

# 10Gbps InGaAs Photodiode

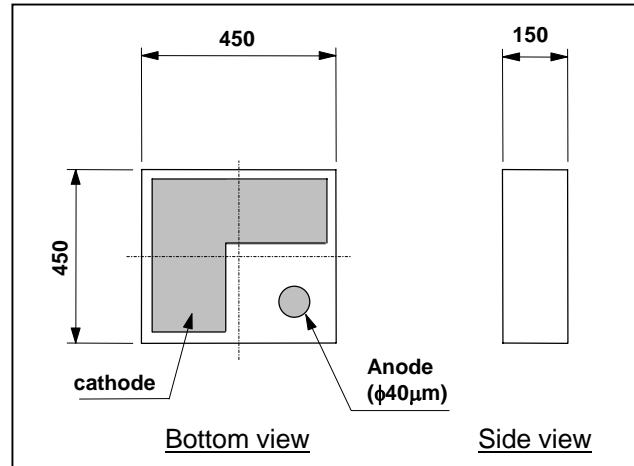
## Features

- 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:  $\mu\text{m}$ )



## Specifications

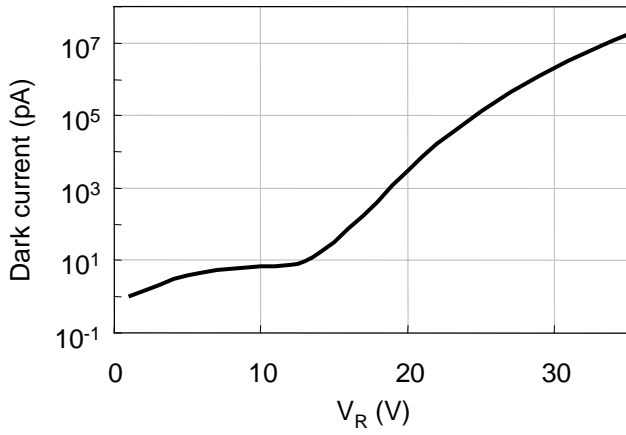
### Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Reverse voltage	$V_R$	10	V
Maximum Optical Power Input	$P_{i\ max}$	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	$^{\circ}\text{C}$

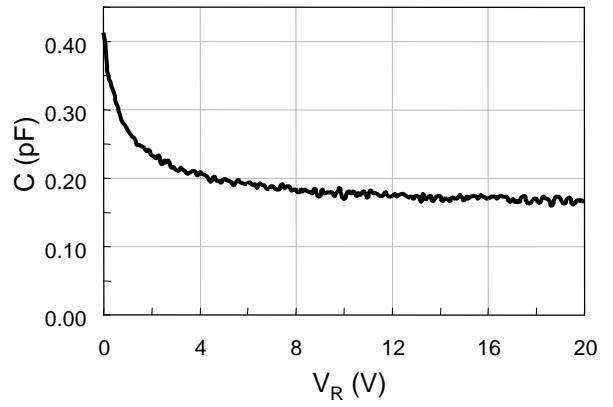
### Electrical and Optical characteristics ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	D	28			$\mu\text{m}$	
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	$V_R=5\text{V}$ , $f=1\text{MHz}$

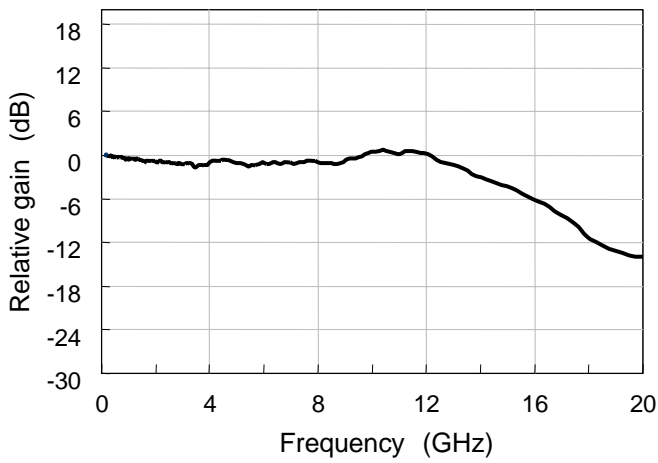
Dark current vs reverse voltage



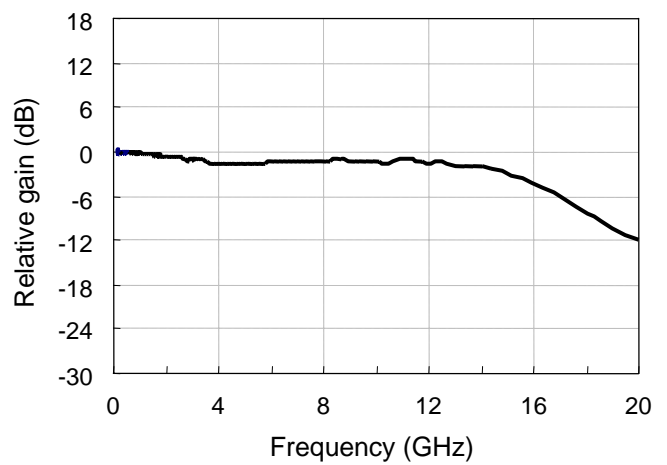
C-V characteristics (chip)



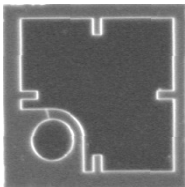
Frequency response (chip)



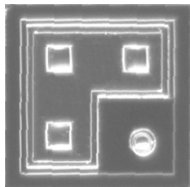
Frequency response w/ sub carrier



Top view



Bottom view



Chip-on-carrier type

