



PDT-x411A1200-SIx

1.2mm Silicon PIN Photodiode in TO-46 Package

Description

The Lasermate PDT-x411A1200-SIx is a high reliability, low dark current, 1.2mm diameter active area Silicon PIN photodiode with high sensitivity from 400nm to 1100nm spectral range. The detector is housed in hermetic TO-46 package.



Features

- High reliability
- Low dark current
- Spectral range 400nm to 1100nm
- Active diameter 1.2x1.2mm
- 1064nm responsivity up to 0.27mA/mW
- Hermetic TO-46 can package

Applications

- Optical sensor
- Optical power meter
- Laser range finder and laser lidar
- Industrial automatic control
- IR/laser light monitoring
- Fluorescence detector
- Medical equipment

Product Overview

The following table lists the available part numbers, as well as the package type of each of the part numbers.

Part Number	Package
PDT-SF411A1200-SI2	TO-46 Can with 2mm Flat Window Cap, 2-pin
PDT-SF411A1200-SI3	TO-46 Can with 2mm Flat Window Cap, 3-pin
PDT-LF411A1200-SI2	TO-46 Can with 3mm Flat Window Cap, 2-pin
PDT-LF411A1200-SI3	TO-46 Can with 3mm Flat Window Cap, 3-pin
PDT-GF411A1200-SI2	TO-46 Can with 3.9mm Flat Window Cap, 2-pin
PDT-GF411A1200-SI3	TO-46 Can with 3.9mm Flat Window Cap, 3-pin
PDT-B411A1200-SIL2	TO-46 Can with Large Ball Lens Cap, 2-pin
PDT-B411A1200-SIL3	TO-46 Can with Large Ball Lens Cap, 3-pin

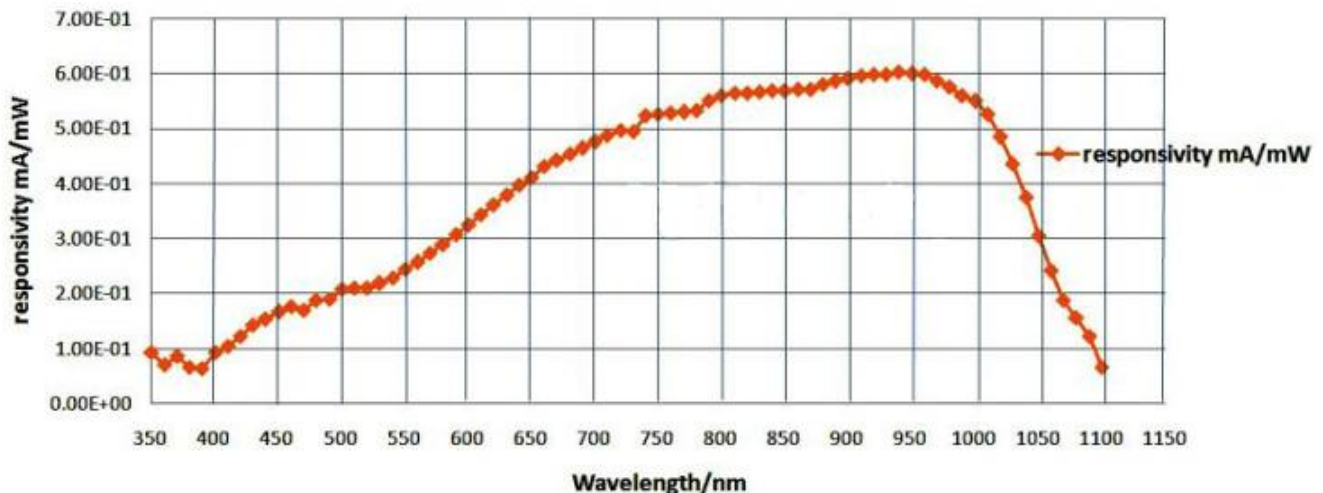


Specifications

Absolute Maximum Ratings				
Parameters	Symbol	Value	Unit	Conditions
Operating temperature	T_{op}	-45 to 85	°C	
Storage temperature	T_{stg}	-45 to 100	°C	
Forward current	I_F	10	mA	
Reverse voltage	V_r	30	V	
Soldering temperature	T_{sol}	260	°C	10 seconds

