



## PDT-A85P4-2GA3

### 2.5Gbps GaAs PIN Photodiode with Pre-Amplifier

#### Overview

The Lasermate PDT-A85P4-2GA3 is a high-speed 850nm GaAs PIN photodiode integrated with a transimpedance pre-amplifier (TIA) in a 4-pin TO-46 package. It supports fiber optic data transmission at 2.5Gbps and is optimized for short-wavelength 850nm fiber optic applications.



#### Features

- 850nm GaAs PIN photodiode with integrated TIA
- 4-pin TO-46 package with cap lens
- Optimized for fiber optic communication
- Suitable for 2.5Gbps short-wavelength applications
- Operates with a single +3.3V power supply

#### Applications

- High-speed fiber optic communication
- Short-wavelength 850nm data transmission

#### Specifications

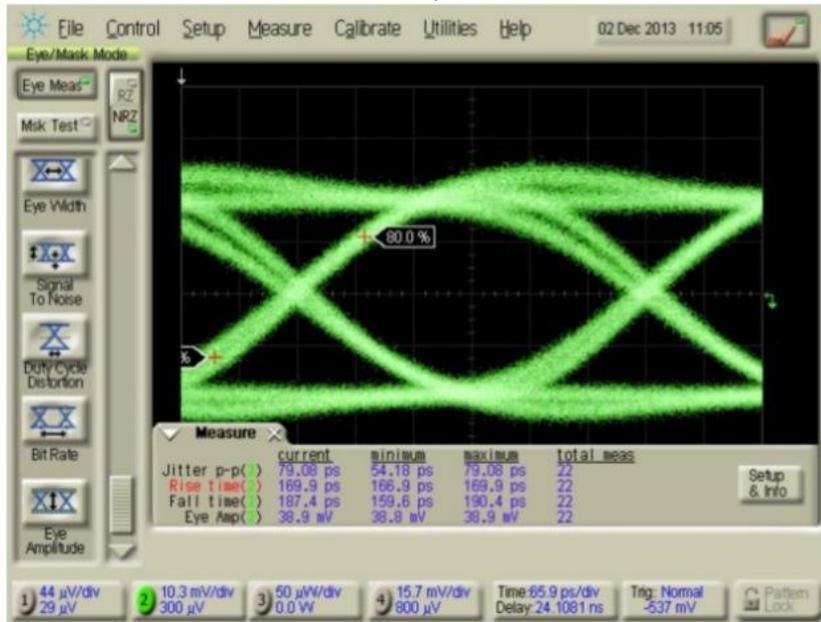
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage temperature	-40	100	°C	
Operating temperature	-40	85	°C	
Lead solder temperature		260	°C	10 seconds

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>	15	20	24	mA	No loads
Differential responsivity	R <sub>d</sub>		3.6		mV/uW	λ=850nm, R <sub>load</sub> =100ohm, P=-20dBm
Single ended responsivity	R <sub>s</sub>		1.8		mV/uW	λ=850nm, R <sub>load</sub> =50ohm, P=-20dBm
Small-signal bandwidth	BW		1.5		GHz	P=-20dBm
Low-Frequency Cut off	LF		30		kHz	
Rise / Fall Time (20%~80%)	tr/tf			200	ps	P=-20dBm, λ=850nm
Saturation Power	P <sub>Sat</sub>	0			dBm	
Maximum Differential Output Voltage			140	270	mVp-p	λ = 850nm, R <sub>load</sub> =100ohm, P= -15dBm
Single Ended Output Impedance	R <sub>o</sub>		50		ohm	
Wavelength	λ	770		860	nm	
Sensitivity				-23	dBm	λ = 850nm, @2488.32Mbps, PRBS7, ER=10dB, BER=10 <sup>-10</sup>

## Typical Characteristics

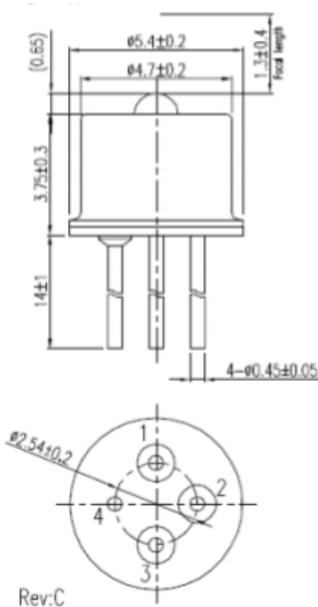
### Eye Diagram

$R_{load} = 50\Omega$ ,  $P = -20\text{dBm}$  @2488.32Mbps, 850nm, PRBS7.



$t_r = 169.9\text{ps}$ ,  $t_f = 187.4\text{ps}$ , Jitter p-p = 79.08ps

### Outline Dimensions (unit: mm)



### Pinout:

1. Dout
2. Vcc
3. Dout
4. Gnd

Note: Specifications are subject to change without notice.