2-12um InAsSb amplified photodetector, sensitive type



Description

LD-PD PTE.LTD's InAsSb amplified photodetector has a photosensitivity range of 2-11um, 8 levels of adjustable gain, can achieve quantitative photoelectric conversion, has a wide dynamic range, and is suitable for various infrared photoelectric development scenarios. It has excellent performance and high cost performance, provides all-round technical support, and is often used in medium and long-wave infrared measurements.

Features

- The photosensitive range covers 2-11um, which is often used in medium and long-wave infrared measurement.
- Amplified detector, 8-level adjustable gain, quantitative photoelectric conversion.
- Wide dynamic range, uncooled, suitable for various photoelectric development scenarios.
- Excellent performance, high cost performance, all-round technical support
- Provide non-standard customized services

Application

- Mid- and long-wave infrared measurements

Specifications

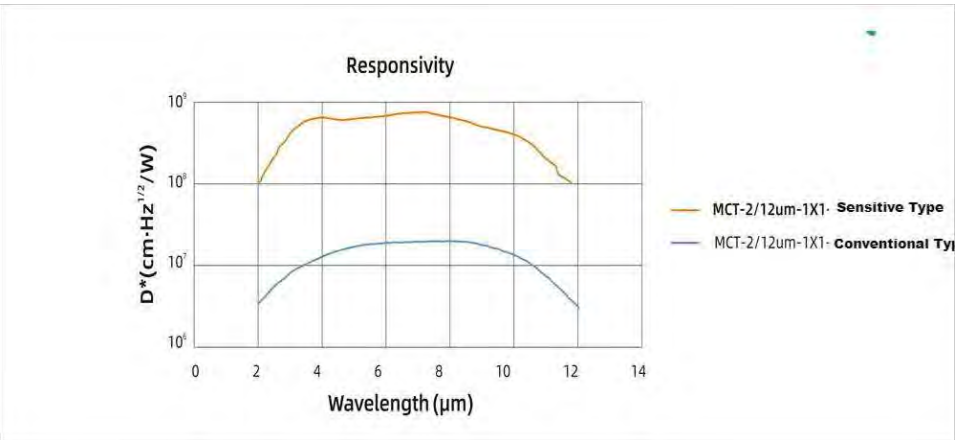
Performance Specifications

Parameters	Value					
Wavelength range	1-5um	2-12um				
Peak wavelength	4.5um	10.6um				
Response time constant	≤120ns	1.5ns				
D*	$2.0X10^{10}cm·Hz^{1/2}/W$	$1.0X10^{7}cm·Hz^{1/2}/W$	$7.0X10^{8}cm·Hz^{1/2}/W$			
Signal amplitude	Hi-Z load: 0 ~ 10V; 50Ω load: 0 ~ 5V					
Gain adjustment method	Rotary gear adjustment: 0~70dB, 10dB per gear, 8 gears in total. Bandwidth is inversely proportional to gain.					
Photosensitive size	1mm×1mm					
Photosensitive surface depth	0.13" (3.3 mm)					
Detector net weight	0.10kg					
Operating temperature	10-40℃					
Storage temperature	-20-70℃					
Appearance size	2.79" X 2.07" X 0.89" (70.9 mm X 52.5 mm X 22.5 mm)					
Photoelectric response	≥0.5A/W	≥0.004A/W	≥0.14A/W			
Optical immersion	With infiltration lens	No infiltration	With infiltration lens			
Power supply interface	Power switch	Signal interface	Gain Adjustment	Support rod interface	Optical interface	
LUMBERG RS MV3 FEMALE	Slide switch with LED indicator	BNC female connector	8-position knob	M4×2	SM1 × 1 SM0.5 × 1	

Eight-level quantitatively adjustable gain parameters

0dB		10dB		20dB		30dB	
Gain (Hi-Z)	$1.51\times 10^{3}V/A$	Gain (Hi-Z)	$4.75\times 10^{3}V/A$	Gain (Hi-Z)	$1.5\times 10^{4}V/A$	Gain (Hi-Z)	$4.75\times 10^{4}V/A$
Gain (50Ω)	$0.75\times 10^{3}V/A$	Gain (50Ω)	$2.38\times 10^{3}V/A$	Gain (50Ω)	$0.75\times 10^{4}V/A$	Gain (50Ω)	$2.38\times 10^{4}V/A$
Bandwidth (BW)	13MHz	Bandwidth (BW)	1.7MHz	Bandwidth (BW)	1.1MHz	Bandwidth (BW)	300kHz
Noise (RMS)	≤250uV	Noise (RMS)	≤250uV	Noise (RMS)	≤250uV	Noise (RMS)	≤250uV
40dB		50dB		60dB		70dB	
Gain (Hi-Z)	$1.51\times 10^{5}V/A$	Gain (Hi-Z)	$4.75\times 10^{5}V/A$	Gain (Hi-Z)	$1.5\times 10^{6}V/A$	Gain (Hi-Z)	$4.75\times 10^{6}V/A$
Gain (50Ω)	$0.75\times 10^{5}V/A$	Gain (50Ω)	$2.38\times 10^{5}V/A$	Gain (50Ω)	$0.75\times 10^{6}V/A$	Gain (50Ω)	$2.38\times 10^{6}V/A$
Bandwidth (BW)	90kHz	Bandwidth (BW)	28kHz	Bandwidth (BW)	9kHz	Bandwidth (BW)	3kHz
Noise (RMS)	≤250uV	Noise (RMS)	≤250uV	Noise (RMS)	≤300uV	Noise (RMS)	≤400uV
Signal bias	±8mV(Typ.),±12mV(Max)						

MCT Response Curve



Appendix 1: Optional Configuration Table

InAsSb Amplified Photodetector	Optional Configuration				
Product Name	Material	Type	Features	Wavelength range Photosensitive size	Reserve optional configuration
PD: "Photodetector"	M: MCT Mercury Cadmium Telluride	A: Enlarged	A: Adjustable gain	P10: 1-5um, 1mm×1mm R10: 2-12um, 1mm×1mm	S: Sensitive model in 2-12um

Dimension

