

Features

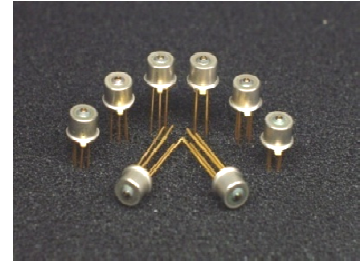
- High sensitivity -32dBm
- Low noise and high speed transimpedance amplifier built-in to meet OC-24
- 5 pin package available for an independent PD connection

Applications

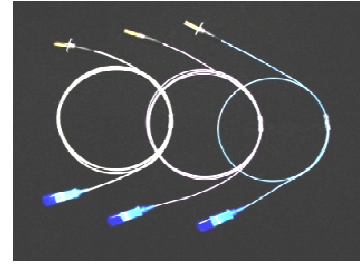
- Optical communications
- Optical LAN
- OE converters

Description

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. A ball lens cap with AR coating is hermetically sealed to provide an efficient coupling with a single mode fiber. Pigtail type and LC-ROSA type are available as an option.



CAN type



Pigtail type

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Note
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	°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	Test Condition
Operating voltage	V_{op}	3.0	3.3	3.6	V	
Supply current	I_{CC}	30	42	55	mA	
Bit rate	BR	-	1.25	-	Gbps	-
Bandwidth @-3dB	BW	-	0.86	-	GHz	$R_L=50\Omega$, $P_i=-10dBm$, Small signal modulation
Optical sensitivity	P_{min}	-	-32	-	dBm	Differential, BER=10 ⁻¹⁰
Output impedance	Z_O	40	50	60	Ω	Single ended
Differential output voltage	V_O	320	400	480	mVpp	Differential, $R_L=100\Omega$
Photo-electric conversion efficiency	η_{PE}	-	22.5	-	kV/W	Single ended, $R_L>50\Omega$

Specifications for Pigtail Type and LC ROSA type

A standard single mode fiber is coupled to a hermetically sealed PD-TIA module.

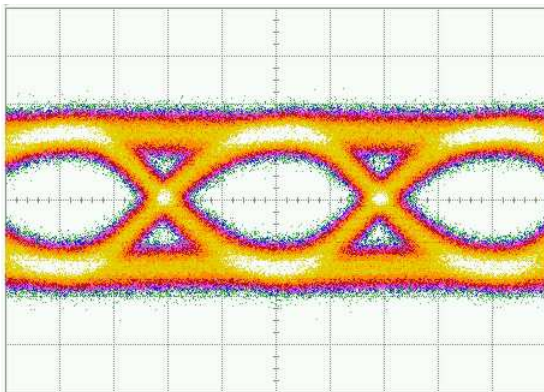
A multimode fiber pigtail is also available as an option.

The standard LC ROSA provides an efficient coupling with a single mode fiber with a lens.

Electrical and Optical Characteristics (Ta=25°C unless otherwise noted, *only for pigtail type)

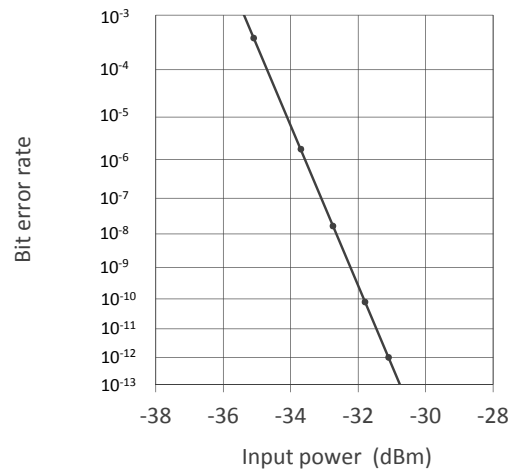
Parameter	Symbol	Specification	Unit	Test Condition
Optical reflection	ORL	27 min.	dB	$\lambda=1310\text{nm}$
Electrical parameters	-	See electric performances of PD-TIA device	-	
Fiber type *	-	Single mode fiber	-	
Fiber connector type *	-	SC connector	-	
Mode field diameter *	-	9.5 ± 1	μm	
Clad diameter *	-	125 ± 2	μm	
Differential index *	-	0.3 ± 0.04	%	
Fiber diameter *	-	0.9 ± 0.1	mm	
Fiber length *	-	1100 ± 100	mm	
Minimum bending radius *	-	20	mm	

Eye Diagram



Hor. 200ps/div, Ver. 10mV/div, Pi=-30dBm,
BR=1.244Gbps, Single ended

Bit Error Rate



- Specifications , characteristics, data, materials, structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.
- Products listed in this datasheet comply with the RoHS Directive (EU2002/95/EC).

Opto-technologies for the Future



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