AFONICS

RA-0005

- Silicon PIN/TIA
- 50MHz bandwidth
- Dynamic Range > 25dB

Performance Highlights

- Typical responsivity 12mV/µW
- Differential output
- Suitable for fibre core diameters less than 100µm

LIMITING VALUES	SYMBOL	VALUE	UNITS
Supply voltage	V_{DD} - GND	-0.3 to 6.0	V
Operating temperature	T_{amb}	-40 to +85	°C
Storage temperature	T_{stg}	-55 to +125	°C
Soldering temperature 2mm from case for 10s (either device)	T_{sld}	260	°C

OPTICAL/ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITION
Responsivity	R	7.0	12.0	15.0	mV/µW	
Rise and fall times (10% - 90%)	t_r, t_f		7.5	8.5	ns	
Cutoff frequency	f_c	50			MHz	
Recommended operating wavelength	λ_o	750	800	900	nm	
Equivalent optical noise voltage	V_{no}			0.4	mV	
Equivalent optical noise input power	P_n		-45	-43	dBm	
Peak input power	P_r			-6	dBm	
Output impendance	Z_o		25	50	Ω	
DC output voltage	V_{out}	2.0	2.5	3.0	V	P_r = 0 µW
Power supply current	I_{ee}		15	20	mA	R_{load} = Infinite
Pulse width distortion (1)	PWD		0.25	2.0	ns	P_r = 1000 µW peak
Overshoot				3	%	
Power supply rejection ratio	PSRR	30			dB	

General test conditions unless otherwise stated: $0°C < T_{amb} < +85°C$, $+4.75V < V_{dd} < +5.25V$, $R_{load} = 500Ω$, $C_{load} = 5pF$

(1) Measured with a 10ns pulse width and 50% duty cycle at the 50% waveform amplitude point
(2) Recommended resistive load > 400Ω
(3) Recommended capacitative loading < 5.0 pF

DETECTOR PINOUT DETAILS

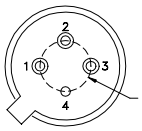
1 = V_{DD} (+5V ± 5%)

2 = Inverted Data ($-V_{OUT}$)

3 = Data ($+V_{OUT}$)

4 = GND (0V, case)

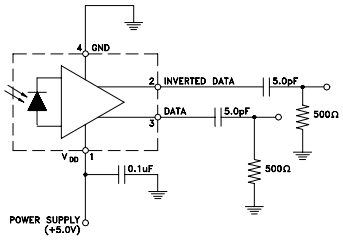
Pin length > 12.5 mm



REAR VIEW

2.54mm PCD

RECOMMENDED AC COUPLED CIRCUIT



NOTES:

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

