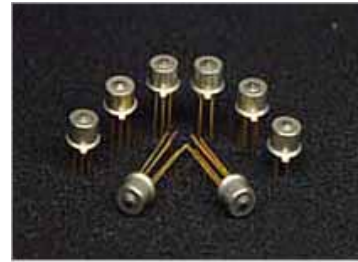


## 1.25Gbps InGaAs PIN PD-TIA

### Features

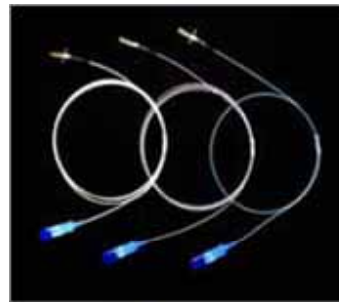
- Low noise and high speed trans-impedance amplifier built-in to meet OC-24
- Products available for OC-24, 1.25Gb/s
- Low operating voltage of 3.3V
- AGC circuit built-in
- 5 pin package available for an independent PD connection
- Pigtail type and LC-ROSA are available as an option



Can Type

### Applications

- Optical communication
- Optical LAN
- OE converters



Pigtail KPDX1G-T



KPDX1G-LRS

### Specifications

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

Parameter	Symbol	Value	Unit
Maximum optical power input	$P_{i\ max}$	3	mW
Supply voltage	$V_{cc}$	0 to +4.5	V
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	$V_{op}$	+3.3 ± 7.5%			V	
Supply current	$I_{cc}$		30	42	mA	
Bit rate	BR		1.25		Gbps	
Bandwidth @-3dB	BW		800		MHz	$R_L=500\Omega$ , $P_i=-10\text{dBm}$ , small signal modulation
Optical sensitivity	$P_{min}$		-28		dBm	differential, BER=10 <sup>-10</sup>
Output impedance	$Z_o$		50		Ω	single ended
Differential output voltage	$V_o$		600		mVpp	$R_L=500\Omega$
Noise equivalent power	NEP			246	nWrms	
Photo-electric conversion efficiency	$\eta_{PE}$	4.0	6.8		kV/W	single ended, $R_L>500\Omega$

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 PD-TIA module. A multimode fiber pigtail is available as an option. A plastic LC ROSA provides an efficient coupling with a single or multi mode fiber with a stub.

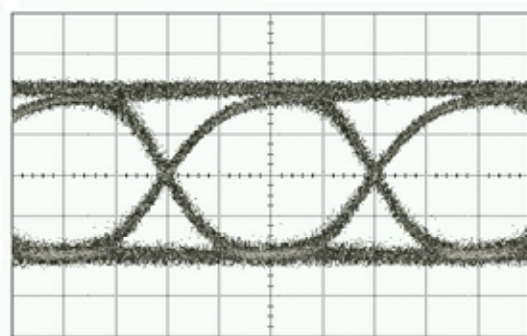
### Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Electrical parameters	See maximum ratings of respective PD-TIA devices		
Operating temperature	T <sub>opr</sub>	-40 to +85	°C
Storage temperature	T <sub>stg</sub>	-40 to +85	°C

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

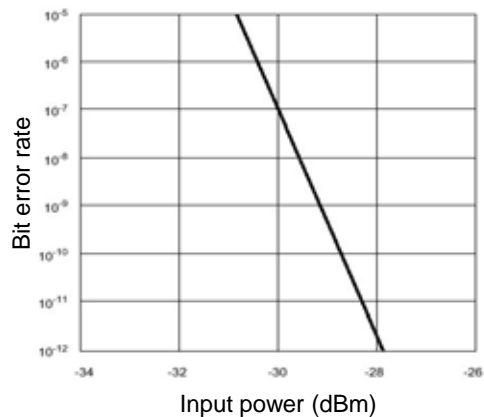
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical reflection	ORL	27			dB	λ= 1310nm
Electrical parameters	See electric performances of respective PD-TIA devices (only for pigtail type)					
Fiber type	Single mode fiber (non-flammable material, only for pigtail type)					
Fiber connector type	SC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

Eye Diagram



Hor.: 80mV/div, Ver.: 200ps/div, Pin=-3dBm, BR: 1.244Gbps

KPDX1G Bit Error Rate



Specifications are subject to change without notice.

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