

InGaAs APD-TIA Receivers

KPDXA10G-XMD

Characteristics

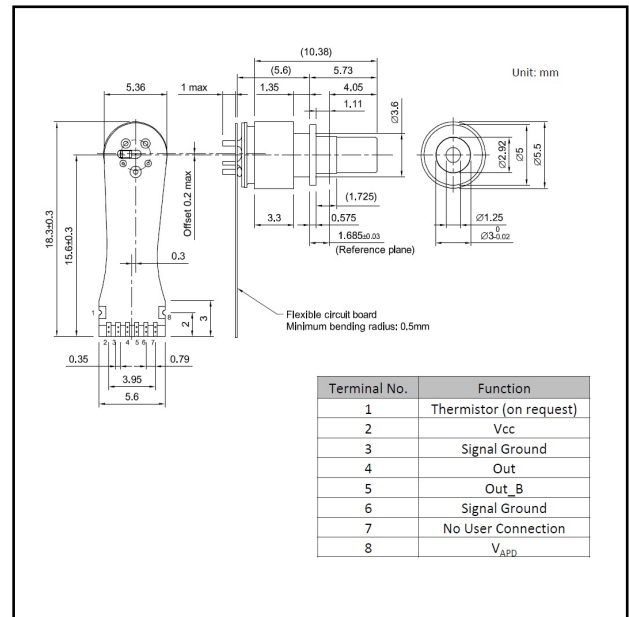
- High sensitivity (-28dBm)
- Low noise high speed TIA
- 101bps (OC-192)
- XMD standard compliant product

Applications

- Optical communications
- Optical LAN
- OE converters

Package

- LC-ROSA



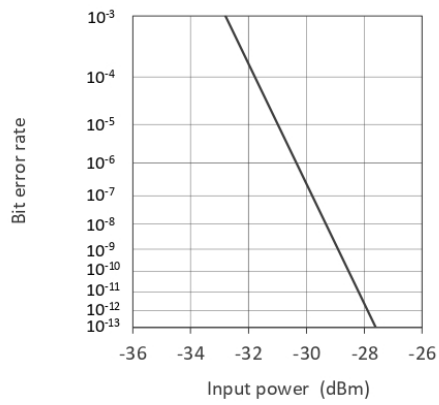
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Conditions
Power supply	V_{cc}	0 to 4.0	V	-
Maximum optical power input	P_{imax}	0.1	mW	-
Operating temperature	T_{opr}	-40 to +85		-
Storage temperature	T_{stg}	-40 to +85		-

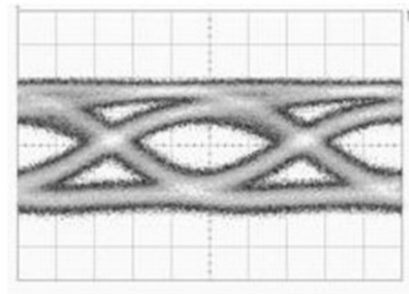
Electrical and Optical characteristics ($T_a=25$ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Sensitive wavelength		900	-	1700	nm	-
Responsivity	R	0.7	0.85	-	A/W	$\lambda=1550\text{nm}$ M=1
Dark current	I_D	-	25	100	nA	$V_R=V_B \times 0.9$
Breakdown voltage	V_{BR}	25	30	40	V	$I_D=10\mu\text{A}$
Operating voltage	V_{op}	3.1	3.3	3.5	V	-
Supply current	V_{BR} T	-	35	48	mA	$V_{cc}=3.1$ to 3.5V
Bit rate	B_R	-	10G	-	bps	-
Bandwidth @-3dB	BW	-	8	-	GHz	$P_i=-20\text{dBm}$, M=10
Optical sensitivity	P_{min}	-25	-28	-	dBm	BER= 10^{-12} with $2^{23}-1$ PRBS at 10Gbps
Differential output voltage	V_O	-	300	-	mVpp	Differential $R_L=100$
Transimpedance	Z_t	1.5	2	2.5	k	$P_i=-28\text{dBm}$ M=10 $R_L=50$ differential

Bit Error Rate



Eye Diagram



Hor.:20ps/div, Ver.:30mV/div
Pi=-28dBm, BR=10Gbps, single ended

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