



Features

- 0.9 – 2.2 μm
- Highly Reliable Planar Device
- Low Leakage Current
- High Shunt Resistance
- High Responsivity
- Low Stray Absorption

Applications

- OEM
- Lab user
- Instruments
- Power Monitoring
- Spectral Analysis
- Gas Leak Detection
- Medical Diagnosis
- Covert IR Sensing
- Remote Temperature Sensor

The PDTM Series of Extended-InGaAs Photodiodes provides reliable NIR detection from 0.9 to 2.2 μm with active-area options from 0.3 to 3.0 mm, allowing a clear speed–sensitivity trade-off (smaller areas = lower capacitance and faster response; larger areas = higher sensitivity). For plug-and-play use, an optional driver PCB integrates a low-noise transimpedance amplifier, eliminating external biasing and simplifying bench setup. Standard package and accessory options are available, with custom configurations on request.

Due to their high sensitivity to electrostatic discharge, warranty coverage applies only to fully metal covered modules the benchtops, which include proper protection. Other versions of the lasers and photodetectors are not covered by any warranty. Please use them with great caution.

Specifications ($T_{\text{AMB}} = 23^{\circ}\text{C}$)

Parameter	Min	Typical	Max	Unit
Spectral Range	0.9		2.2	μm
Aperture Size	$\varnothing 300$		$\varnothing 3000$	μm
Dark Current (@ -0.5 V)		0.2 (10)	0.5 (30)	μA
Shunt Resistance (@ -10 mV)				$\text{k}\Omega$
Capacitance				pF
Capacitance	1 MHz, 0 V	45 (6000)	75 (9000)	pF
	1 MHz, -0.5 V	30 (4500)	45 (6000)	
3dB Bandwidth (@ -0.5 V)		50 (0.5)	75 (0.7)	MHz
Reverse Voltage			(0.5) 1	V
Reverse Current			10	mA
Forward Current			10	mA
Package Type		TO-46, TO-39		
Responsivity	1.55 μm , 0 V	0.85		A/W
	1.9 μm , 0 V	0.9		
NEP (@ 1.9 μm , 0 V)		0.3 (1.8)	0.6 (3.6)	$10^{-12}\text{W}/\text{VHz}$
Operation Temperature ^[1]	-40		85	$^{\circ}\text{C}$
Storage Temperature ^[1]	-40		85	$^{\circ}\text{C}$

Note:

[1]. Non-condensing environment

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link](#):

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Rev 12/03/25

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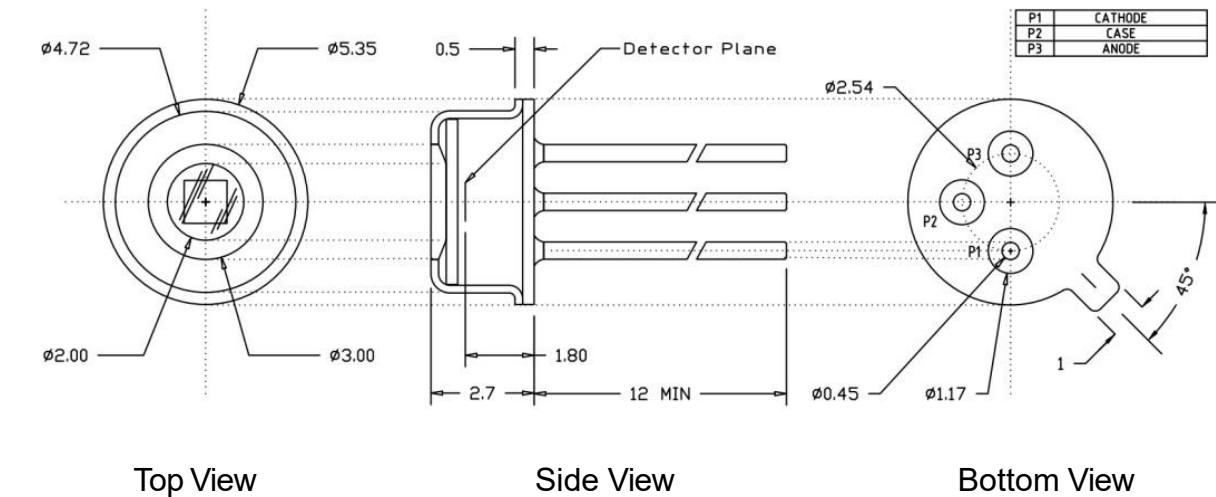
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DATASHEET

