

Koheron PD01 is an InGaAs transimpedance amplified photodetector with a Noise Equivalent Power (NEP) of 500 fW/ $\sqrt{\text{Hz}}$ at 10 kHz. It accepts up to 50 μW of optical power and has a 3 dB bandwidth of 400 kHz. The AC-coupled output and the adjustable gain enable easy interfacing with analog-to-digital converters.

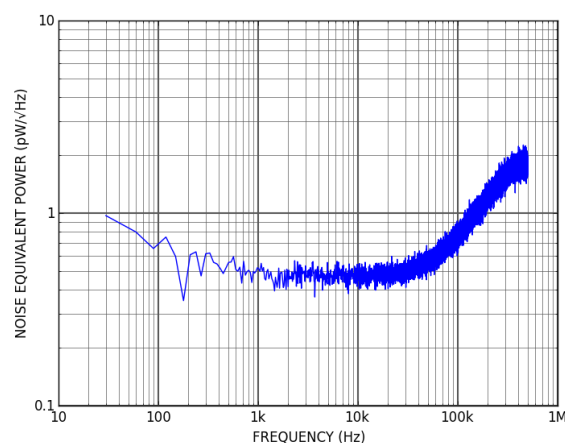
Specifications

	PD01-AC-400	PD01-DC-400
Detector		
Detector type	InGaAs photodiode	InGaAs photodiode
Photodiode active diameter	300 μm	300 μm
Photodiode connector	FC	FC
Wavelength range	900 nm to 1700 nm	900 nm to 1700 nm
Peak wavelength	1550 nm	1550 nm
Optical input power	0 μW to 50 μW	0 μW to 50 μW
Photodiode peak responsivity	0.9 A/W	0.9 A/W
Transimpedance amplifier		
Small signal bandwidth at 3 dB	1 Hz to 400 kHz	0 Hz to 400 kHz
Coupling	AC	DC
Impulse response FWHM	1 μs	1 μs
Noise Equivalent Power at 10 kHz	500 fW/ $\sqrt{\text{Hz}}$	500 fW/ $\sqrt{\text{Hz}}$
Transimpedance gain L setting, high impedance	240 kV/A	240 kV/A
Transimpedance gain L setting, 50 Ω	120 kV/A	120 kV/A
Transimpedance gain H setting, high impedance	2400 kV/A	2400 kV/A
Transimpedance gain H setting, 50 Ω	1200 kV/A	1200 kV/A
Output impedance	50 Ω	50 Ω
Output current max	20 mA	20 mA

Output voltage high impedance	28 V _{pp}	28 V _{pp}
Output voltage 50 Ω	2 V _{pp}	2 V _{pp}
Output slew rate high impedance	20 V/μs	20 V/μs
Detector		
Output slew rate 50 Ω	10 V/μs	10 V/μs
Power supplies		
Positive supply voltage	15 V	15 V
Negative supply voltage	-15 V	-15 V
Other		
Outside dimensions	38 mm x 54 mm x 14 mm	38 mm x 54 mm x 14 mm
Weight	15 g	15 g
Output	SMA	SMA
Mechanical details	Compatible with M6 metric breadboards (25 mm spacing)	Compatible with M6 metric breadboards (25 mm spacing)
Operating temperature	0 °C to 50 °C	0 °C to 50 °C

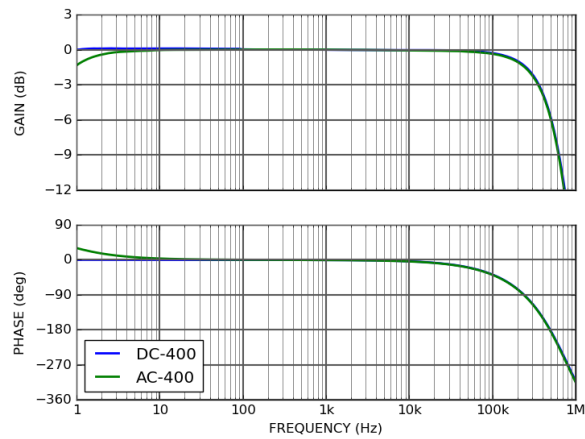
Characterization

Noise performance



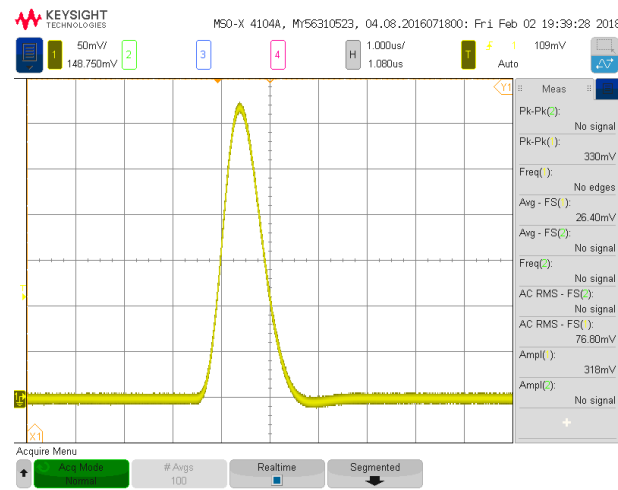
PD01-AC-400 noise equivalent power

Frequency response



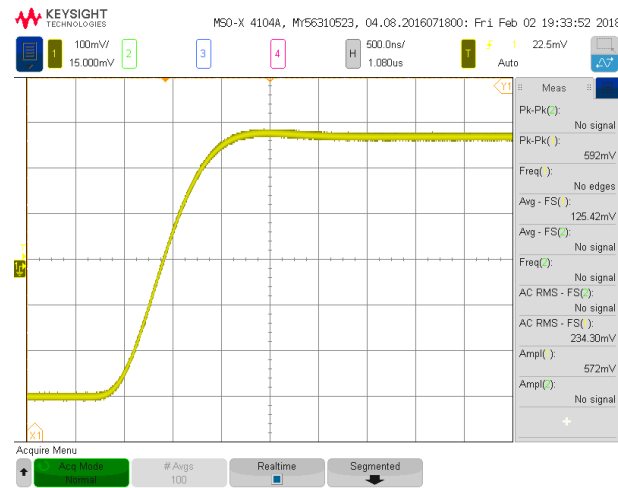
PD01 frequency response

Impulse response



PD01 impulse response

Step response



PD01 step response

Ordering codes

PRODUCT NUMBER	ATTRIBUTE
PD01-AC-400	Coupling AC
PD01-DC-400	Coupling DC