

High Sensitive InGaAs Photodiode

Features

- Low capacitance and high speed with a PIN structure
- Low dark current
- Low voltage operation
- High reliability
- Pigtail type is available as an option

Package drawings are seen in datasheet of 'Package Option for KPDE, KPDG, KPID Series.'

Applications

- Digital and analog optical communication
- Optical LAN
- OTDR

Specifications

Absolute Maximum Ratings

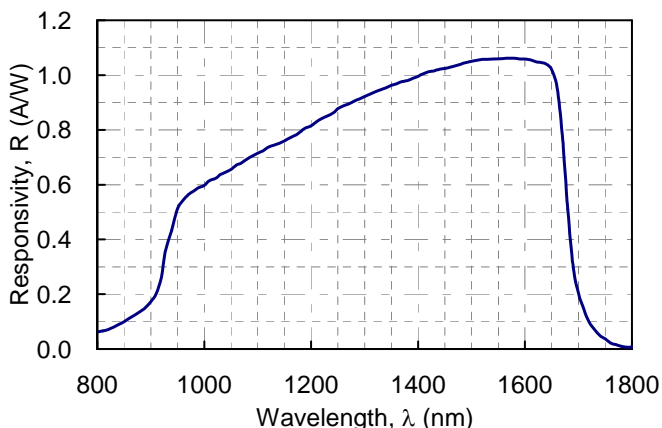
Parameter	Symbol	Value	Unit
Reverse voltage	V_R	20	V
Maximum optical power input	$P_{i\ max}$	10	mW
Forward current	I_F	10	mA
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C

Electrical and Optical characteristics (Ta=25°C unless otherwise noted)

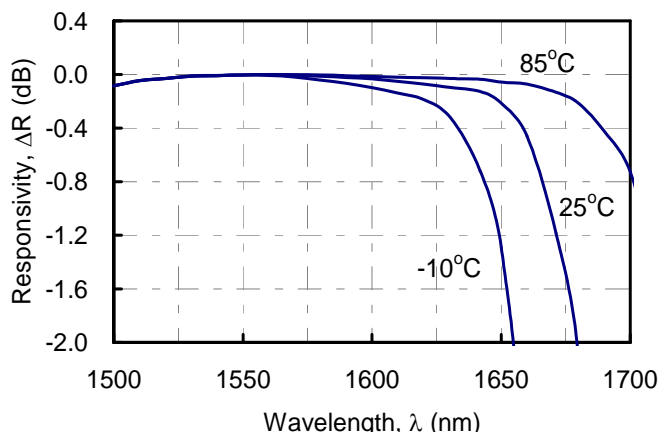
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	D	60			μm	
Bandwidth	BW		3.0		GHz	$P_i=-10\text{dBm}$, small signal modulation, $V_R=5\text{V}$
Responsivity	R	0.8	0.9		A/W	$\lambda=1310\text{nm}$, $V_R=5\text{V}$
		0.9	1.0			$\lambda=1550\text{nm}$, $V_R=5\text{V}$
Dark current	I_D		30	120	pA	$V_R=2\text{V}$
Chip capacitance	C_{chip}		0.45	0.60	pF	$V_R=5\text{V}$, $f=1\text{MHz}$
Total capacitance	C_t		0.75	0.90	pF	$V_R=5\text{V}$, $f=1\text{MHz}$
Responsivity uniformity	ΔR			0.5	dB	$\lambda=1530\text{-}1610\text{nm}$ $T_{opr}=-10\text{ to }+85^\circ\text{C}$

Specifications are subject to change without notice.

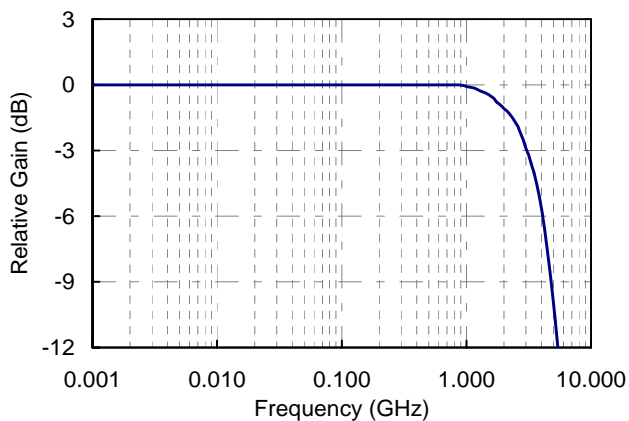
Spectral responsivity



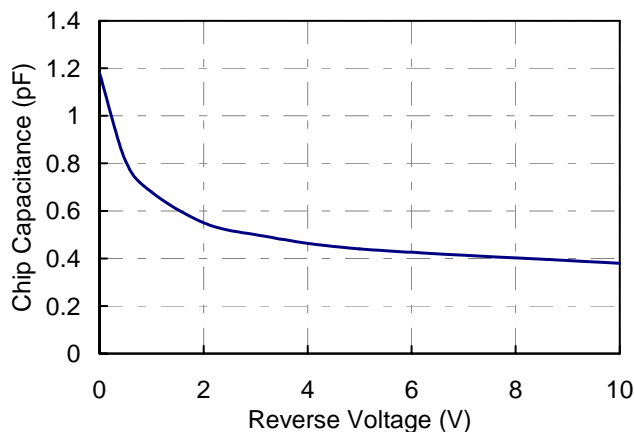
Uniformity of spectral responsivity



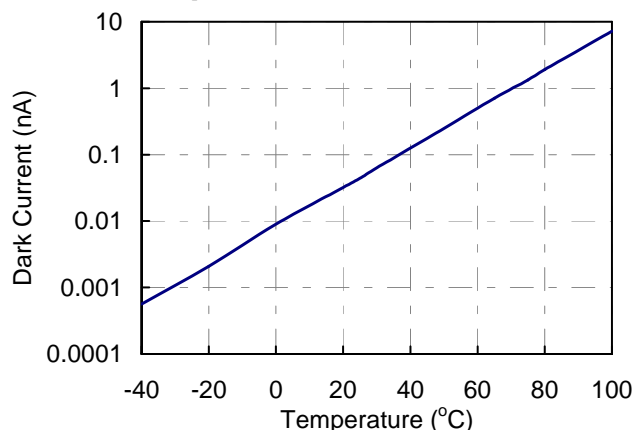
Frequency response



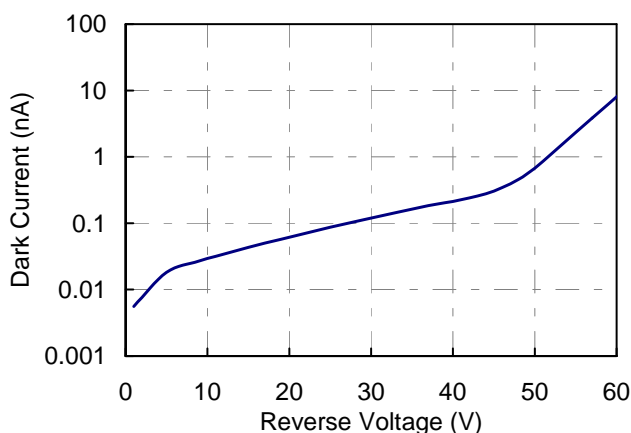
C-V characteristics



Dark current dependence on temperature



Dark current vs reverse voltage



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