

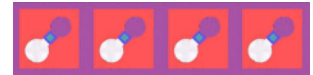


# PDA4-13A1G

## 1.5GHz InGaAs PIN Photodiode 1x4 Array

### Overview

The Lasermate PDA4-13A1G is an InGaAs photodiode chip, 1x4 array, with bandwidth >1.5GHz and designed for use in fiber optic data communication applications.



### Features

- InGaAs PIN photodiode array
- 1x4 array bar with 250um pitch
- Sensitive area 70um
- Bandwidth >1.5GHz
- Optimized for fiber optic application

### Applications

- High speed data communication
- Gigabit Ethernet
- Fiber channel

### Specifications

Electro-Optical Characteristics (For each single PIN photodiode element)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Responsivity <sup>(1)</sup>	R		0.9		A/W	V <sub>R</sub> =5V, λ=1300nm
Responsivity Uniformity <sup>(2)</sup>	DR			3	%	
Surface Reflectivity	R <sub>S</sub>		1		%	λ=1300nm
Dark Current	I <sub>D</sub>		0.1	1.0	nA	V <sub>R</sub> =5V
Breakdown Voltage	V <sub>BD</sub>	20	35		V	I <sub>r</sub> =10mA
Capacitance	C		0.7	0.8	pF	V <sub>R</sub> =5V, f=1MHz
Bandwidth	BW	1.5			GHz	V <sub>R</sub> =5V

Notes:

1. AR coating optimized for specific 1300nm wavelength.
2. The difference of the maximum and minimum responsivity of each photodiode of an array should not exceed 3%.

Dimensions						
Parameters	Symbol	Min.	Typ.	Max.	Unit	
Number of PIN photodiode elements	N		4			
Pitch	P		250		um	
Chip length	L		1000		um	
Chip width	w		250		um	
Chip thickness	t		200		um	
Diameter bond pads			80		um	
Diameter sensitive area			70		um	

## Typical Characteristics

Fig. 1 Typical Forward Current and Dark Current

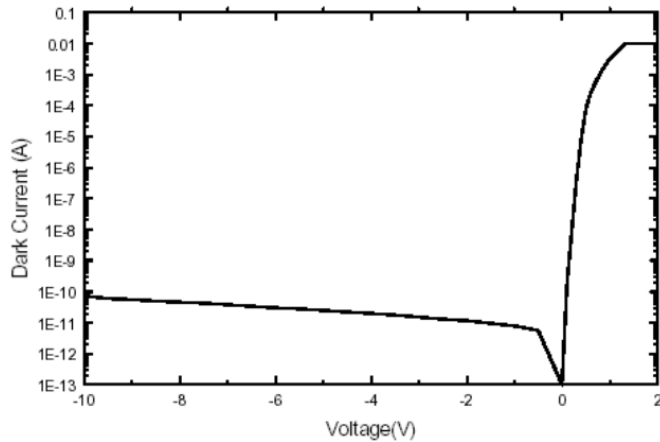


Fig. 2 Typical Photo-Current

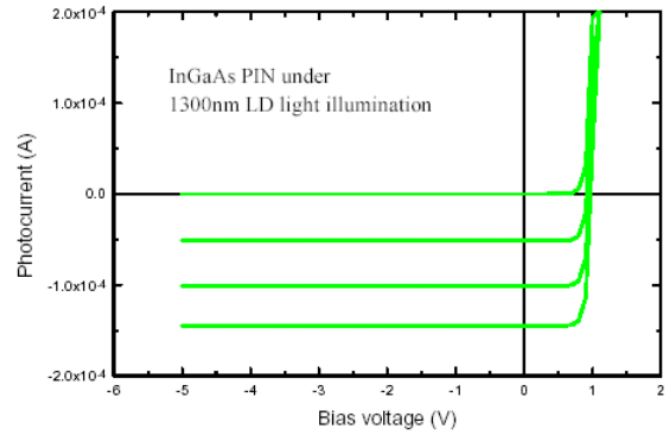


Fig. 3 Typical Breakdown Curve

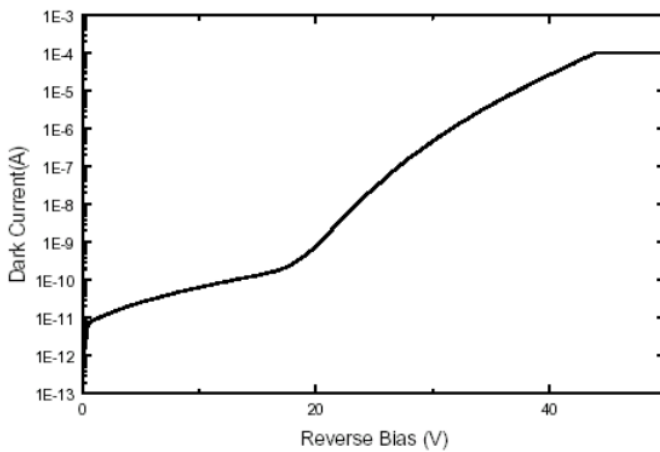
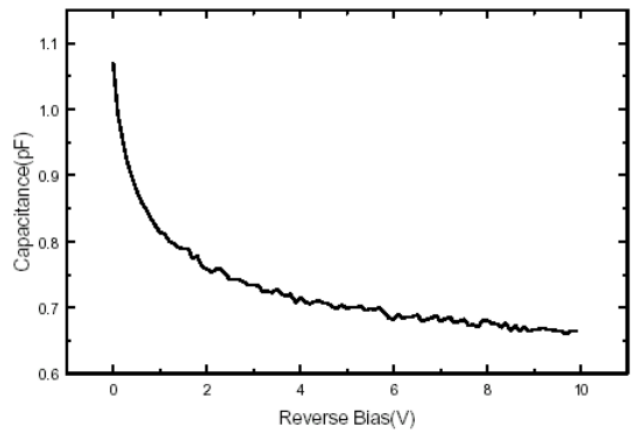
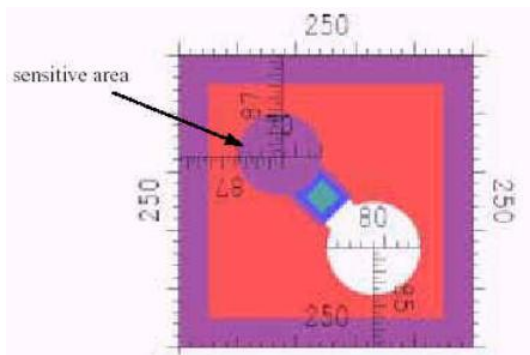


Fig. 4 Typical C-V Curve



## Outline Diagram of Single Element (unit: um)



Note: Specifications are subject to change without notice.