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PDT-F46A455-917
0.9~1.7um Dia. 455um InGaAs PIN Photodiode in TO-46 Package

Overview

The Lasermate PDT-F46A455-917 is a high responsivity in 0.9um~1.7um wavelength spectral range, low leakage current, high shunt resistance InGaAs PIN photodiode in TO-46 package with 455um diameter active area.

Features

- Highly reliable planar device
- Low leakage current
- Low stray absorption
- High shunt resistance
- High responsivity in 0.9~1.7um spectral range
- Aperture size ⌀455um
- Package type: TO-46

Applications

- Power monitoring
- Spectral analysis
- Light Detection and Ranging (LIDAR)
- Remote temperature sensors
- Ice/slush/moisture detection
- Gas leak detection
- Single-photodiode SWIR camera
- Covert IR sensing
- Optical powering

Product Overview

The following table lists the available part numbers, as well as the spectral range, aperture size, and package type of each of the part numbers.

Part Number	Spectral Range	Aperture Size	Package Type
PDT-F46A455-917	0.9-1.7um	⌀455um	TO-46, 3-pin

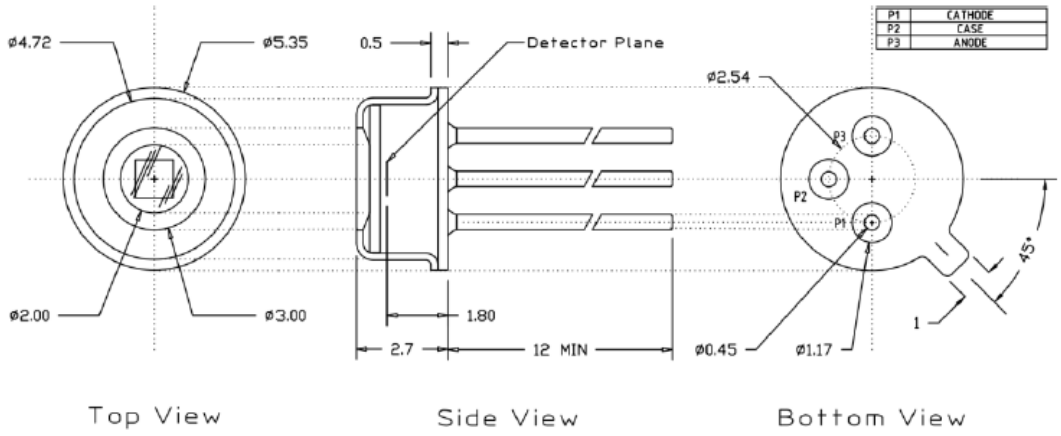
Specifications

Electro-Optical Characteristics (T_{AMB}=23°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Aperture size	⌀		455		um	
Spectral Range	λ	0.9		1.7	um	
Responsivity	R_e	0.1	0.15		A/W	V_R=0V, λ=0.85um
		0.8	0.9			V_R=0V, λ=1.30um
		0.9	0.95			V_R=0V, λ=1.55um
Dark Current	Id		0.3	0.6	nA	V_R=-5V
Capacitance	C		35	50	pF	f=1MHz, V_R=0V
			20	25		f=1MHz, V_R=-5V
Saturation Power (1)	P_{sat}	5	7		mW	V_R=0V, λ=1.55um, -0.2dB
Shunt Resistance	R_{sh}	150	500		MΩ	V_R=-10mV
NEP			0.5	1	10^{-14}W/√Hz	V_R=0V, λ=1.55um, f=1kHz
3dB Bandwidth		80	100		MHz	V_R=-5V, 50Ω

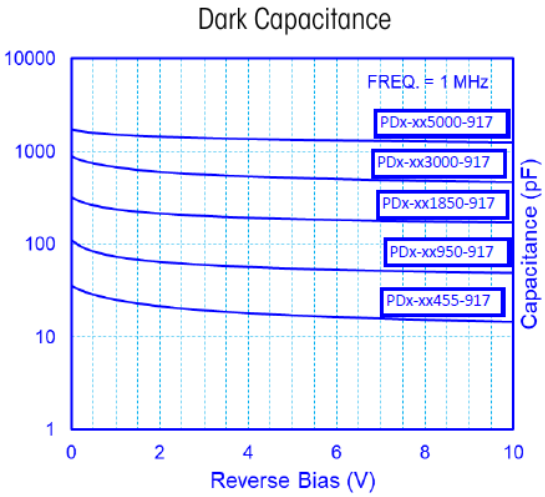
(1) Measured at the aperture center with a $1/e^2$ beam diameter of 250um.

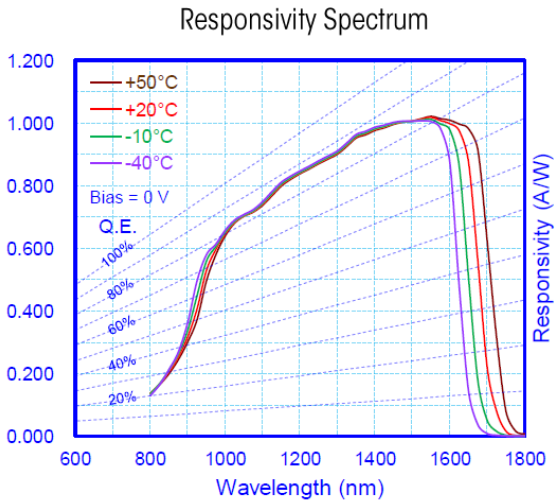
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	Non-condensing environment.
Operating Temperature	-40	85	°C	Non-condensing environment.
Forward Current		10	mA	
Reverse Current		10	mA	
Reverse Voltage		20	V	

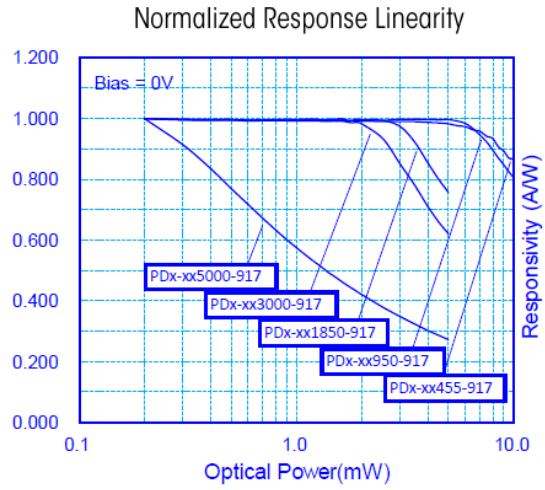
Outline Dimensions (unit: mm)



Typical Characteristics







Additional Notes

1. Specifications are subject to change without notice.
2. The suitable ESD protective measures are needed in storage, transportation, and handling.