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PDC-13A10G
10Gbps InGaAs PIN Photodiode Chip

Overview

The Lasermate PDC-13A10G is a high responsivity at 1310nm/1550nm, low capacitance, low dark current, InGaAs photodiode chip designed for use in 10Gbps fiber optic applications.

Features

- InGaAs PIN photodiode chip
- Data rate: 10Gbps
- Optimized for fiber optic application
- High responsivity at 1310nm/1550nm
- Low capacitance
- Low dark current

Applications

- High speed data communication
- Gigabit Ethernet
- Fiber channel

Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage temperature	-40	100	°C	
Operating temperature	-40	85	°C	
Forward current		10	mA	
Reverse current		2	mA	
Reverse voltage		20	V	
Optical power		2	mW	

Electro-Optical Characteristics (T = 25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	Φ		50		μm	
Responsivity	R	0.9	1.1		A/W	V_R=1.5V, λ=1550nm@25°C
		0.8	0.9			V_R=1.5V, λ=1310nm@25°C
Dark current	I_D		0.2	1	nA	V_R=5V
Breakdown voltage	V_{BD}	25	40		V	I_R=10μA
Capacitance	C		0.25	0.27	pF	V_R=1.5V, f=1MHz
			0.20			V_R=5V, f=1MHz
bandwidth	BW		9		GHz	V_R=5V

Typical Characteristics

Fig. 1 Typical Dark Current vs. Forward Current

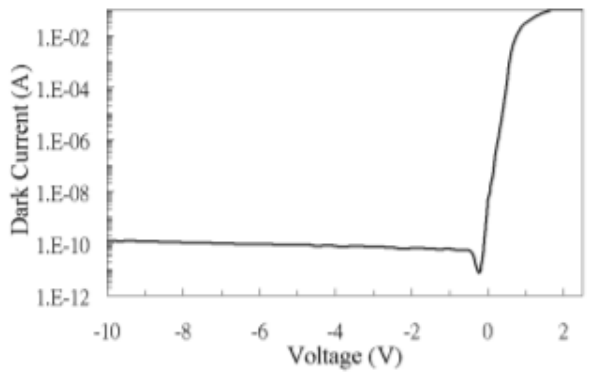


Fig. 2 Typical Photo-Current

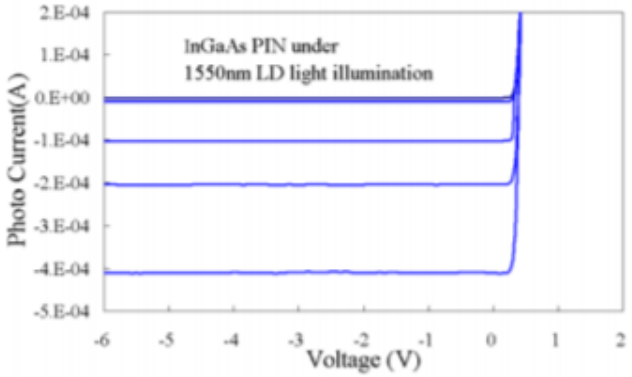


Fig. 3 Typical Breakdown Curve

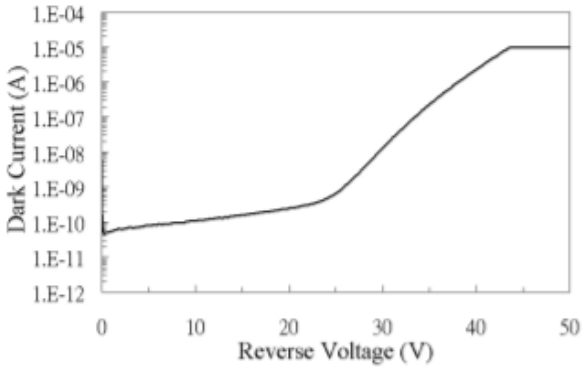
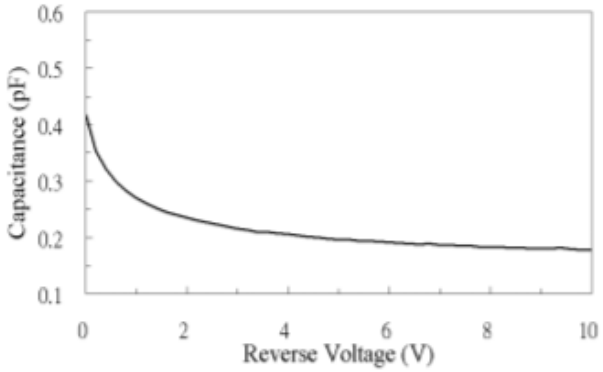
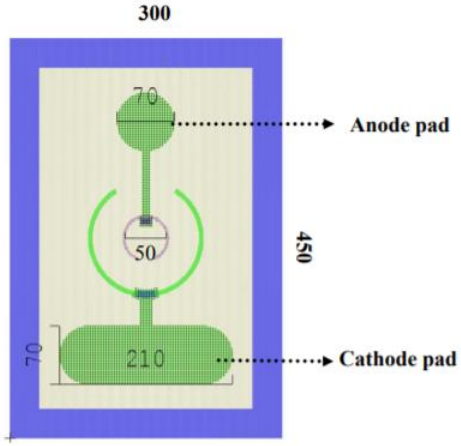


Fig. 4 Typical C-V Curve



Outline Diagram



- Chip size: 450µm x 300µm typical
- Chip thickness: 200µm ±12.5µm
- Sensitive area: Typical 50µm in diameter

Note: Specifications are subject to change without notice.