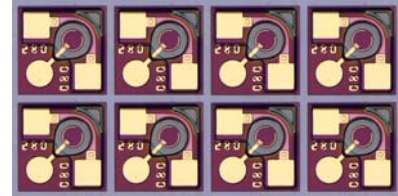


TPD-1C12-053

10Gbps InGaAs PIN photodiode chip

FEATURES:

- Optimized for fiber optic application
- High responsivity at 1310 nm/1550 nm
- Low capacitance and dark current



ELECTRO-OPTICAL CHARACTERISTICS:

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Active Diameter	Φ		50		μm	
Responsivity	R	0.9	1.1		A/W	$V_R=1.5\text{V}, \lambda=1550\text{nm @ } 25\text{C}$
		0.8	0.9			$V_R=1.5\text{V}, \lambda=1310\text{nm @ } 25\text{C}$
Dark Current	I_D		0.2	1	nA	$V_R=5\text{V}$
Breakdown Voltage	V_{BD}	25	40		V	$I_R=10\mu\text{A}$
Capacitance	C		0.27	0.3	pF	$V_R=1.5\text{V}, f=1\text{ MHz}$
			0.22			$V_R=5\text{V}, f=1\text{ MHz}$
Bandwidth	BW		10		GHz	$V_R=5\text{V}$

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	100	$^{\circ}\text{C}$	
Operating Temperature	-40	85	$^{\circ}\text{C}$	
Reverse Current		2	mA	
Forward Current		10	mA	
Reverse Voltage		20	V	
Optical Power		2	mW	

Fig. 1 Typical Dark Current and Forward Current

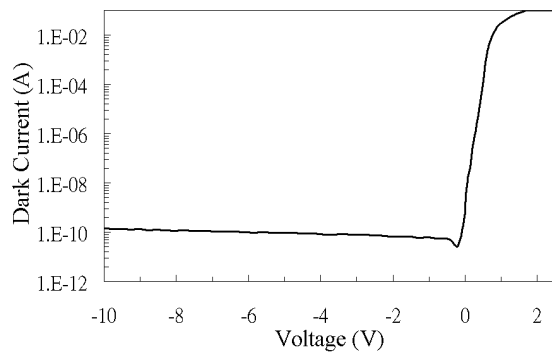


Fig. 2 Typical PhotoCurrent

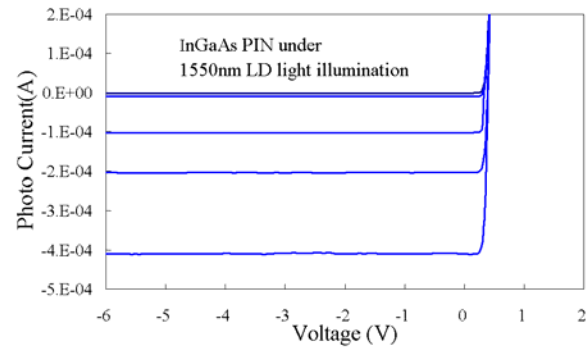


Fig 3 Typical Breakdown Curve

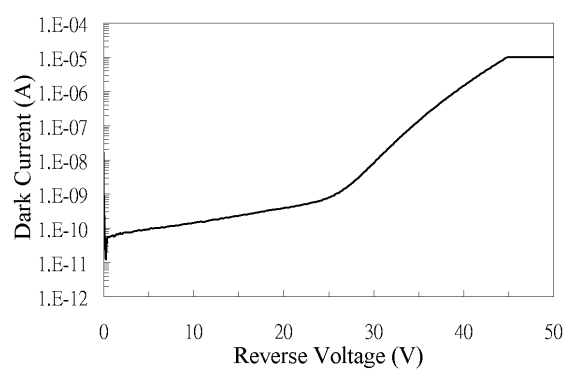
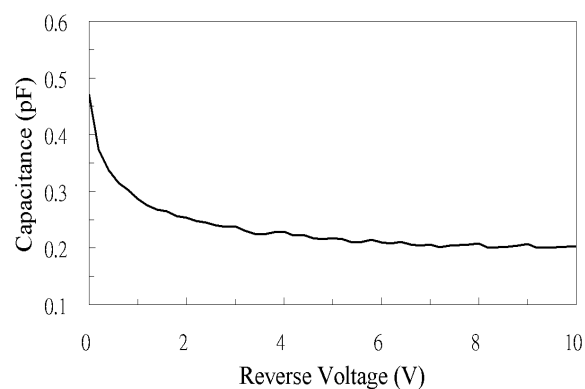
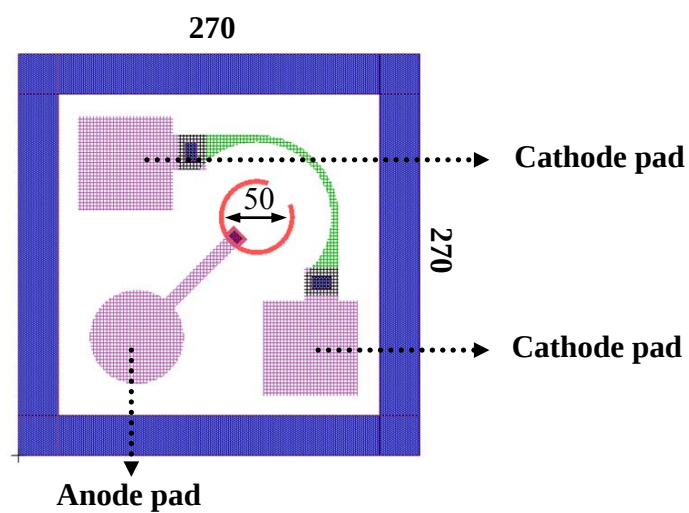


Fig 4 Typical C-V Curve



OUTLINE DIAGRAM:



- Chip size is typical 270x270 μm.
- Chip thickness is 150±12.5μm.
- Sensitive area is typical 50 μm in diameter.