



PDT-A85P5-10GA3

10Gb/s GaAs PIN Photodiode with Pre-Amplifier

Overview

The Lasermate PDT-A85P5-10GA3 is a high-speed GaAs photodetector integrated with a transimpedance amplifier (TIA) in a 5-pin TO-46 package with cap lens, supporting data rates up to 10Gbps at 850nm.



Features

- 850nm GaAs PIN TIA 5 pin TO
- Industry standard TO-46 package with long cap lens
- Optimized for fiber optic application
- Design for short wavelength 10.3125Gbps applications
- Photocurrent monitoring available
- Single power supply from +3.3V

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

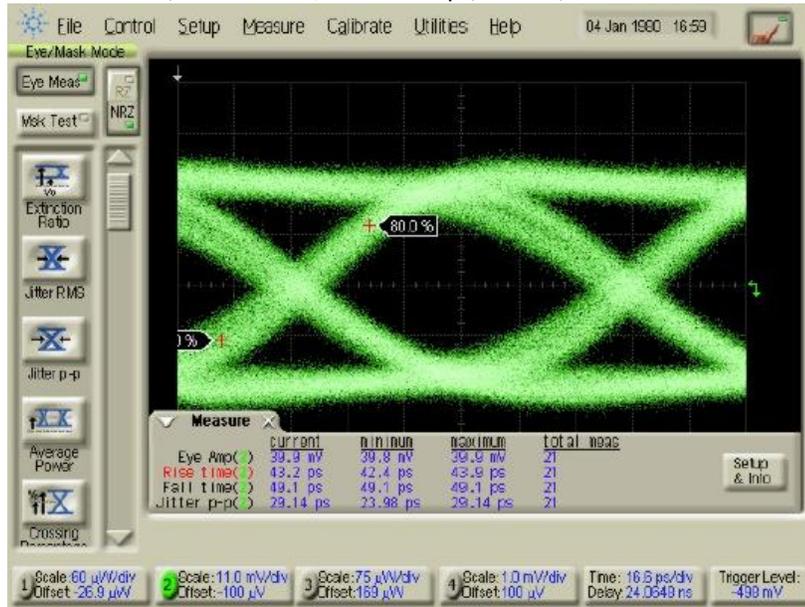
Electro-Optical Characteristics (Typical values are at +3.3V @ 25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Power supply	V _{CC}	3.0	3.3	3.6	V	
Supply current	I _{CC}		34	45	mA	No loads
Differential responsivity	R _d	0.44	0.6	1.0	mV/uW	λ=850nm, R _{load} =100ohm, P=-12dBm
Single ended responsivity	R _s	0.22	0.3	0.5	mV/uW	λ=850nm, R _{load} =50ohm, P=-12dBm
TIA RSSI				1.5	mA	Linear
Small-signal bandwidth	BW		7		GHz	P=-12dBm ⁽¹⁾
Low-Frequency Cut off	LF		30		kHz	
Rise / Fall Time (20%~80%)	tr/tf		50		ps	P=-12dBm, λ=850nm ⁽¹⁾
Saturation Power	P _{Sat}	0			dBm	
Single Ended Output Impedance	R _o		50		ohm	
Wavelength	λ	770		860	nm	
Sensitivity				-13.5	dBm	λ=850nm @ 10.3125Gbps ⁽¹⁾ PRBS31, ER=6dB, BER=1E-12

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

Typical Characteristics

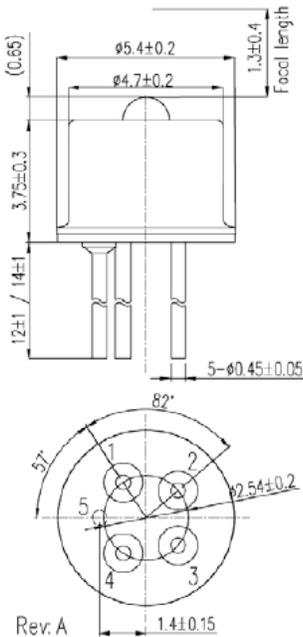
Eye Diagram

Rload = 50ohm, P = -12dBm@10.3125Gbps, 850nm, PRBS 31. ⁽¹⁾



tr=43.2ps, tf=49.1ps, Jitter p-p=29.1ps

Outline Dimensions (unit: mm)



Pin Configuration

Pin Number	Function
1	Dout (+)
2	Vcc
3	Isource
4	Dout (-)
5	Gnd

Note: Specifications are subject to change without notice.