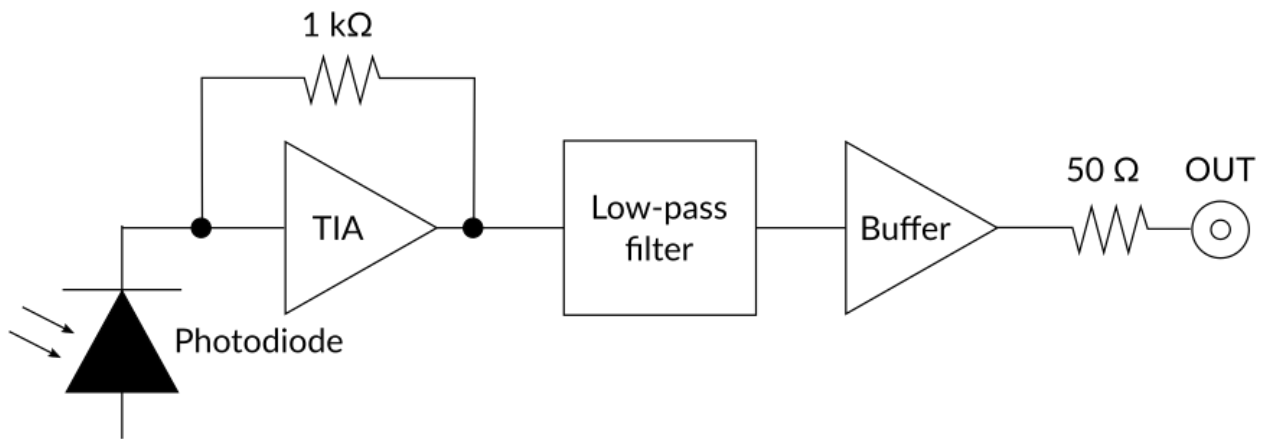
Koheron PDX20S is a precision free-space photodetector with 10 MHz bandwidth. With a noise below $50 \text{ pW}_{\text{rms}}$ (0.1 Hz - 10 Hz bandwidth) and a maximum input power of 8 mW, the PDX20S excels in applications such as optical power control loop or power monitoring.

Specifications

PDX20S-1-DC-INGAAS

Detector	
Detector type	InGaAs PIN photodiode
Photodiode active diameter	1 mm
Wavelength range	900 nm to 1700 nm
Optical input power	0 mW to 8 mW
Photodiode peak responsivity (1550 nm)	1.1 A/W
Transimpedance amplifier	
Small signal bandwidth	0 Hz to 10 MHz at 3 dB
Coupling	DC
Transimpedance gain	1 kV/A
Noise Equivalent Power (at 1 MHz)	7 pW/√Hz
Output impedance	50 Ω
Output voltage range (high impedance)	0 V to 9 V
Output voltage range (50 Ω)	0 V to 3 V
Output	SMA female connector
Power supplies	
Positive supply voltage	10.5 V to 13 V
Negative supply voltage	-9 V to -4 V
Quiescent current per rail	20 mA
Maximum current (positive supply)	120 mA
Maximum current (negative supply)	50 mA
Other	
Outside dimensions	49 mm x 40 mm x 18 mm
Operating temperature	0 °C to 50 °C
Weight	26 g

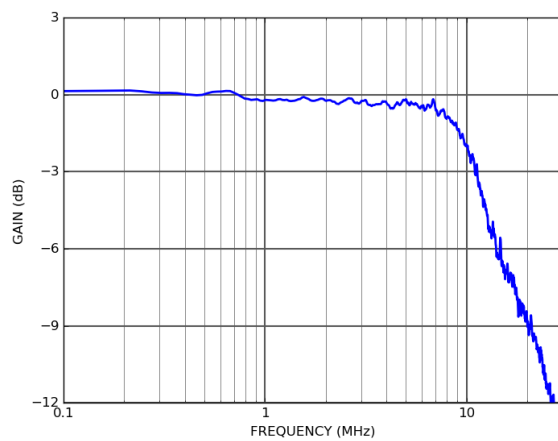
Functional diagram



PDX20S functional diagram

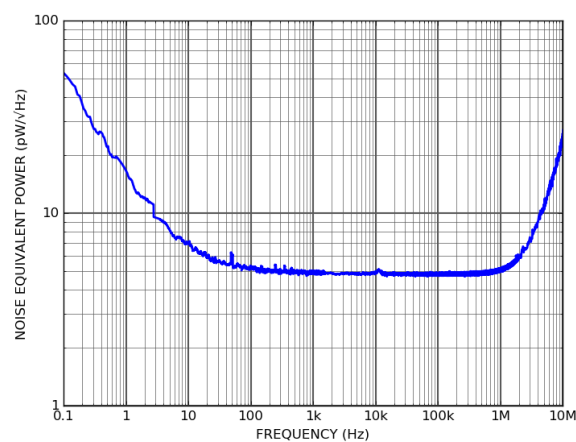
Characterization

Small signal frequency response



PDX20S-1-DC-INGAAS small signal frequency response

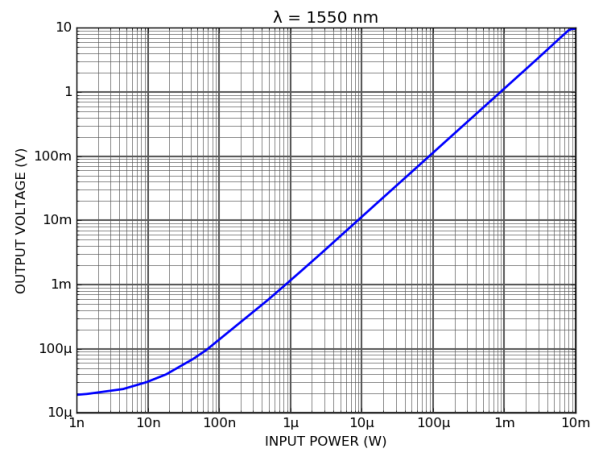
Noise equivalent power (1550 nm)



PDX20S-1-DC-INGAAS noise equivalent power

Output voltage versus input optical power

The very low dark offset combined with the large output range allow linear optical power measurements over 5 decades:



PDX20S-1-DC-INGAAS output voltage vs input power

Ordering codes

PRODUCT NUMBER

ATTRIBUTE

PDX20S-1-DC-INGAAS