

Free-space logarithmic photodetector



Koheron PDX10R is a logarithmic photodetector for free-space optical power measurements. In addition to two analog outputs $\log(A)$ and $\log(B)$, it provides the log-ratio $\log(A/B)$ with an adjustable offset and two gain settings (x1 and x10). The PDX10R provides a fully-analog solution for direct absorption measurement in spectroscopy setups.

For fiber-coupled photodiodes, see [Koheron PD10R logarithmic photodetector](#).

Specifications

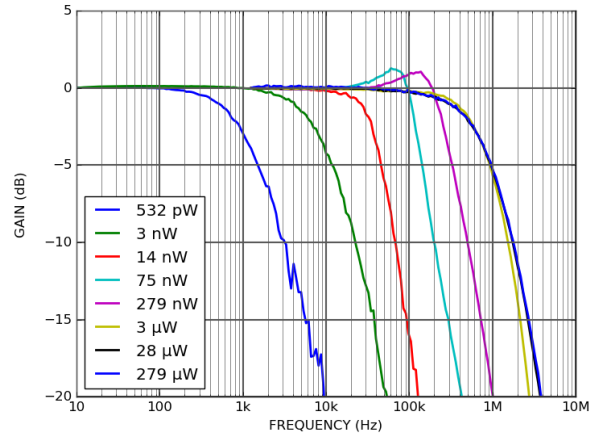
PDX10R-D-SI

Detector	
Detector type	Dual Si PIN photodiodes
Active diameter	800 μm
Wavelength range	320 nm to 1000 nm
Optical input power	500 pW to 4 mW
Photodiode peak responsivity (800 nm)	0.55 A/W
Logarithmic amplifier	
Small signal bandwidth	600 kHz at 3 dB (input power > 5 μW at 800 nm)
Logarithmic slope	300 mV/decade
Intercept photocurrent	100 pA
Output impedance	1 k Ω
Power supplies	
Supply voltage	3.3 V to 13 V
Quiescent current	11 mA
Maximum current	40 mA
Other	
Outside dimensions	49 mm x 40 mm x 16 mm
Operating temperature	0 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$
Weight	22 g

Characterization

Frequency response

The figure below shows the frequency response of the detector with Si photodiodes for several input optical powers.



Ordering codes

REFERENCE

ATTRIBUTE

PDX10R-D-SI