AFONICS

RA-0025

- InGaAs PIN/TIA
- 155 Mb/s
- Differential output and AGC

Performance Highlights

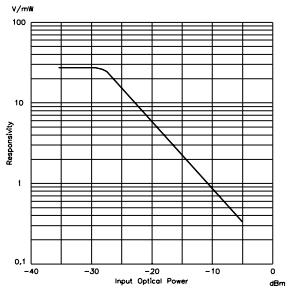
- Responsivity typically 27 V/mW
- Typical sensitivity -37dBm
- Overload -5dBm

LIMITING VALUES	SYMBOL	VALUE	UNITS
Supply voltage	V_{DD}	+3.8	V
Operating temperature	T_{amb}	-20 to +70	°C
Storage temperature	T_{stg}	-40 to +85	°C

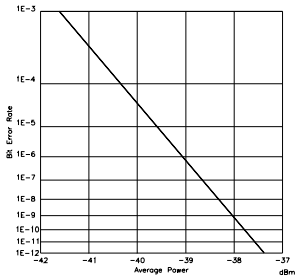
OPTICAL/ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITION
Responsivity	R		27		V/mW	P_{IN} = -30dBm, single ended
Operating wavelength	λ	1270		1560	nm	
Rise and Fall time (20 - 80%)	t_f		2.0		ns	P_{IN} = -30dBm
Bandwidth	f_C		150		MHz	P_{IN} = -30dBm
Low frequency cutoff	f_L		15		kHz	
Output offset voltage	V_{off}	1.5			V	Dark state, $R_L = \infty$
Optical overload	P_{OL}	-5.5	-5		dBm	
Optical sensitivity	P_{MIN}	-35	-37		dBm	
Supply current	I_S		25		mA	Dark state, $R_L = \infty$
Operating voltage	V_{CC}	-0.3	3.3	3.8	V	

Unless otherwise specified: T_{amb} = 25°C, Vcc=3.3V, Vee=0V, R_L= 500Ω (coupled through capacitors), λ=1310nm
Note: The amp is designed to drive a load >499Ω and can not drive a 50Ω load

GRAPHS SHOWING TYPICAL CHARACTERISTICS



Responsivity vs. Input Optical Power



Bit Error Rate vs Input Optical Power

PINOUT DETAILS

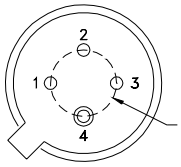
1 = V_{OUT}

2 = V_{CC} (+3.3V)

3 = $\overline{V_{OUT}}$

4 = V_{ee} (Case)

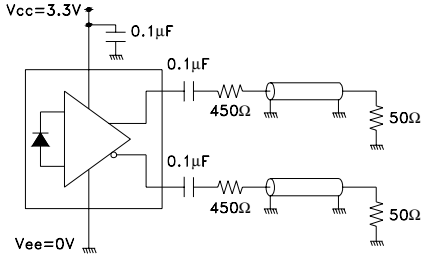
Pin length > 12.5mm



REAR VIEW

2.54mm PCD

TEST CIRCUIT



NOTES:

1) The device is very susceptible to damage by electrostatic discharge.

