

InGaAs PD-TIA Receivers

KPDX1GK-H33

A high speed InGaAs PIN photodiode is integrated with a transimpedance preamplifier and bypass chip capacitors, and is encapsulated in a small TO-46 package.

Characteristics

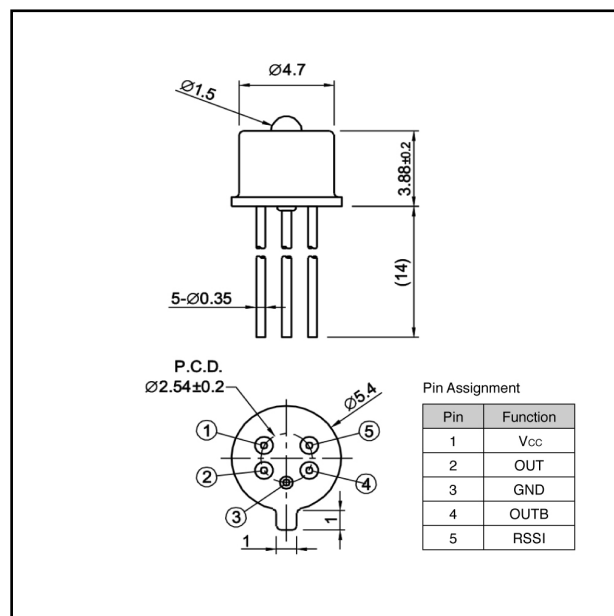
- High sensitivity -32dBm
- Low noise and high speed transimpedance amplifier built-in to meet OC-24
- 5 pin package available for an independent PD connection

Applications

- Optical communications
- Optical LAN
- OE converters

Package

- TO-CAN



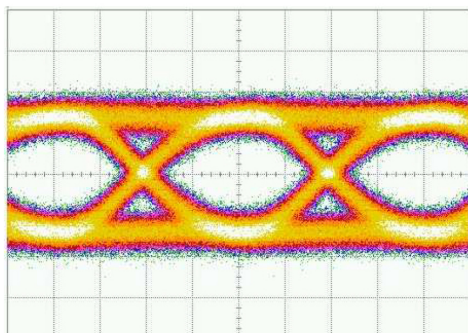
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Conditions
Supply voltage	V_{cc}	-0.5 to 6.5	V	-
Maximum optical power input	P_{imax}	4	mW	-
Operating temperature	T_{opr}	-40 to +85		-
Storage temperature	T_{stg}	-40 to +85		-

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

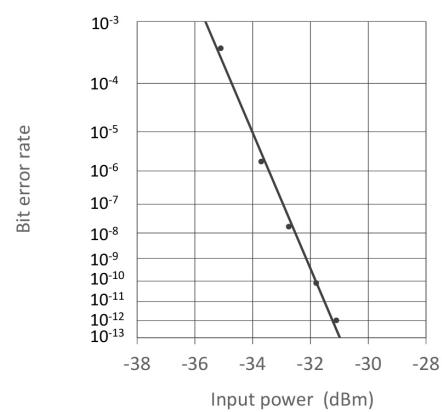
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Sensitive wavelength		900	-	1700	nm	-
Operating voltage	V_{op}	3	3.3	3.6	V	-
Supply current	I_{cc}	30	42	55	mA	-
Bit rate	BR	-	1.25	-	-	-
Bandwidth @-3dB	BW	-	0.86	-	GHz	$R_L=50$ $P_i=-10\text{dBm}$ Small signal modulation
Optical sensitivity	P_{min}	-	-32	-	dBm	Single ended BER= 10^{-10}
Output impedance	Z_o	40	50	60		single ended
Differential output voltage	V_o	320	400	480	mVpp	Differential $R_L=100$
Photo-electric conversion efficiency	PE	-	22.5	-	kV/W	Single ended $R_L=50$

Eye Diagram



Hor. 200ps/div, Ver. 10mV/div, $P_i = -30\text{dBm}$,
BR=1.244Gbps, Single ended

Bit Error Rate



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