800nm~3600nm Low noise, high reliability infrared detectors



Description:

InAs photovoltaic detectors have high sensitivity in the infrared region around 3 um as with PbS photoconductive detectors, and also feature low noise, high speed and high reliability. Various types are available, It can work in non-cooled condition that delivers high performance.

Features:

- Low noise
- High detectivity (D*)
- High reliability
- Available in multi-element arrays (custom product)

Applications:

- Gas analysis
- Laser detection
- Infrared spectrophotometry
- Radiation thermometer

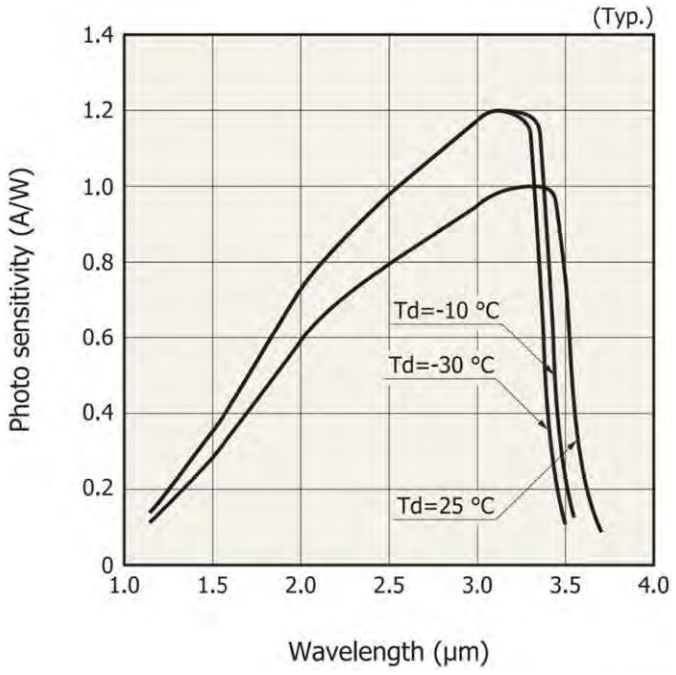
Laser Specifications:

Electrical/Optical Characteristics(Tsub=25°C, CW bias unless stated otherwise)

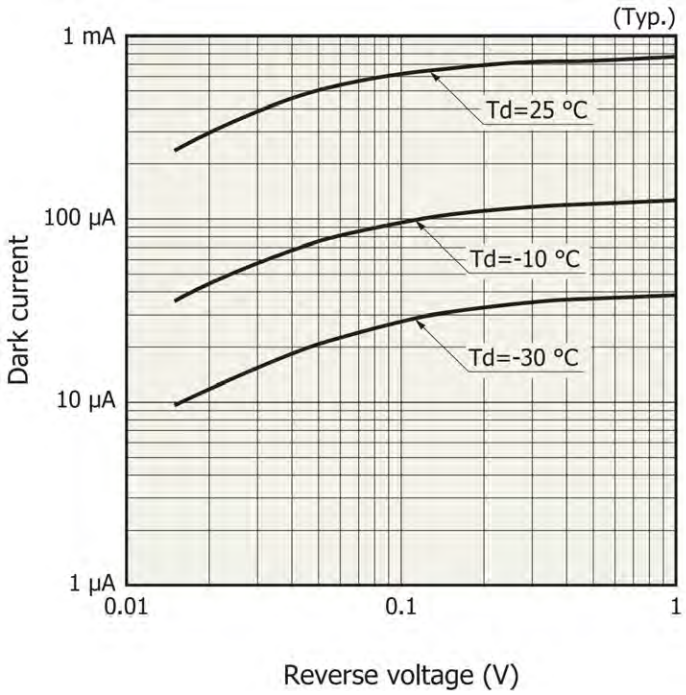
Parameter	Symbol	Unit	Typical Value
Active diameter	Φ	mm	1.0
Spectral range	λ	nm	800-3600
Responsivity	Re (VR=-0.2V, λ=800nm)	mA/mW	0.08
	Re (VR=-0.2V, λ=3000nm)	mA/mW	1.0
	Re (VR=-0.2V, λ=3600nm)	mA/mW	0.2
Response time	Tr (RL=50Ω,VR=-0.2V)	ns	700
Shunt resistance	RSH	ohm	70
Dark current	Id (VR=-0.2V)	uA	250
Reverse Breakdown voltage	VBR (IR=10μA)	V	1
Junction capacitance	Cj (f=1MHz, VR=-0.2V)	pF	20
Saturated Optical Power	Ps(VR=-0.2V)	mW	2
NEP（λ=λp）		W/HZ1/2	1.5X10-11
Operating voltage	VR	V	0-0.2
Package	Hermetic package TO5		

