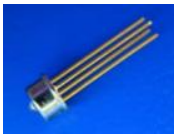
PDT-A13P4-1MB4

125MHz InGaAs PIN Photodiode with AGC Pre-Amplifier

Data Sheet



Overview

The Lasermate PDT-A13P4-1MB4 is a high-speed, high-sensitivity InGaAs photodetector with integrated automatic gain control (AGC) pre-amplifier. Housed in a 4-pin TO-46 package with short cap lens, the device is optimized for 1310nm and 1550nm fiber optic communication systems. It supports both 3.3V and 5.0V operation and is suitable for 100/155Mbps applications.

Features

- 1310nm/1550nm InGaAs PIN photodiode with AGC pre-amplifier, 4-pin TO-46 package
- Industry standard TO-46 package with short cap lens
- Suitable for 100/155 Mbps applications
- Supports 3.3V to 5.0V applications

Applications

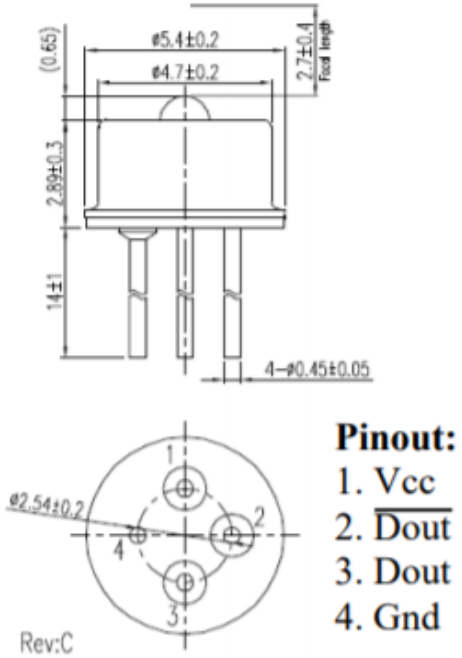
- Fiber optic communication systems
- Optical receivers for 100/155Mbps applications
- Long-wavelength optical systems

Specifications

Electro-Optical Characteristics (Typical values are at V_{CC}=3.3V)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Power Supply	V_{CC}	3.0		5.5	V	
Supply Current	I_{CC}			35	mA	No loads
Differential Responsivity	R_d	0.10		120	mV/uW	λ=1310nm, R_{load}=100ohm
Single Ended Responsivity	R_s	0.05		60	mV/uW	λ=1310nm, R_{load}=50ohm
Small-Signal Bandwidth	BF	115			MHz	λ=1310nm, P_f=10uW
Rise/Fall Time (20-80%)	tr/tf			4.5	ns	λ=1310nm, P_f=10uW
Saturation Power	P_{sat}	0			dBm	λ=1310nm
Single Ended Output Impedance	R_O		50		ohm	
Sensitivity				-36	dBm	λ=1310nm, @155Mbps, PRBS23, BER=10^{-10}

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

Outline Dimensions (unit: mm)



Pinout:

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

Note: Specifications are subject to change without notice.