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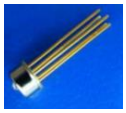
APD-A13P5-2GB3
2.5Gbps 1260-1620nm InGaAs Avalanche Photodiode (APD) plus AGC Pre-Amplifier in TO-46 Package

Overview



The Lasermate APD-A13P5-2GB3 avalanche photodetector is an InGaAs avalanche photodiode integrated with a transimpedance amplifier that provides high-speed response at 2.5Gbps.

Features

- 1310nm/1550nm continuous mode APDTIA TO
- Industry standard TO-46 package with short cap lens and tab-less
- Optimized for fiber optic application
- Design for long wavelength 2.5Gbps applications
- Supports +3.3V application

Applications

- High speed data communication
- Gigabit Ethernet
- Fiber channel

Specifications

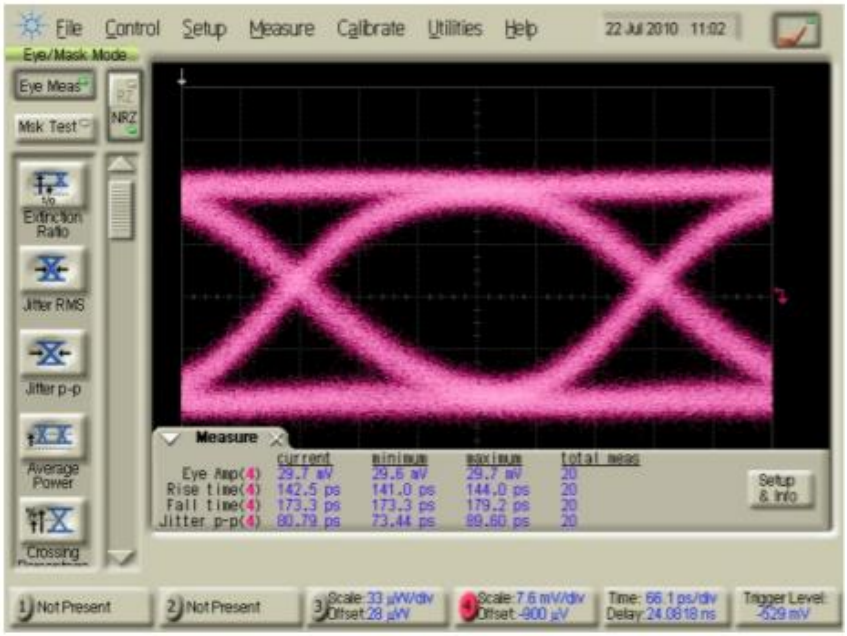
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage temperature	-40	100	°C	
Operating temperature	-40	85	°C	
Lead solder temperature		260	°C	10 seconds

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}		43	50	mA	No loads
APDTIA breakdown voltage	V_{BR}	45		55	V	I_d = 10uA, T_A = 25°C
Operating voltage	V_{OP}		V_{BR} -2		V	V_{CC} = 3.3V
V_{BR} temperature coefficient	γ		0.1		V/°C	
Differential responsivity	R_d		28		mV/uW	λ = 1310nm, R_{load}= 100ohm, M=9, P= -30dBm
Single ended responsivity	R_s		14		mV/uW	λ = 1310nm, R_{load}= 50ohm, M=9, P= -30dBm
Small-signal bandwidth	BW	1.4			GHz	
Low frequency cut off	LF		20		kHz	
Rise/fall time (20-80%)	tr/tf		170	200	ps	P = -30dBm, M=9
Saturation power	P_{sat}	-7			dBm	λ = 1310nm, @2488.32Mbps
Single ended output impedance	R_O		50		ohm	
Wavelength	λ	1260		1620	nm	
Sensitivity				-31	dBm	λ = 1310nm, @2488.32Mbps, PRBS23, ER=10dB, BER=10^{-10}

Typical Characteristics

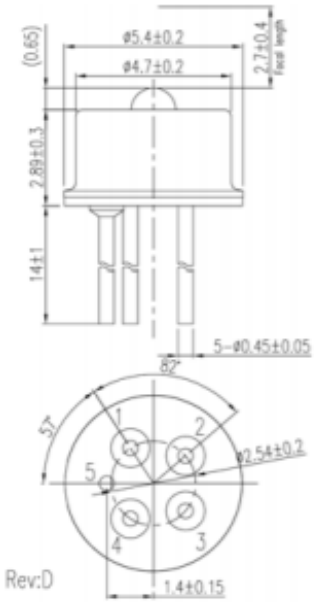
Eye Diagram

R_{load} = 50ohm, P = -30dBm@2488.32Mbps, 1310nm, PRBS 23



tr=142.5ps, tf=173.3ps, Jitter p-p=80.79ps

Outline Dimensions (unit: mm)



Pinout:

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

Note: Specifications are subject to change without notice.