Typical characteristical curve:

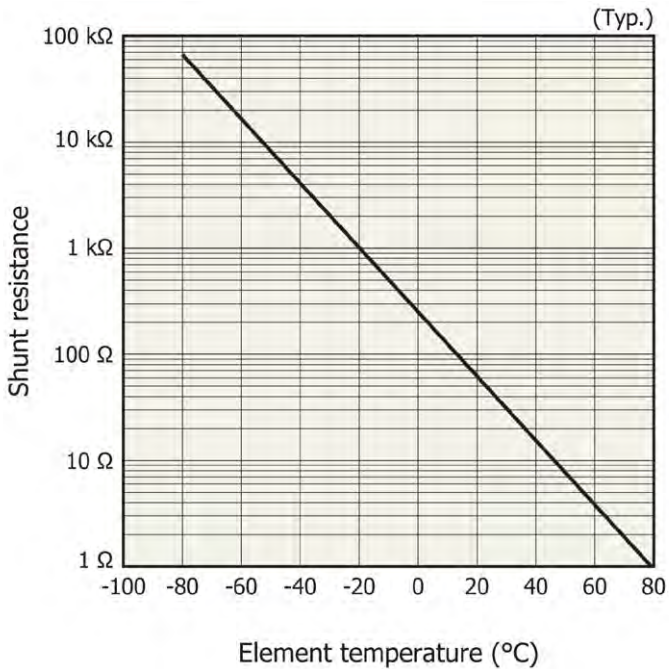
Responsivity, R (A/W)



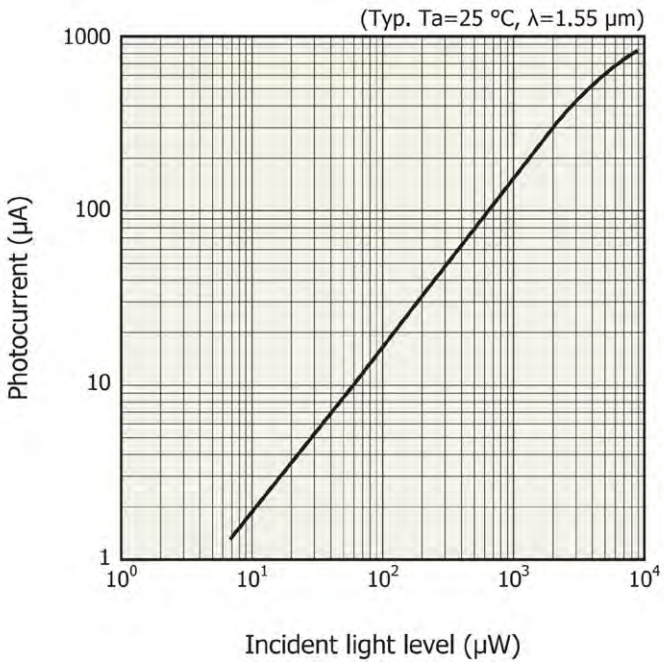
Dark Current VS Reserve Voltage:



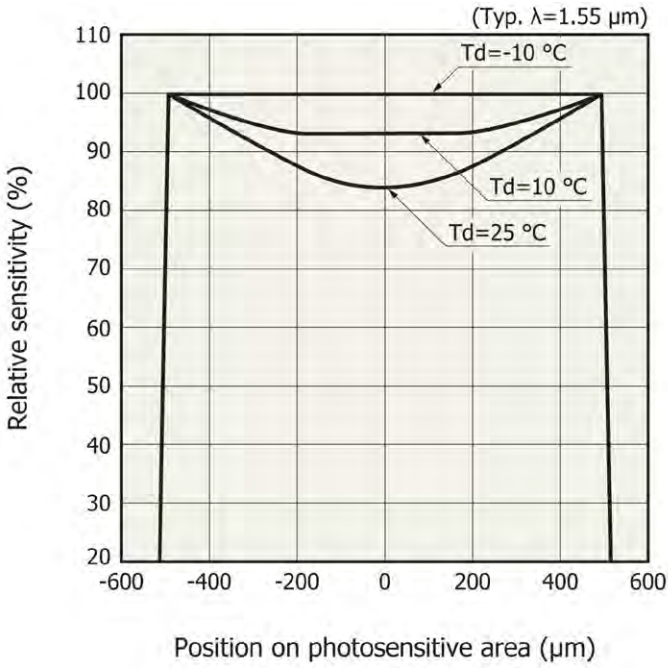
Shunt resistance vs. element temperature:



