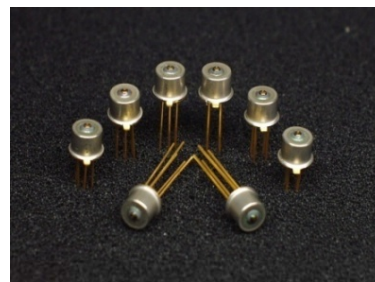


High sensitivity 10Gbps APD-TIA Receiver

Features

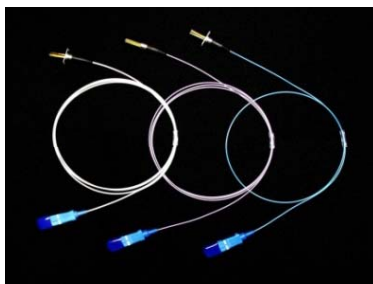
- High sensitivity -28dBm
- Low noise and high speed trans-impedance amplifier built-in to meet OC-192
- Products available for OC-192, 10Gb/s
- 6 pin package available for an independent APD connection
- Pigtail type and LC-ROSA are available as an option



CAN type

Applications

- Optical communication
- Optical LAN
- OE converters



Pigtail KPDXA10G-T



ROSA KPDXA10G-LRS

Specifications

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Supply voltage	V_{cc}	0 to +4.0	V
Maximum optical power input	$P_{i\max}$	5	mW
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
Operating voltage	V_{op}	3.0	3.3	3.6	V	
Supply current	I_{cc}	-	50	68	mA	$V_{cc} = 3.1$ to $3.5V$
Bit rate	BR	-	10	-	Gbps	
Bandwidth @-3dB	BW	-	7.5	-	GHz	$P_i = -20dBm$, $M=10$
Optical sensitivity	P_{min}	-25	-28	-	dBm	BER= 10^{-12} with $2^{23}-1$ PRBS at 10Gbps
Output impedance	Z_o	40	50	60	Ω	single ended
Transimpedance	Z_t	1.6	2.0	2.4	$k\Omega$	$P_i = -20dBm$ $R_L = 50\Omega$, differential
Responsivity	R	0.70	0.75	-	A/W	$\lambda = 1310nm$, $M=1$
		0.70	0.80	-		$\lambda = 1550nm$, $M=1$
Breakdown voltage	V_B	25	30	40	V	$I_D = 10\mu A$
Dark current	I_D	-	25	100	nA	$V_B \times 0.9$

Specifications are subject to change without notice.

Specifications of Pigtail Type and LC ROSA Type

A standard single mode fiber is coupled to a hermetically sealed APD-TIA module. A multimode fiber pigtail is available as an option. The standard LC ROSA provides an efficient coupling with a single mode fiber with a lens.

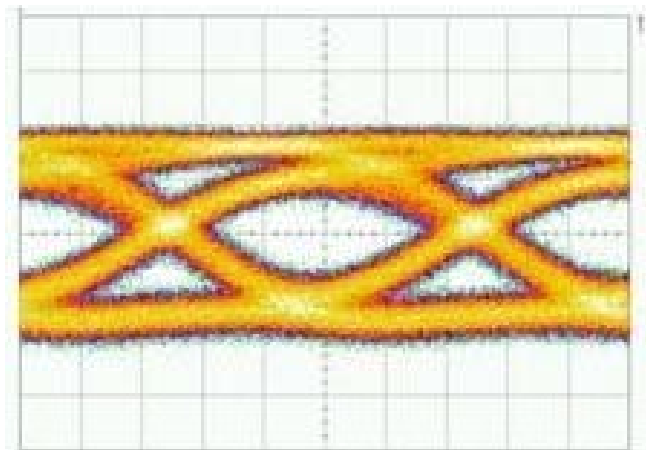
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Electrical parameters	See maximum ratings of respective APD-TIA devices		
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)

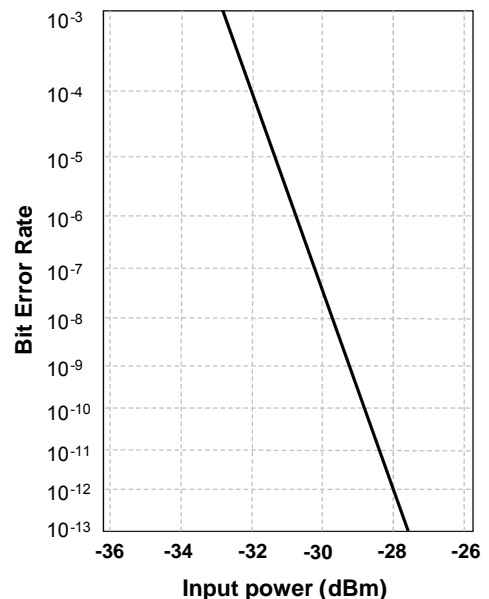
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical reflection	ORL	27			dB	λ= 1310nm
Electrical parameters	See electric performances of respective APD-TIA devices (only for pigtail type)					
Fiber type	Single mode fiber (non-flammable material, only for pigtail type)					
Fiber connector type	SC connector					only for pigtail type
Mode field diameter		8.5	9.5	10.5	μm	
Clad diameter		123	125	127	μm	
Differential index		0.26	0.30	0.34	%	
Fiber diameter		0.8	0.9	1.0	mm	
Fiber length		1000	1100	1200	mm	
Minimum bending radius			20		mm	

Eye diagram



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

KPDXA10G Bit error rate



Specifications are subject to change without notice.

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