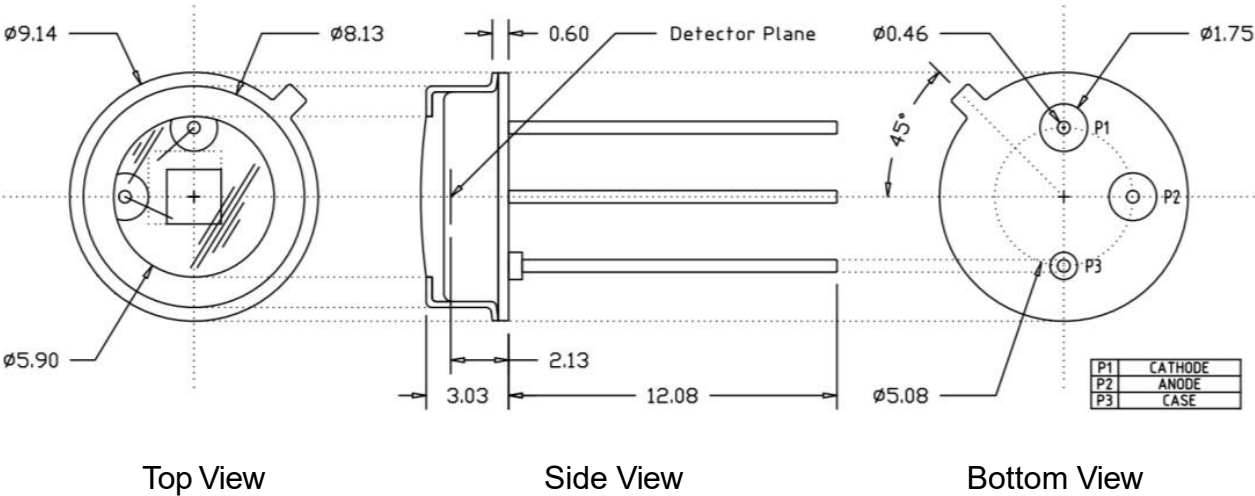
Mechanical Dimensions (mm)

Package 1



Note: For detector size 1mm or smaller.

Package 2



Note: For detector size 3mm.

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

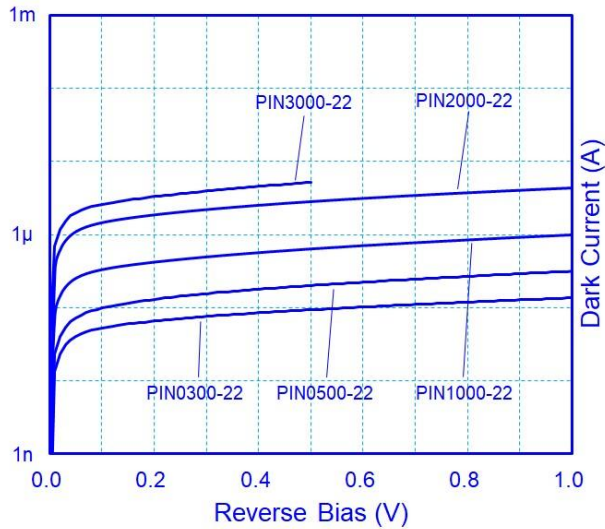
Photodiode Extended InGaAs 0.9 – 2.2 μm



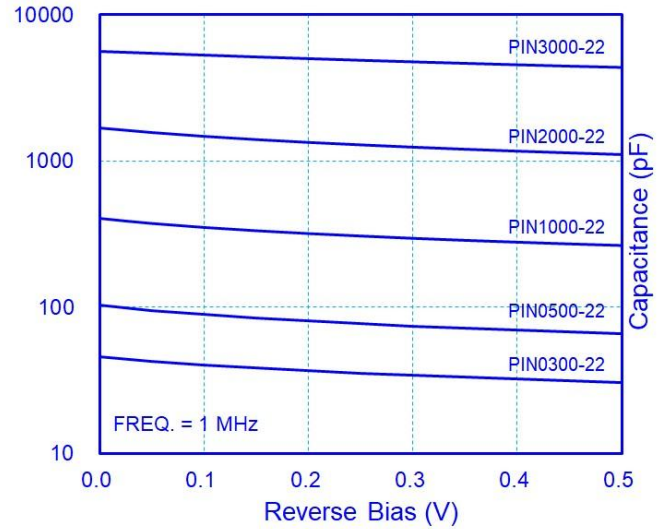
DATASHEET

Typical Curves ($T_{\text{AMB}} = 23^{\circ}\text{C}$)

