



## PDC-85B10G

### 10Gbps GaAs PIN Photodiode Chip



#### Overview

The Lasermate PDC-85B10G is a high responsivity at 850nm, low dark current and low capacitance, planarized and non-hermetic design GaAs photodiode chip. PDC-85B10G is designed for use in 10Gb/s fiber optic data communication applications.

#### Features

- GaAs PIN photodiode chip
- Data rate: 10Gbps
- High responsivity at 850nm
- Optimized for fiber optic application
- Low dark current and low capacitance
- Planarized and non-hermetic design

#### Applications

- High speed Data communications
- Gigabit ethernet
- Fiber channel

#### Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage temperature	-40	100	°C	
Operating temperature	-40	85	°C	
Reverse current		2	mA	T = 25°C
Forward current		10	mA	T = 25°C
Reverse voltage		20	V	T = 25°C

Electro-Optical Characteristics (T = 25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Responsivity	R	0.55	0.65		A/W	$V_R = 1.5V, \lambda = 850nm$
Dark current	$I_D$		0.1	1	nA	$V_R = 5V$
Breakdown voltage	$V_{BD}$	50			V	$I_R = 10\mu A$
Capacitance	C		0.22	0.25	pF	$V_R = 1.5V, f = 1MHz$
			0.20	0.23		$V_R = 5V, f = 1MHz$
Bandwidth	BW		10		GHz	$V_R = 5V$

## Typical Characteristics

Fig 1. Typical Dark Current vs. Forward Current

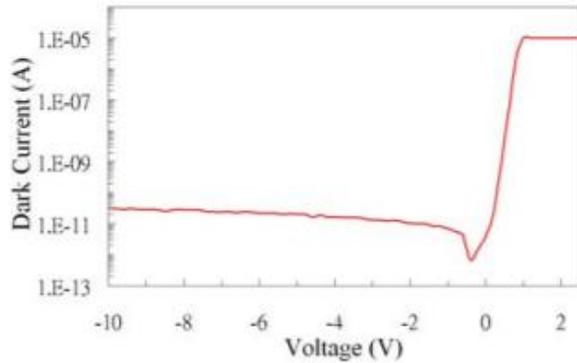


Fig 2. Typical Photo-Current

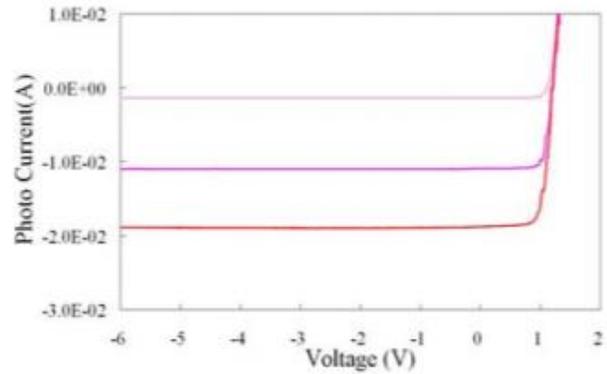


Fig 3. Typical Breakdown Curve

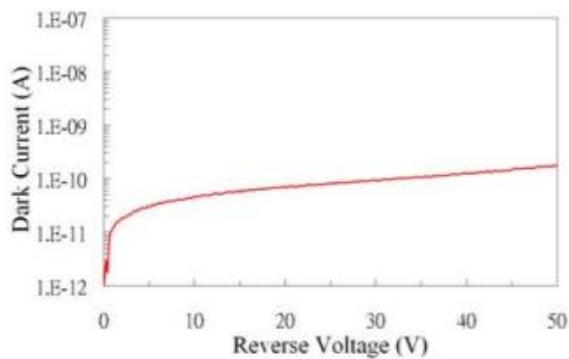
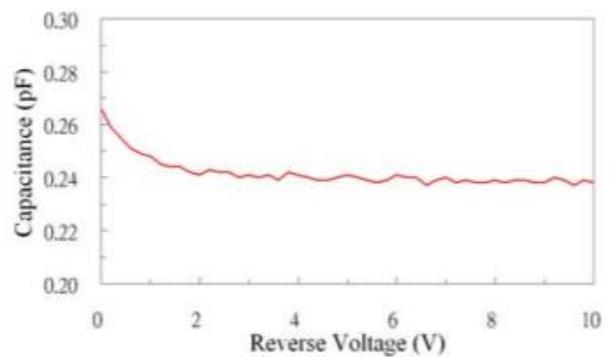
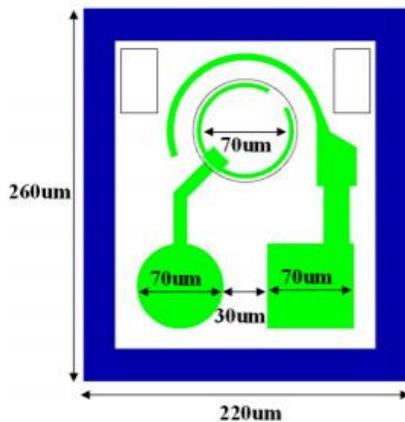


Fig 4. Typical C-V Curve



## Outline Diagram



- Chip size: 260µm x 220µm typical
- Chip thickness: 200µm ±12.5µm
- Sensitive area: Typical 70µm in diameter

Note: Specifications are subject to change without notice.