



PDC-13D10G

10Gbps InGaAs PIN Photodiode Chip

Overview

The Lasermate PDC-13D10G is a high responsivity at 1310nm/1550nm, low capacitance, low dark current, InGaAs photodiode chip designed for 10Gbps high speed datacom 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						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	Φ		50		um	
Responsivity	R	0.9	1.1		A/W	$V_R=1.5V, \lambda=1550nm@25^\circ C$
		0.8	0.9			$V_R=1.5V, \lambda=1310nm@25^\circ C$
Dark current	I_D		0.2	1	nA	$V_R=5V$
Breakdown voltage	V_{BD}	25	40		V	$I_R=10\mu A$
Capacitance	C		0.27	0.3	pF	$V_R=1.5V, f=1MHz$
			0.22			$V_R=5V, f=1MHz$
Bandwidth	BW		10		GHz	$V_R=1.5V$

Typical Characteristics

Fig. 1 Typical Dark Current vs. Forward Current

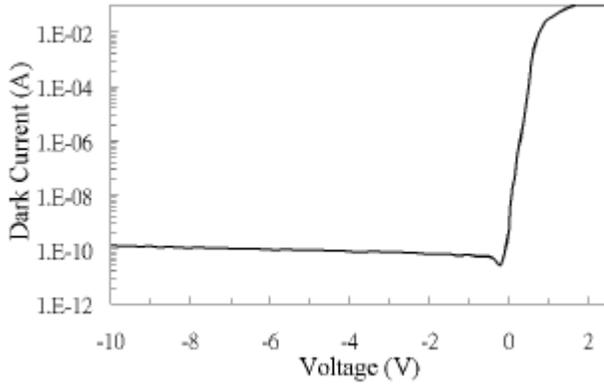


Fig. 2 Typical Photo-Current

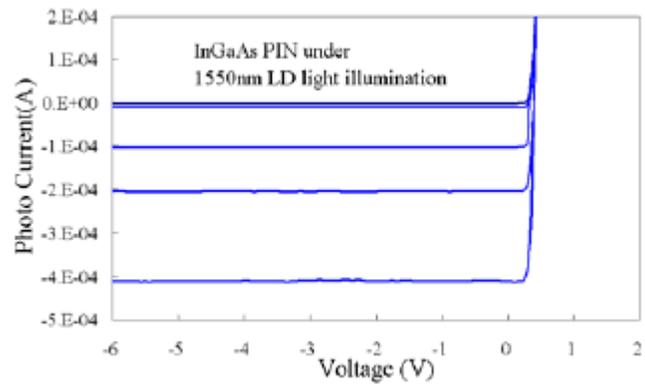


Fig. 3 Typical Breakdown Curve

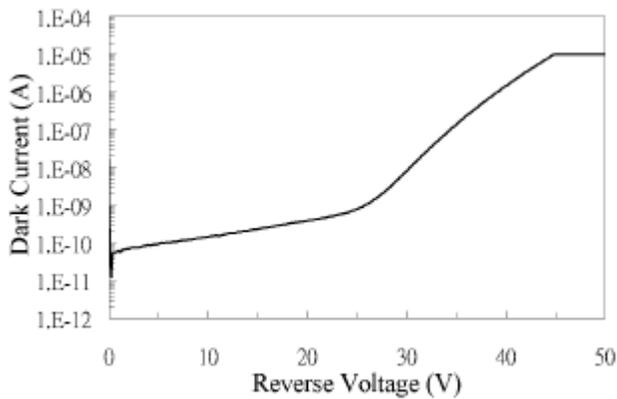
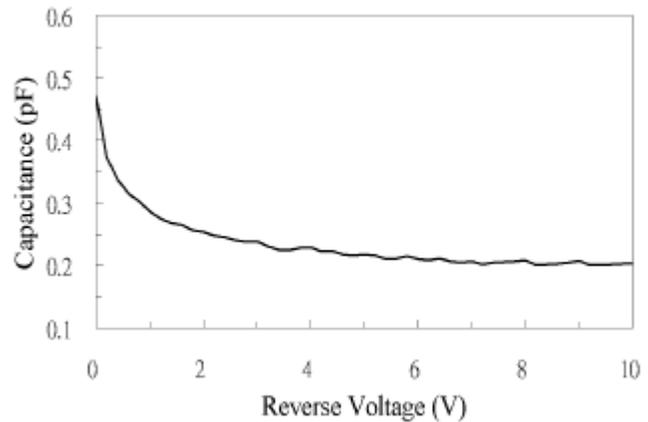
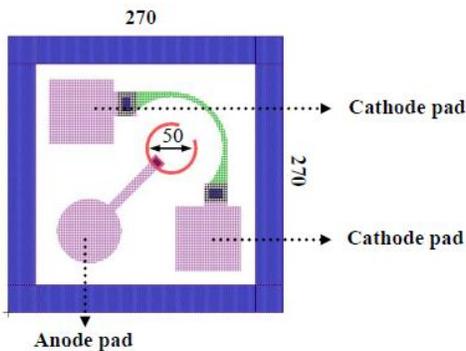


Fig. 4 Typical C-V Curve



Outline Diagram



- Chip size: 270 μ m x 270 μ m typical
- Chip thickness: 150 μ m \pm 12.5 μ m
- Sensitive area: Typical 50 μ m in diameter

Note: Specifications are subject to change without notice.