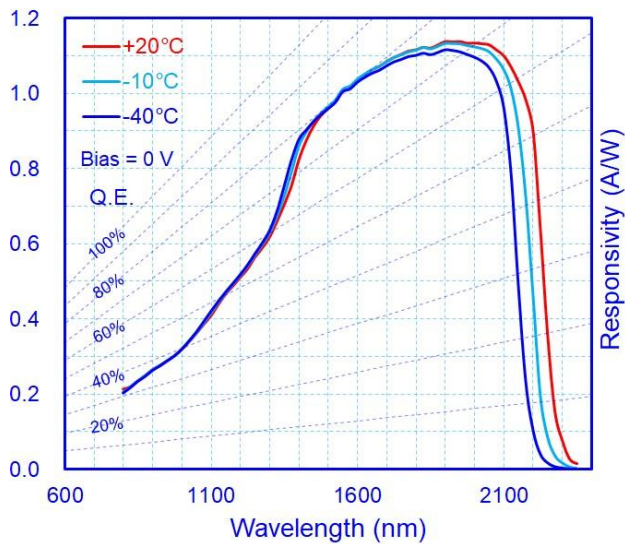
Dark Current



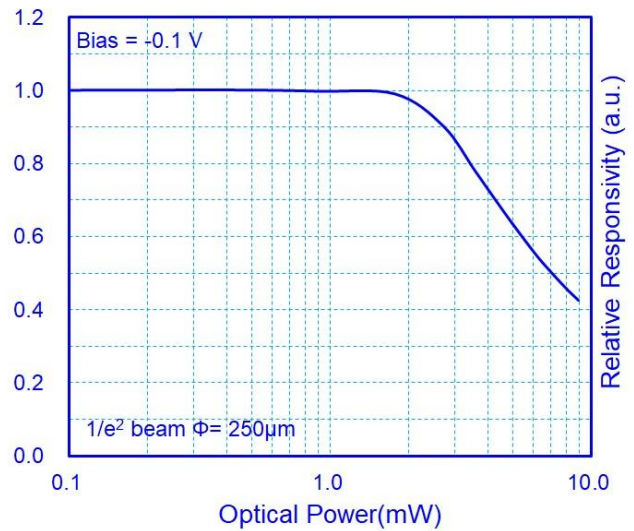
Dark Capacitance



Responsivity Spectrum



Response Linearity



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Photodiode Extended InGaAs 0.9 – 2.2 μm



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Ordering Information (Part Number)

	22	☐ ☐	1	N	☐ ☐
Prefix	Wavelength	Detector Size	Window	AR Coated	Driver
PDTM-	0.9-2.2 μm = 22	0.3mm = A3 0.5mm = A5 1mm = 10 3mm = 30	Quartz = 1 Spectral Filter = S Sapphire = 2 Non =N	Non = N Yes = 1	No = 00 Yes = 11

Application Notes

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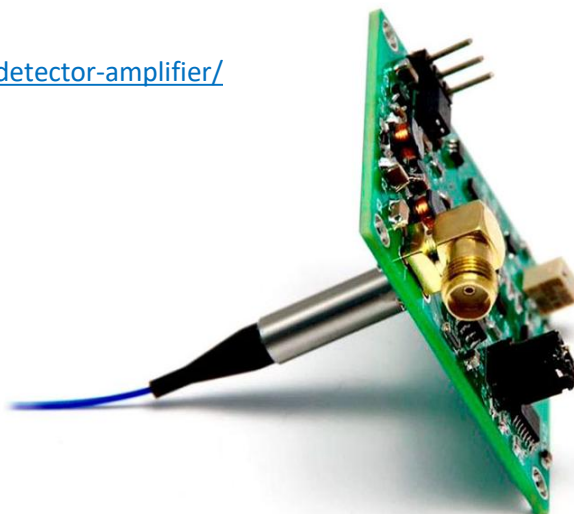
Photodiode Extended InGaAs 0.9 – 2.2 μm



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Evaluation PCB

<https://agiltron.com/product/precision-optical-detector-amplifier/>



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