

TPD-8D12-653

Non-hermetic 10Gbps GaAs PIN photodiode chip

Preliminary

FEATURES:

- High responsivity at 850nm.
- Optimized for fiber optic application.
- Low dark current and low capacitance.
- Planarized and Non-hermetic design.



ELECTRO-OPTICAL CHARACTERISTICS: (T=25°C)

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST 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	$V_R=1.5V$, $f=1\text{ MHz}$
			0.20	0.23		$V_R=5V$, $f=1\text{ MHz}$
Bandwidth	BW		10		GHz	$V_R=5V$

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	TEST CONDITIONS
Storage Temperature	-40	100	°C	
Operating Temperature	-40	85	°C	
Reverse Current		2	mA	T=25°C
Reverse Voltage		20	V	T=25°C
Forward Current		10	mA	T=25°C

Fig.1 Typical Dark Current and Forward Current

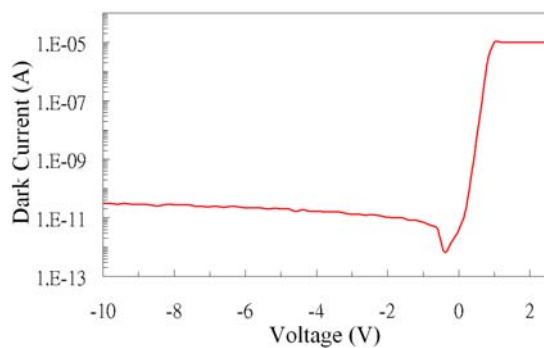


Fig.2 Typical Photo Current

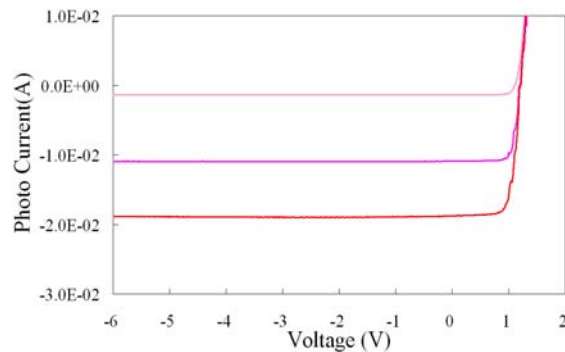


Fig. 3 Typical Breakdown Curve

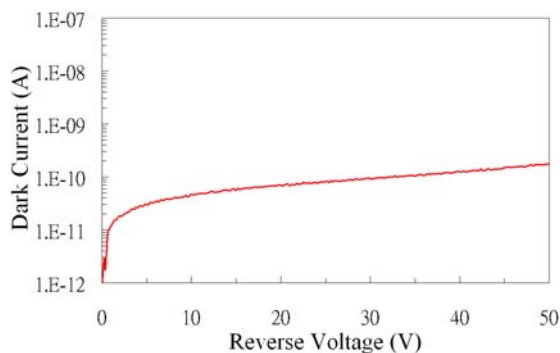
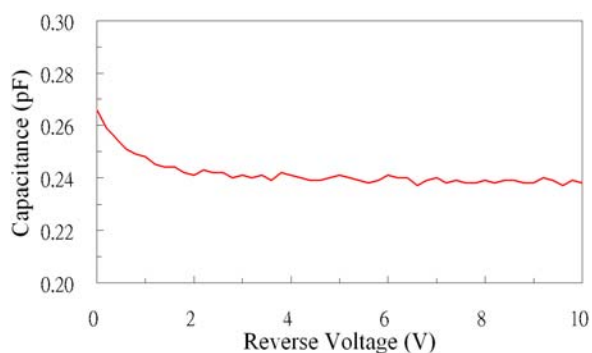
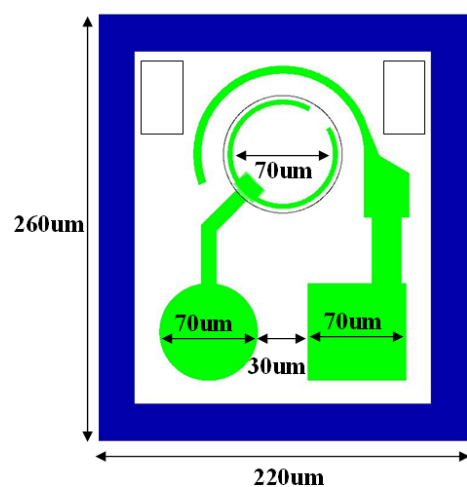


Fig. 4 Typical C-V Curve



OUTLINE DIAGRAM:



- Chip size is typical 260um×220um.
- Chip thickness is 200±12.5um
- Sensitive area is typical 70um in diameter.