

AOR31510:

TO-type 1.25 Gb/s APD Receiver Optical Subassembly (ROSA)

DESCRIPTION

This ROSA is designed for fiber optic transmission system up to 1.25 Gb/s including Gigabit Ethernet, Fiber Channel and SDH/SONET 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 1.25 Gb/s.
- High performance InGaAs/InP APD.
- High sensitivity.
- 5-pin TO-46 with ball lens.

APPLICATIONS

- SDH/SONET.
- Gigabit Ethernet.
- Fiber Channel.
- Other long-haul transmission system up to 1.25 Gb/s.

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

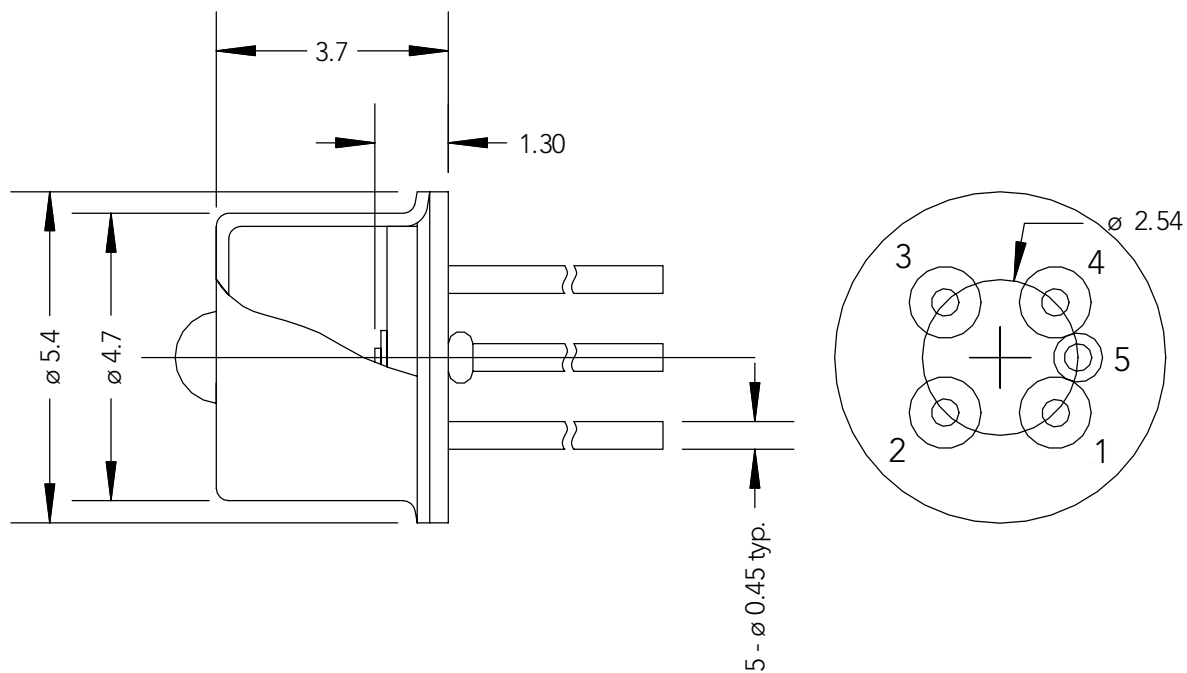
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
APD responsivity	R	0.8	0.9		A/W	$\lambda = 1550\text{nm}$, M=1
APD breakdown voltage	V_{br}	40	50	60	V	$I_d = 10\ \mu\text{A}$
Temperature coefficient of V_{br}	γ		0.09		V/°C	
Optical sensitivity			-36.5	-35	dBm	$\lambda=1550\ \text{nm}$ 1.25 Gbps BER = 10^{-10} PRBS $2^{23}-1$ Ext. Ratio=13 dB $V=V_{op}$
Small signal bandwidth	f_c	800	1000		MHz	
Optical overload		-7			dBm	1.25 Gbps BER = 10^{-10} PRBS $2^{23}-1$ $V=V_{op}$
Equivalent input noise density			6.6		pA/Hz ^{1/2}	
TIA transimpedance	Z	2260	2800	3400	Ω	Differential, measured with a 30 μA p-p input signal
Wavelength	λ	1270		1650	nm	
Supply voltage	V_{cc}	3.0	3.3	5.5	V	
Supply current	I_{cc}		26	50	mA	

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
Supply voltage	V_{cc}	-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)