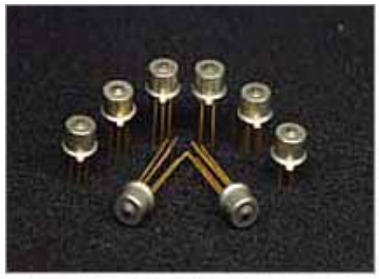
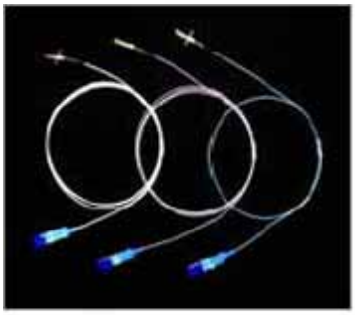
156Mbps InGaAs PD-TIA Receiver



Can Type



Pigtail KPDX150MB-T

KPDX150MB-LRS

Features

- Low noise and high gain transimpedance amplifier built-in to meet OC-3
- 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

Applications

- Optical communication
- Optical LAN
- OE converters

Specifications

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

Parameter	Symbol	Value	Unit
Maximum optical power input	$P_{i\,max}$	4	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±10%		V	
Supply current	I_{cc}	12	22	32	mA	
Bit rate	BR		156		Mbps	
Bandwidth @-3dB	BW	110	140		MHz	R_L=50Ω, Pi=-10dBm, small signal modulation
Optical sensitivity	P_{min}		-39		dBm	differential, BER=10^{-10}
Output impedance	Z_o	25	40	100	Ω	single ended
Differential output voltage	V_o			800	mVpp	R_L>500Ω
Noise equivalent power	NEP			31	nWrms	
Photo-electric conversion efficiency	η_{PE}	20.8	26.0		kV/W	single ended, R_L>500Ω

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.

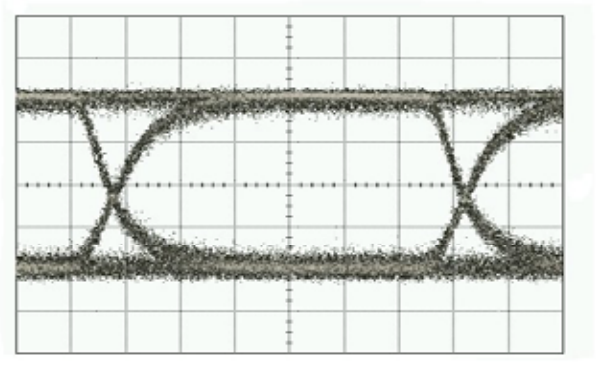
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Electrical parameters	See maximum ratings of respective PD-TIA devices		
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C

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

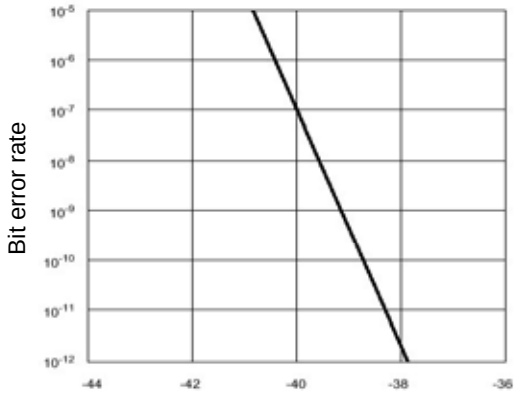
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical reflection	ORL	27			dB	λ= 1310nm
Electrical parameters	See electric performances of respective PD-TIA devices (only for pigtail type)					
Fiber type	Single mode fiber (non-flammable material, only for pigtail type)					
Fiber connector type	SC 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.: 30mV/div, Ver.: 1ns/div, Pi=-3dBm, BR=155Mbps

KPDX150MB Bit Error Rate



Specifications are subject to change without notice.

Contacts: www.kyosemi.co.jp / info@kyosemi.co.jp

Kansai Sales Office: 949-2 Ebisu-cho, Fushimi-ku, Kyoto, 612-8201 Japan Tel: +81 75 605 7311 Fax: +81 75 605 7312 (Overseas Sales Dept.)
Tokyo Sales Office: 24th Sky Building, 2nd Floor, 1-34-3 Shinjuku, Shinjuku-ku, Tokyo 160-0022 Japan Tel: +81 3 5312 5360 Fax: +81 3 5312 5367
Eniwa Operation: 385-31 Toiso, Eniwa-shi, Hokkaido 061-1405 Japan Tel: +81 123 34 3111 Fax: +81 123 34 2110
Kyosemi Opto America Corp: 3003 Bunker Hill Lane, Suite 102, Santa Clara, CA 95054 USA Tel: +1 408 492 1486 Fax: +1 408 492 9843

www.kyosemi-opto.com