AdTech optics 18007 Cortney Court, City of Industry, CA 91748 main: (626) 956-1000 fax: (626) 810-0259

PD: AOR41510BL
December, 22, 04

AOR41510BL:

TO-type 2.5 Gb/s APD
Receiver Optical Subassembly (ROSA)

DESCRIPTION

This ROSA is designed for fiber optic transmission system up to 2.5 Gb/s including SDH/SONET, Gigabit Ethernet and Fiber Channel etc. It consists of a high-performance InGaAs/ InP APD and a low-noise transimpedance preamplifier. The chips are hermetically sealed in a 5-pin TO-46 package.

FEATURES

- Data rate up to 2.5 Gb/s.
- High performance InGaAs/InP APD.
- High sensitivity.
- 5-pin TO-46 with ball lens.

APPLICATIONS

- SDH/SONET.
- Gigabit Ethernet.
- Other long-haul transmission system up to 2.5 Gb/s.
- Fiber Channel.

OPTICAL AND ELECTRICAL CHARACTERISTICS (Tc=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
APD responsivity	R	0.83	0.93		A/W	λ = 1550nm, M=1
APD breakdown voltage	V_{br}	40	50	60	V	Id = 10 μA
Temperature coefficient of V_{br}	γ		0.09		V/ °C	
Optical sensitivity			-34.5	-33	dBm	λ=1550 nm 2.5 Gbps BER =10^{-10} PRBS 2^{23}-1 Ext. Ratio=13 dB V=Vop
Small signal bandwidth	f_c	1800	2000		MHz	
Optical overload		-7			dBm	2.5 Gbps BER =10^{-10} PRBS 2^{23}-1 V=Vop
Equivalent input noise current density			11		$pA/Hz^{1/2}$	
TIA transimpedance	Z	2100	2750	3400	Ω	Differential, measured with a 30 μAp-p input signal
Wavelength	λ	1270		1650	nm	
Supply voltage	V_{cc}	3.0	3.3	5.5	V	
Supply current	I_{cc}		34	63	mA	

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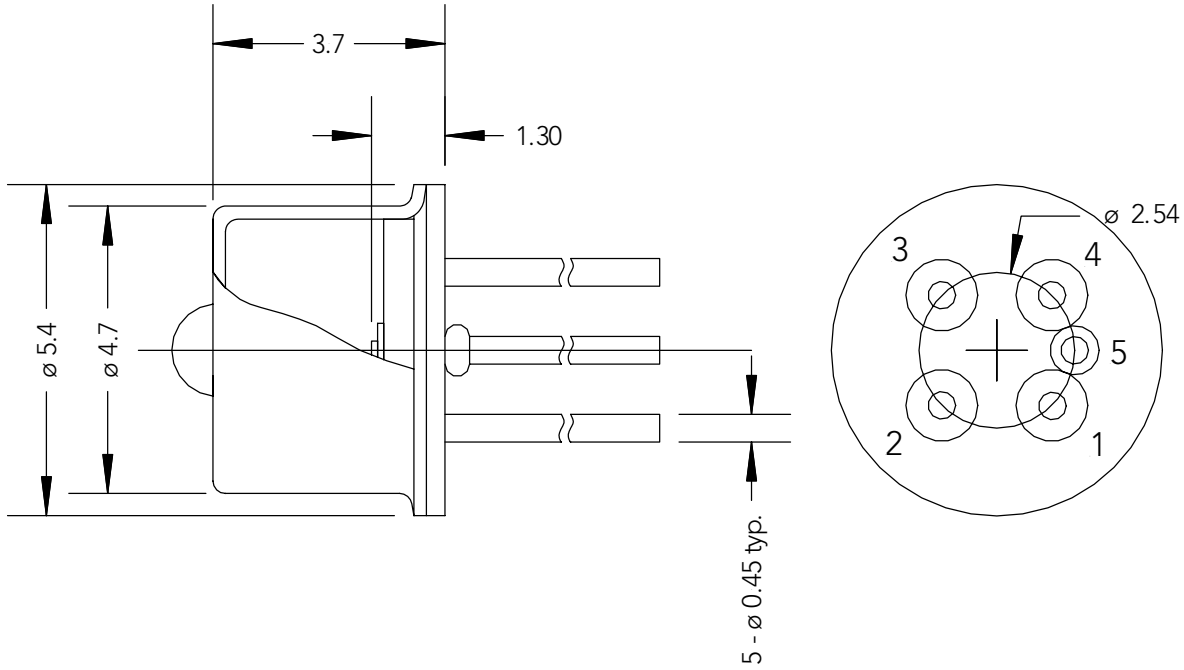
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
Supply voltage	Vcc	-0.5 to 6	V
APD reverse voltage	V_r	0 to V_{br}	V
APD reverse current	I_r	2	mA
Operating temperature	T_{amb}	0 to +70	°C
Storage temperature	T_{stg}	-40 to +85	°C
Soldering temperature 2mm from the case for 10 seconds	T_{sld}	260	°C

OUTLINE DRAWING

(All dimensions in mm)



Pin connection	
1	V_{out+}
2	V_{cc}
3	V_{APD}
4	V_{out-}
5	GND (case)