

10Gbps InGaAs Photodiode

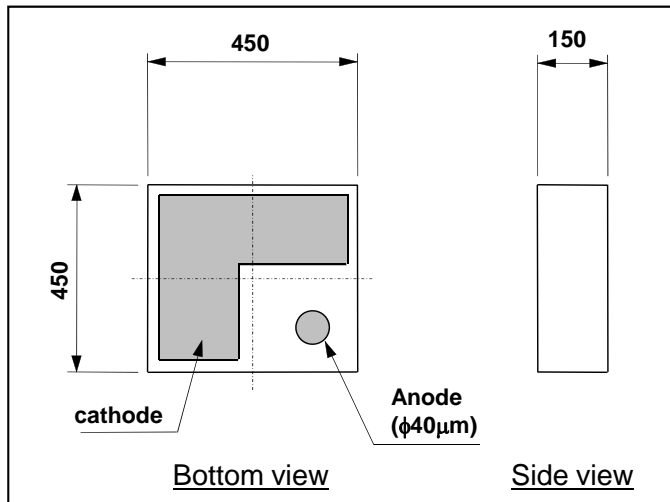
Features

- Back surface illuminated type
- Large active area ($\phi 45\mu\text{m}$)
- Low dark current
- High reliability
- Chip-on-carrier type is available

Applications

- Digital and analog optical communication
- Optical LAN
- OTDR

Dimensions (unit: μm)



Specifications

Absolute Maximum Ratings

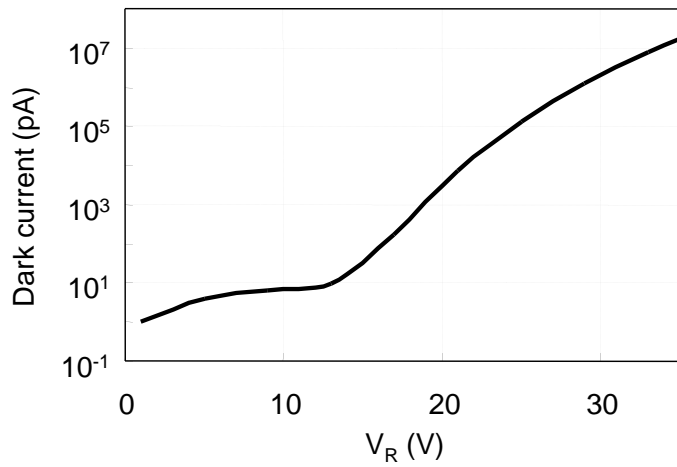
Parameter	Symbol	Value	Unit
Reverse voltage	V_R	10	V
Maximum Optical Power Input	$P_{i\text{max}}$	5	mW
Forward current	I_F	10	mA
Operating temperature	T_{opr}	-40 to +85	$^{\circ}\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^{\circ}\text{C}$

Electrical and Optical characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

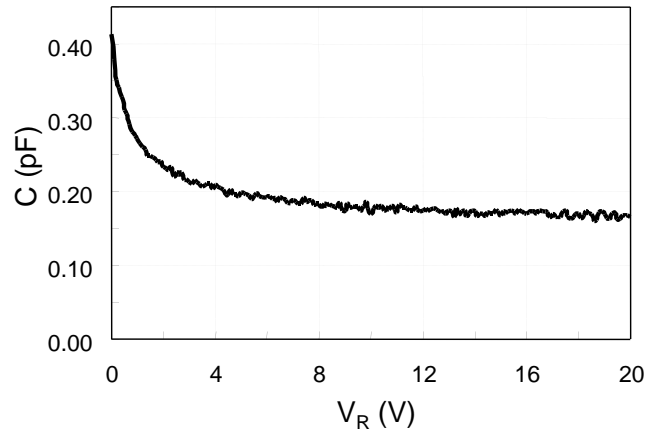
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	D	45			μm	
Bandwidth	BW	10	14		GHz	$P_i=-10\text{dBm}$, small signal modulation, $V_R=5\text{V}$
Responsivity	R	0.80	0.88		A/W	$\lambda=1310\text{nm}$, $V_R=5\text{V}$
		0.85	0.98			$\lambda=1550\text{nm}$, $V_R=5\text{V}$
Dark current	I_D		10	200	pA	$V_R=5\text{V}$
Chip capacitance	C_{chip}		0.17	0.35	pF	$V_R=5\text{V}$, $f=1\text{MHz}$

Specifications are subject to change without notice.

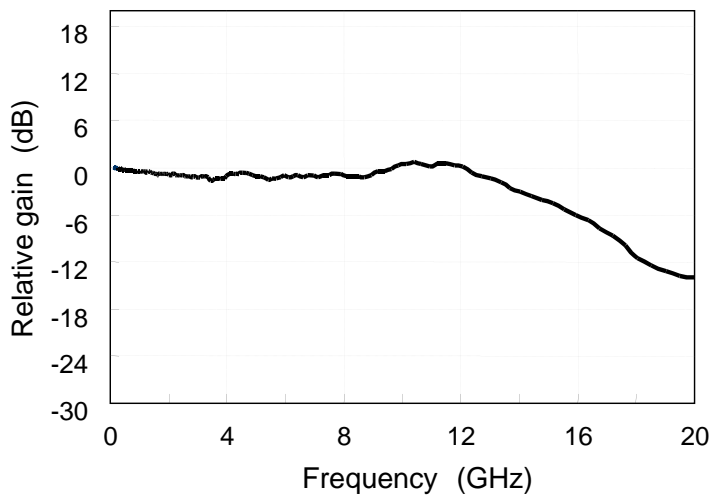
Dark current vs reverse voltage



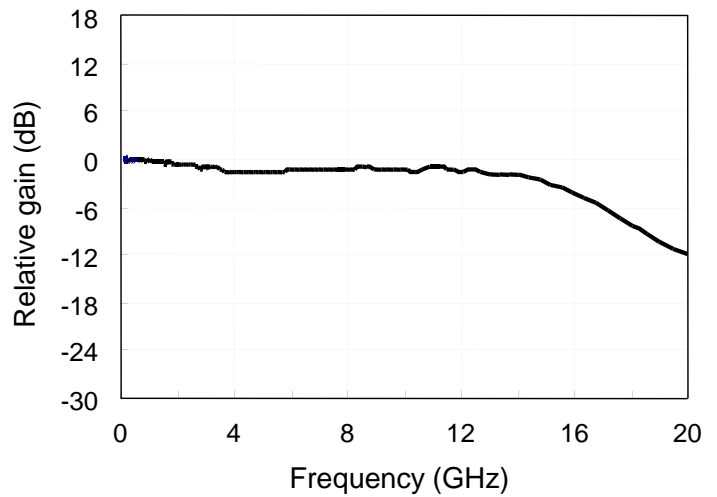
C-V characteristics (chip)



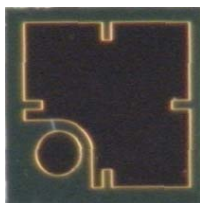
Frequency response (chip)



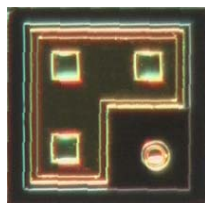
Frequency response w/ sub carrier



Top view



Bottom view



Chip-on-carrier type



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