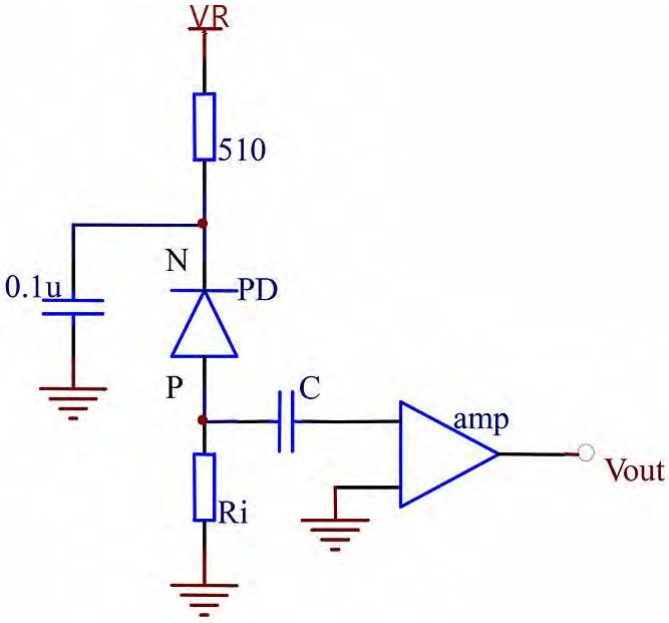
Linear:



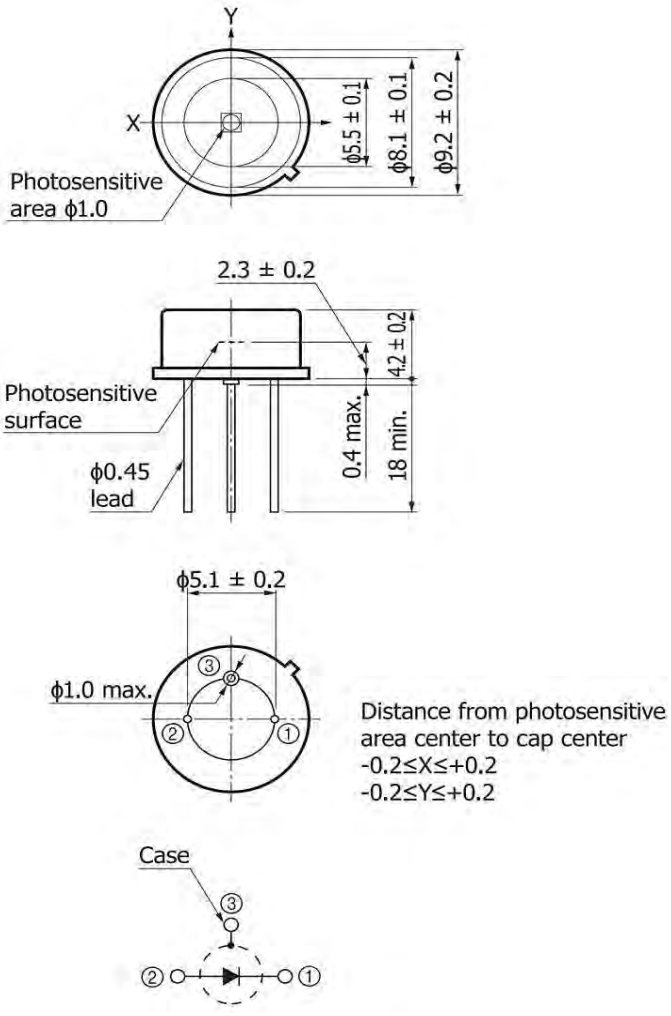
Sensitivity uniformity:



Application electric circuit:



Dimensions and Pin definitions:



Absolute Maximem Ratings:

Parameter	Symbol	Value	Unit
Operating temperature	Top	-20~+50	°C
Storage temperature	Tstg	-55~+70	°C
Forward current	If	10	mA
Reverse Voltage	Vr	1	V
Reverse current	Ir	1	mA
Soldering temperature(time)	Ts(10s)	260	°C

Ordering Info:

PL-☆-AR▽-W□□□□-XX

☆ : Material

IG: InGaAs

Si: Si

▽: Active Area

0080:80um

1: 1mm

□□□□: Cut off Wavelength

400: 400nm

900: 900nm

1700: 1700nm

2100: 2100nm

2400: 2400nm

2700: 2700nm

3600: 3600nm

XX: Package/Fiber and Connector Type

TO:TO5Package

FPG:FC/PC Plugged

User Safety:

Safety and Operating Considerations

This device operates under reverse bias voltage, and the polarity of the device can't be reversed.

Operating the Photodiode outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with this component cannot exceed maximum peak optical power.

ESD PROTECTION—Electrostatic discharge (ESD) is the primary cause of unexpected laser diode failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces, and rigorous antistatic techniques when handling Photodiodes.