



# PDT-A13P4-1GE3

## 1.25Gbps InGaAs PIN Photodiode with AGC Pre-Amplifier



### Overview

The Lasermate PDT-A13P4-1GE3 is a high-speed InGaAs PIN photodiode integrated with an Automatic Gain Control (AGC) pre-amplifier, optimized for long wavelength fiber optic communication at 1.25Gbps. Packaged in an industry-standard TO-46 with a short cap lens and tab-less design, it operates efficiently with a single +3.3V power supply.

### Features

- Industry-standard TO-46 package with short cap lens and tab-less design
- Optimized for fiber optic applications at long wavelengths
- Supports 1.25Gbps data rate communication
- Integrated AGC pre-amplifier for stable and reliable signal output
- Single +3.3V power supply operation

### Applications

- Fiber optic transceivers
- Optical communication systems at 1.25Gbps

### Specifications

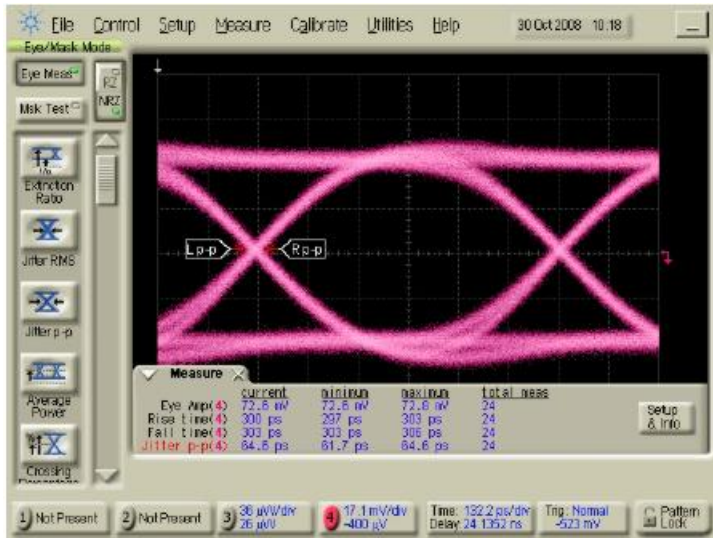
Electro-Optical Characteristics (Typical values are at + 3.3V@25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Power Supply	V <sub>CC</sub>	3.0	3.3	3.6	V	
Supply Current	I <sub>CC</sub>		28	35	mA	No loads
Differential Responsivity	R <sub>d</sub>	13	18	28	mV/uW	λ=1310nm, R <sub>load</sub> =100ohm, P=-24dBm
Single Ended Responsivity	R <sub>s</sub>	6.5	9	14	mV/uW	λ=1310nm, R <sub>load</sub> =50ohm, P=-24dBm
Small-Signal Bandwidth	BW	730			MHz	
Low-Frequency Cut Off	LF			115	kHz	
Rise/Fall Time (20-80%)	tr/tf			400	ps	P=-24dBm, λ=1310nm
Saturation Power	P <sub>sat</sub>	0			dBm	
Single Ended Output Impedance	R <sub>O</sub>		50		ohm	
Wavelength	λ	1260		1620	nm	
Sensitivity				-28	dBm	λ=1310nm, @1244.16Mbps, PRBS7, ER=10dB, BER=10 <sup>-10</sup>

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

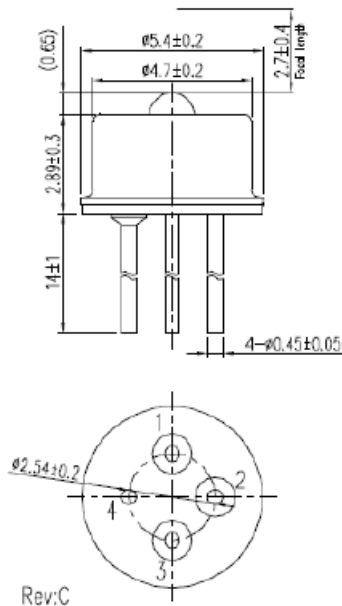
Eye Diagram

R<sub>load</sub>=50ohm, P=-24dBm@1244.16Mbps, 1310nm, PRBS 7



tr=300ps, tf=303ps, Jitter p-p=64.6ps

Outline Dimensions (unit: mm)



- Pinout:**
1. Vcc
  2. Dout
  3. Dout
  4. Gnd

Note: Specifications are subject to change without notice.