

High Speed InGaAs Analog Photodiode

Features

- Low capacitance and high speed with a PIN structure
- High linearity
- Pigtail type and LC-ROSA are available as an option

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

Applications

- Digital and analog optical communication
- Analog CATV
- Optical transponder and repeater

Specifications

Absolute Maximum Ratings

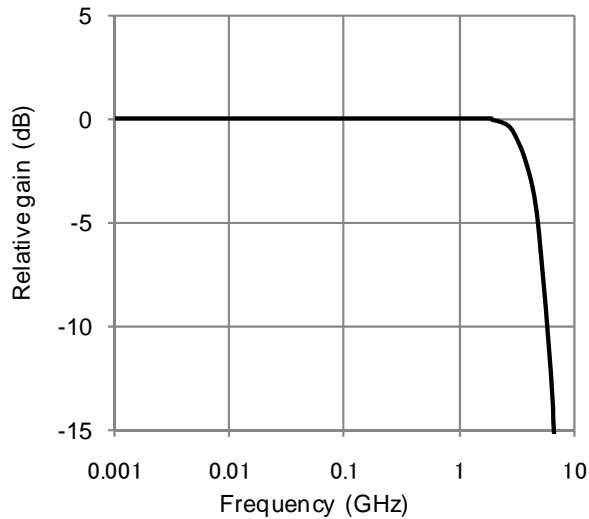
Parameter	Symbol	Value	Unit
Reverse voltage	V_R	15	V
Maximum optical power input	$P_{i\max}$	5	mW
Forward current	I_F	10	mA
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C

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

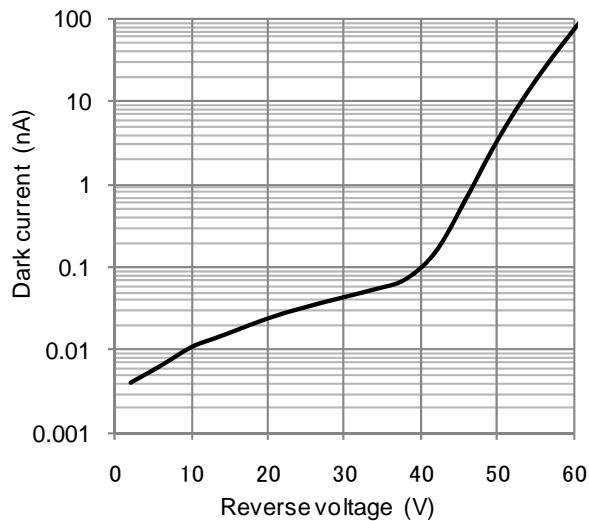
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	D	45			μm	
Bandwidth	BW		4.0		GHz	$P_i=-10\text{dBm}$, small signal modulation, Lead length <2mm, $V_R=5\text{V}$
Responsivity	R	0.80			A/W	$\lambda=1310\text{nm}$, $V_R=5\text{V}$
		0.85				$\lambda=1550\text{nm}$, $V_R=5\text{V}$
Second order inter-modulation distortion	IMD2			-70	dBc	Two tone two laser, 250MHz and 244MHz, OMI=71%, $P_i=0\text{dBm}$, $V_{CC}=5\text{V}$
Third order inter-modulation distortion	IMD3			-80	dBc	
Dark current	I_D		10	120	pA	$V_R=5\text{V}$
Chip capacitance	C_{chip}		0.30	0.50	pF	$V_R=5\text{V}$, $f=1\text{MHz}$
Total capacitance	C_t		0.60	1.10	pF	$V_R=5\text{V}$, $f=1\text{MHz}$

Specifications are subject to change without notice.

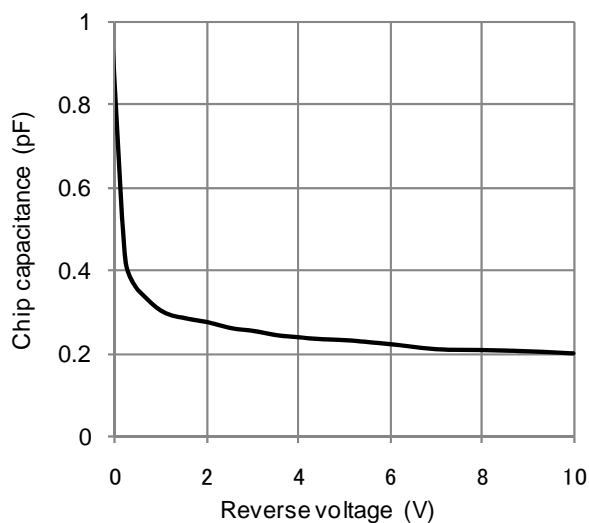
Frequency response



Dark current - reverse voltage



C-V characteristics



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