



25Gbps InGaAs APD with Pre-Amplifier

APD-A13P6-25GA3



Description

The APD-A13P6-25GA3 is a 25Gbps InGaAs avalanche photodiode (APD) with an integrated pre-amplifier, optimized for long-wavelength optical communication systems. Housed in an industry-standard TO-46 package with an aspherical lens, this device ensures high coupling efficiency and stable performance for advanced fiber optic applications. With support for data rates up to 25.78125Gbps, it is ideal for next-generation telecom and datacom networks.

Features

- Industry standard TO-46 package with aspherical lens
- High-speed operation up to 25.78125Gbps
- Optimized for long-wavelength fiber optic applications
- Integrated pre-amplifier for enhanced performance
- Operates with a single +3.3V power supply

Applications

- High-speed telecom and datacom networks
- Optical transceivers and modules

Specifications

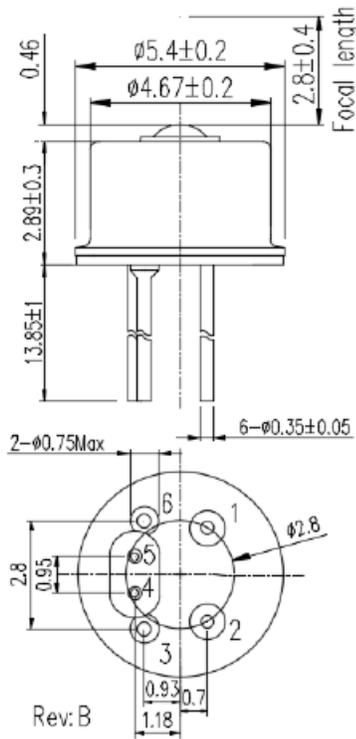
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage temperature	-40	100	°C	
Operating temperature	-40	85	°C	
Damage power	-3		dBm	
Lead solder temperature		260	°C	10 seconds

Electro-Optical Characteristics (T _A =25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Power supply	V _{CC}	3.0	3.3	3.5	V	
Supply current	I _{CC}		29	37	mA	No loads
APDTIA breakdown voltage	V _{BR}	20		37	V	I _d = 10uA
Operating voltage	V _{OP}		V _{BR} -3.5		V	
V _{BR} temperature coefficient	γ		0.02		V/°C	
Differential responsivity	R _d		30		mV/uW	λ=1310nm, R _{load} =100ohm, P=-20dBm ⁽¹⁾
Small-signal bandwidth	BW		17		GHz	P=-20dBm ⁽¹⁾
Low frequency cut off	LF		5	100	kHz	
Rise/Fall time (20%~80%)	tr/tf		18		ps	λ=1310nm, P=-20dBm ⁽¹⁾
Saturation power	P _{sat}	-4			dBm	λ=1310nm, @25.78125Gbps, PRBS31, ER=5dB, BER=5E-5, V _{op} =(V _{BR} -3.5V)
Single ended output impedance	R _O		50		ohm	
Wavelength	λ	1260		1600	nm	
Sensitivity				-22.5	dBm	λ=1310nm, @25.78125Gbps, PRBS31, ER=5dB, BER=5E-5, V _{op} =(V _{BR} -3.5V)

Notes:

- (1) The spec and test data are subjected to ROSM level (flexible circuit attached) measurement.

Outline Dimensions (unit: mm)



Pin Configuration

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

Note: Specifications are subject to change without notice.