

800-2200nm infrared extended InGaAs amplified photodetector, response time constant 35ns



● Product Description

Idealphotonics' infrared extended InGaAs amplified photodetector has a sensitivity range of 800nm~2600nm, 8 levels of adjustable gain, can achieve quantitative photoelectric conversion, and has a wide dynamic range. It is suitable for various optoelectronic development scenarios, has excellent performance, and is cost-effective. It provides all-round technical support and is often used in near- and mid-infrared light measurement.

● Product features

The photosensitive range covers 800nm~2600nm, which is often used for near-mid-infrared light measurement 、 Amplified detector, 8-level adjustable gain, quantitative photoelectric conversion 、 Wide dynamic range, suitable for various infrared photoelectric development scenarios、 Excellent performance, high cost performance, omnidirectional technical support、 Provide non-standard customization services

● Part Number

MP-CPD-M-I-A-A-8L10

● Application area

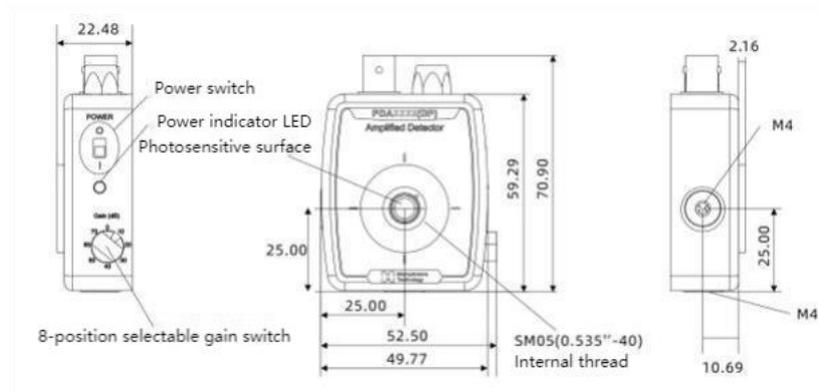
Near- and mid-infrared light measurement

● Core parameters

Wavelength Range	Photosensitive Size	Response Time Constant
800-2200nm	1mm×1mm	35ns



● Dimension Drawing



● General Parameters

Main Parameters

Parameters	Value		
Wavelength Range	800-2600nm	800-2200nm	
Response Time Constant	25ns	35ns	200ns
Gain Range	Hi-Z Load: 1.51kV/A~4.75MV/A; 50Ω Load: 0.75kV/A~2.38MV/A		
Signal Amplitude	Hi-Z Load: 0~10V; 50Ω Load: 0~5V		
Gain Adjustment Mode	Rotatable switch adjustment: 0~70dB, 10dB per step, 8 steps. Bandwidth is inversely proportional to gain.		

NEP	$1.0 \times 10^{-12} \text{W/Hz}^{1/2}$	$1.0 \times 10^{-12} \text{W/Hz}^{1/2}$	$2.5 \times 10^{-14} \text{W/Hz}^{1/2}$		
Active Area	1mm × 1mm	1mm × 1mm	2mm × 2mm		
Sensitive Surface Depth	0.13" (3.3 mm)				
Detector Net Weight	0.10kg				
Operating Temperature	10-40°C				
Storage Temperature	-20-70°C				
Appearance Dimensions	2.79" X 2.07" X 0.89" (70.9 mm X 52.5 mm X 22.5 mm)				
Power Interface	Power Switch	Signal Interface	Gain Adjustment	Mounting Interface	Optical Interface

LUMBERG R SMV3 FEMALE	Sliding Switch	BNC Female Socket	8-Step Knob Adjustment	M4×2	SM1× 1
	With LED Indicator				SM0.5 × 1

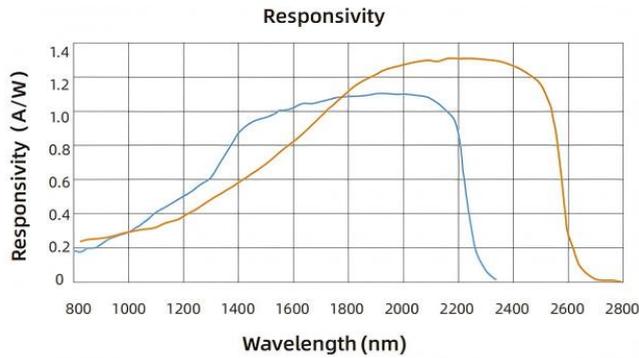
Eight-Step Quantitative Adjustable Gain Parameters

0dB		10dB		20dB		30dB	
Gain (Hi-Z)	$1.51 \times 10^3 \text{V/A}$	Gain (Hi-Z)	$4.75 \times 10^3 \text{V/A}$	Gain (Hi-Z)	$1.5 \times 10^4 \text{V/A}$	Gain (Hi-Z)	$4.75 \times 10^4 \text{V/A}$
Gain (50 Ω)	$0.75 \times 10^3 \text{V/A}$	Gain (50 Ω)	$2.38 \times 10^3 \text{V/A}$	Gain (50 Ω)	$0.75 \times 10^4 \text{V/A}$	Gain (50 Ω)	$2.38 \times 10^4 \text{V/A}$
Bandwidth (BW)	13MHz	Bandwidth	1.7MHz	Bandwidth	1.1MHz	Bandwidth	300kHz
Noise(RMS)	$\leq 258 \mu\text{V}$	Noise(RMS)	$\leq 250 \mu\text{V}$	Noise(RMS)	$\leq 250 \mu\text{V}$	Noise(RMS)	$\leq 250 \mu\text{V}$
40dB		50dB		60dB		70dB	
Gain (Hi-Z)	$1.51 \times 10^5 \text{V/A}$	Gain (Hi-Z)	$4.75 \times 10^5 \text{V/A}$	Gain (Hi-Z)	$1.5 \times 10^6 \text{V/A}$	Gain (Hi-Z)	$4.75 \times 10^6 \text{V/A}$



Gain (50 Ω)	0.75 × 10 ⁵ V /A	Gain (50Ω)	2.38 × 10 ⁵ V /A	Gain (50 Ω)	0.75 × 10 ⁶ V /A	Gain (50Ω)	2.38 × 10 ⁶ V /A
Bandwidth (BW)	90kHz	Bandwidth	28kHz	Bandwidth	9kHz	Bandwidth	3kHz
Noise (RMS)	≤250uV	Noise (RMS)	≤250uV	Noise (RMS)	≤300uV	Noise (RMS)	≤400uV
Signal Offset	±8mV(Typ.) , ±12mV(Max)						

Response Curve



Product Configuration




Attachment 1: Optional Configuration Table

Infrared Extended InGaAs Amplified Photodetector	Optional Configuration				
Product Name	Material	Type	Features	Wavelength range Photosensitive size	Reserved Optional Configuration
Photodetector	InGaAs	Amplified	Adjustable Gain	800-2600nm , 1mm × 1mm	
				800-2200nm , 1mm × 1mm	
				800-2200nm , 2mm × 2mm	