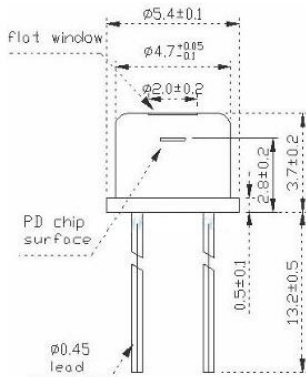
Electro-Optical Characteristics (T=25°C)							
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Response spectrum	λ	400		1100	nm		
Active diameter	\varnothing		1.2x1.2		mm		
Responsivity	R_e		0.15		mA/mW	$V_r=5V, \lambda=405nm$	
			0.30			$V_r=5V, \lambda=650nm$	
			0.55			$V_r=5V, \lambda=850nm$	
			0.27			$V_r=5V, \lambda=1064nm$	
Dark current	I_d		0.2		pA	$V_r=0V$	
			60			$V_r=5V$	
Response time	T_r		1.4		ns	$R_L=50\Omega, V_r=5V$	
Junction capacitance	C_j		50		pF	$V_r=0V, f=1MHz$	
			6			$V_r=5V, f=1MHz$	
Reverse breakdown voltage	V_{BR}		80		V	$I_R=10\mu A$	
Saturated optical power	P_s		15		mW	$V_r=5V$	
Operating voltage	V_R		0-20		V		
Shunt resistance	R_{sh}		50		G Ω	$V_r=10mV$	
Package	Hermetic TO-46 can						

Typical Characteristics

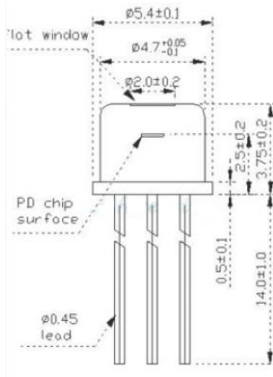


Outline Dimensions (unit: mm)

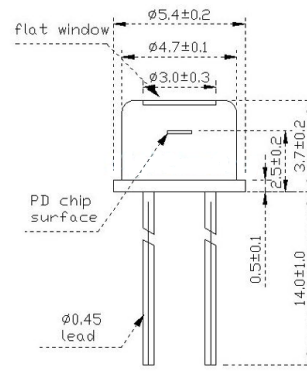
PDT-SF411A1200-SI2:



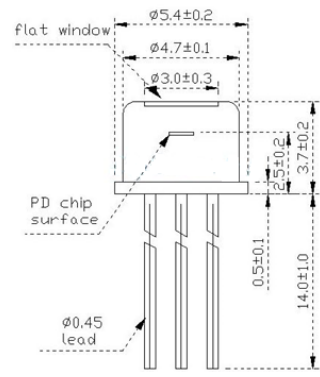
PDT-SF411A1200-SI3:



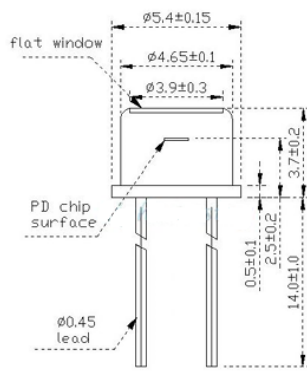
PDT-LF411A1200-SI2:



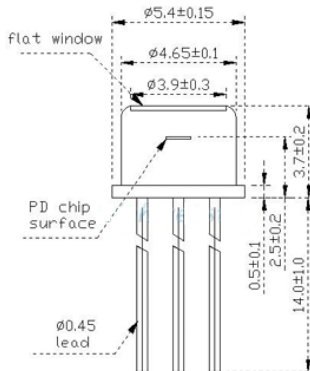
PDT-LF411A1200-SI3:



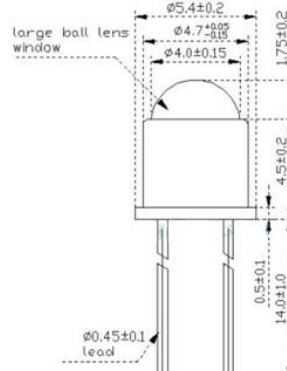
PDT-GF411A1200-SI2:



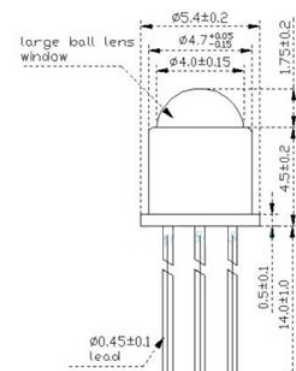
PDT-GF411A1200-SI3:



PDT-B411A1200-SIL2:

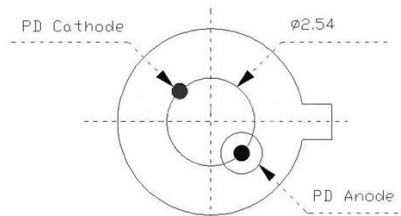


PDT-B411A1200-SIL3:

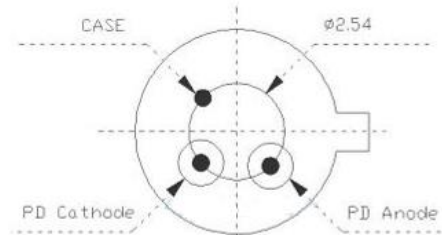


Pin Configuration

2-pin



3-pin



Notes:

1. The suitable ESD protecting measures are recommended in storage, transportation, and usage.
2. Specifications are subject to change without notice.