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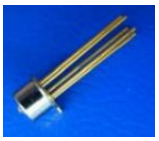
PDT-A13P5-10GA3
10Gbps InGaAs PIN plus Pre-Amplifier Photodiode in TO-46 Package

Overview



The Lasermate PDT-A13P5-10GA3 is a high-speed, high sensitivity 10Gb/s InGaAs photodetector integrated with a transimpedance amplifier (TIA) in a 5-pin TO-46 package with long cap lens, specifically designed for 1310nm/1550nm band optical fiber communications.

Features

- 1310nm InGaAs PINTIA 5 pin TO
- Industry standard TO-46 package with long cap lens
- Photocurrent monitoring available
- Single power supply +3.3V

Applications

- Optimized for fiber optic application
- Design for long wavelength 1.25Gbps to 10.3125Gbps applications

Specifications

Electro-Optical Characteristics (Typical values are at +3.3V @ 25°C)							
Parameters		Symbol	Min.	Typ.	Max.	Unit	Conditions
Power Supply		V_{CC}	3.0		3.6	V	
Supply Current		I_{CC}			62	mA	No loads
Differential Responsivity		R_d	2.8		6.8	mV/uW	λ=1310nm, R_{load}=100ohm, P=-18dBm
Single Ended Responsivity		R_s	1.4		3.4	mV/uW	λ=1310nm, R_{load}=50ohm, P=-18dBm
TIA RSSI	Slope		0.9	1.0	1.1	mA/mA	
	Offset		0	40	100	nA	
	Linearity Limit				1.6	mA	
Small-Signal Bandwidth		BW	7.0			GHz	P=-18dBm (1)
Low-Frequency Cut Off		LF			70	kHz	
Rise/Fall Time (20-80%)		tr/tf			50	ps	P=-18dBm, λ=1310nm (1)
Saturation Power		P_{sat}	0			dBm	
Single Ended Output Impedance		R_O		50		ohm	
Wavelength		λ	1260		1620	nm	
Sensitivity					-15.5	dBm	λ=1310nm, @10.3125Gbps (1), PRBS31, ER=7dB, BER=10^{-12}

Notes:

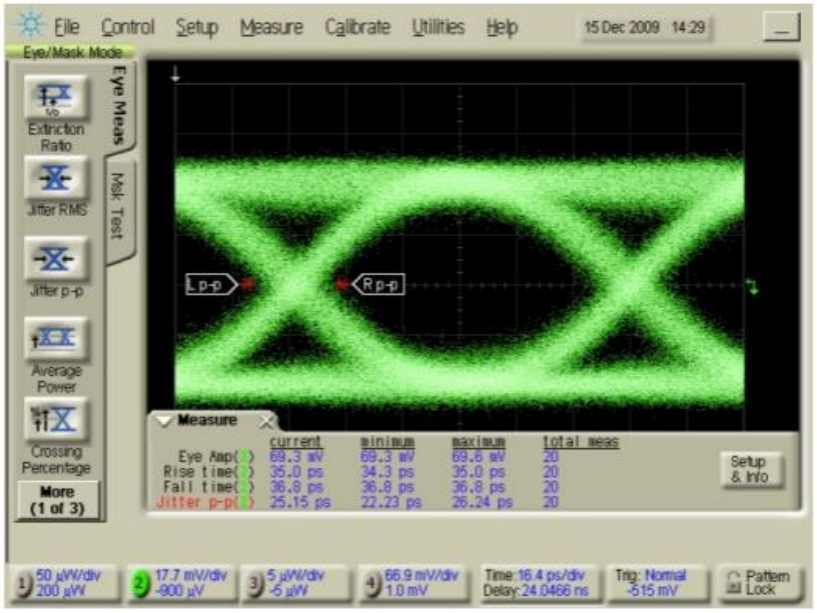
1. The spec and tested data are subject to ROSM level (flexible circuit attached) measurement.
2. The above specifications are subject to change without notice.

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	-40	85	°C	
Lead Solder Temperature		260	°C	10 seconds

Typical Characteristics

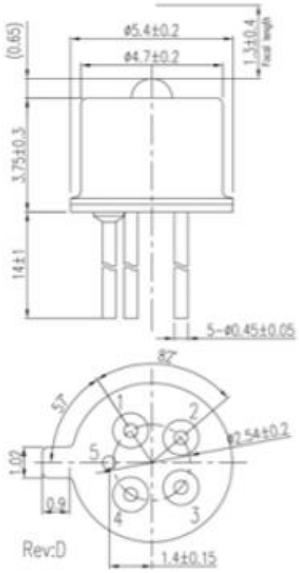
Eye Diagram

R_{load} = 50ohm, P = -18dBm@10.3125Gbps, 1310nm, PRBS 31(1)



tr=35.0ps, tf=36.8ps, Jitter p-p=25.15ps

Outline Dimensions (unit: mm)



Pinout:

1. Dout
2. Vcc
3. Isource
4. $\overline{\text{Dout}}$
5. Gnd

Additional Notes

1. The spec and tested data are subject to ROSM level (flexible circuit attached) measurement.
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