



#### DATASHEET

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The PDTM Series of Extended-InGaAs Photodiodes provides reliable NIR detection from 0.9 to 2.2  $\mu m$  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.

#### **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

## Specifications ( $T_{AMB} = 23$ °C)

Parameter		Min	Typical	Max	Unit
Spectral Range		0.9		2.2	μm
Aperture Size		Ø 300		Ø 3000	μm
Dark Current (@ -0.5 V)			0.2 (10)	0.5 (30)	μΑ
Shunt Resistance (@ -10 mV)					kΩ
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 <sup>-12</sup> W/√Hz
Operation Temperature [1]		-40		85	°C
Storage Temperature [1]		-40		85	°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 <u>link</u>]:

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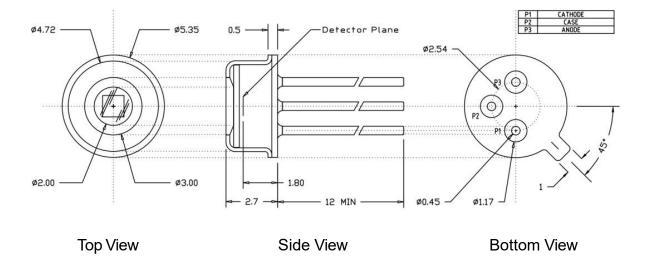




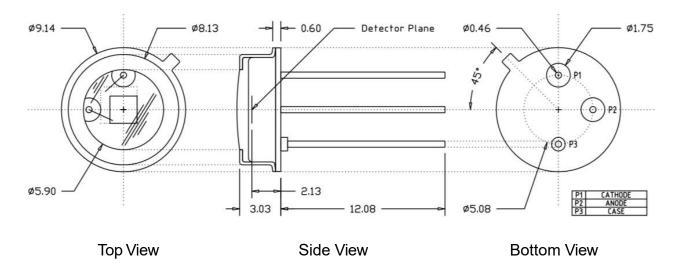
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#### **Mechanical Dimensions (mm)**

#### Package 1



### Package 2



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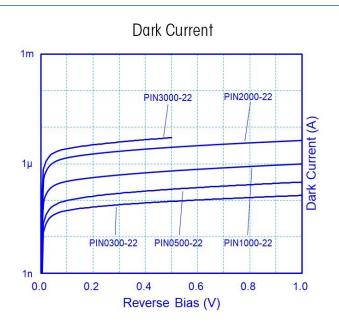
<sup>\*</sup>Product dimensions may change without notice. This is sometimes required for non-standard specifications.

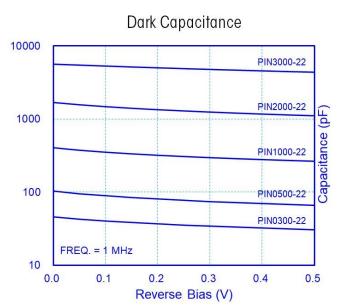




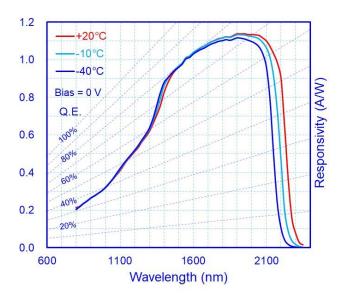
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## Typical Curves (T<sub>AMB</sub> = 23°C)

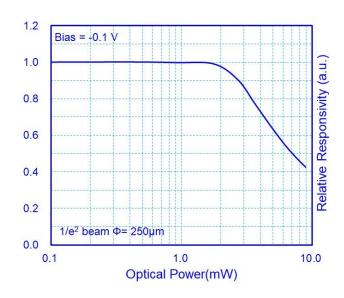




## Responsivity Spectrum



## Response Linearity







### **DATASHEET**

### **Ordering Information**

	22		1	N	
Prefix	Wavelength	Detector Size	Window	AR Coated	Driver
PDTM-	0.9-2.2μm = 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**