

## Low Dark Current High Speed InGaAs Photodiode

### Features

- Low capacitance and high speed with a PIN structure
- Low dark current
- 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

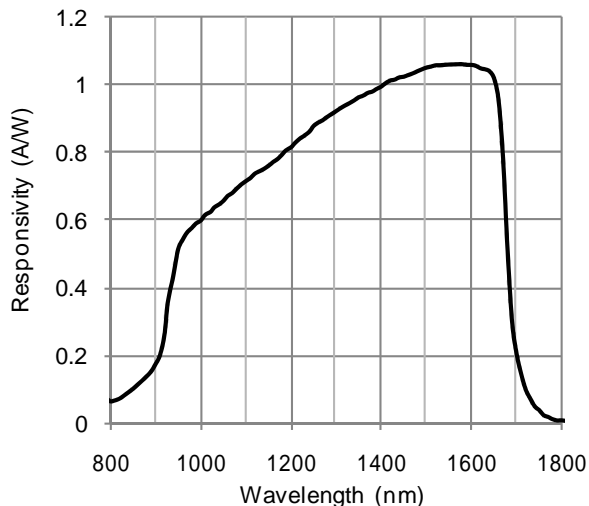
Parameter	Symbol	Value	Unit
Reverse voltage	$V_R$	20	V
Maximum optical power input	$P_{i\max}$	5	mW
Forward current	$I_F$	10	mA
Operating temperature	$T_{opr}$	-40 to +85	°C
Storage temperature	$T_{stg}$	-40 to +85	°C

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

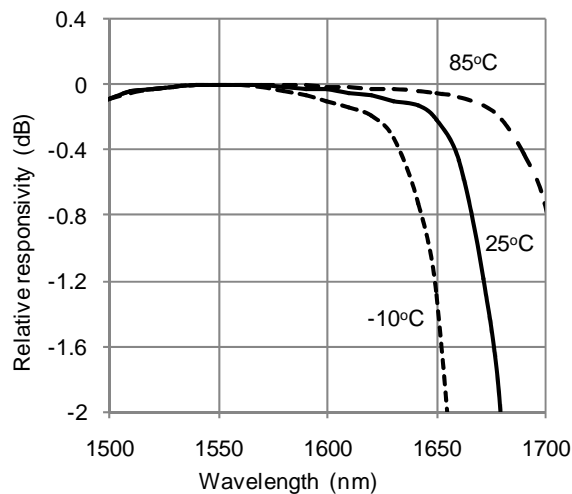
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	D	45			μm	
Bandwidth	BW		4.0		GHz	$P_i=-10\text{dBm}$ , small signal modulation, $V_R=5\text{V}$
Responsivity	R	0.8	0.9		A/W	$\lambda=1310\text{nm}$ , $V_R=5\text{V}$
		0.9	1.0			$\lambda=1550\text{nm}$ , $V_R=5\text{V}$
Dark current	$I_D$		20	80	pA	$V_R=5\text{V}$
Chip capacitance	$C_{chip}$		0.35	0.50	pF	$V_R=5\text{V}$ , $f=1\text{MHz}$
Total capacitance	$C_t$		0.55	0.80	pF	$V_R=5\text{V}$ , $f=1\text{MHz}$
Responsivity uniformity	$\Delta R$			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.

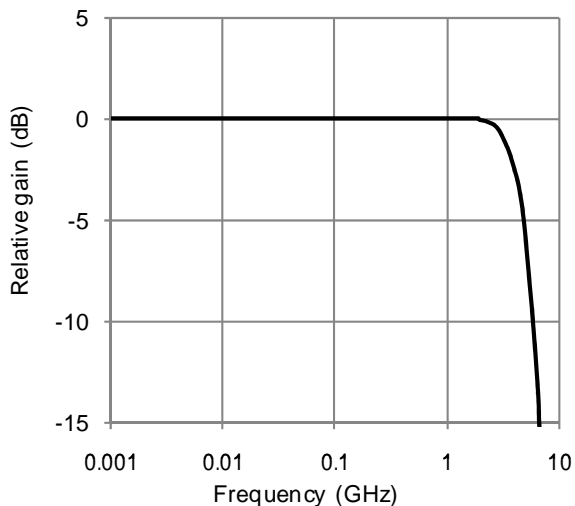
**Spectral Responsivity**



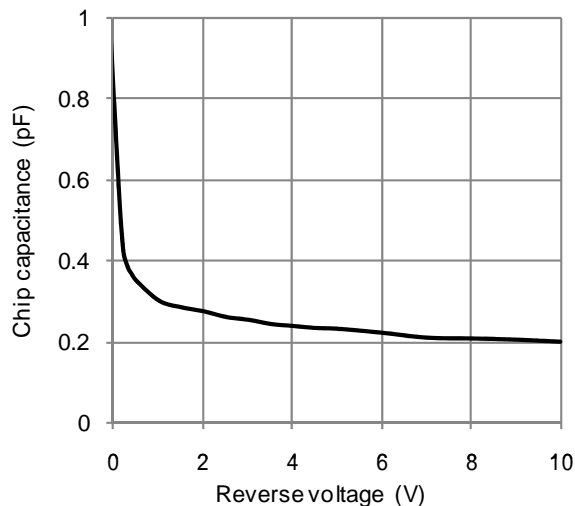
**Uniformity of spectral responsivity**



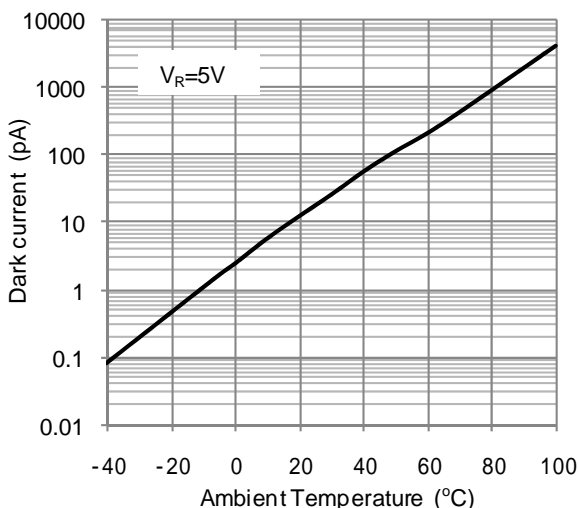
**Frequency response**



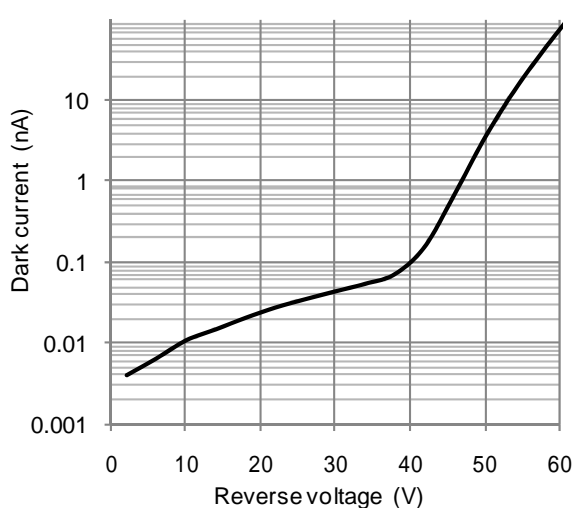
**C-V characteristics**



**Dark current - ambient temperature**



**Dark current - reverse voltage**



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