PEDF3610B-01

OKI Electronic Components

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OF3610B-C2 Preliminary

622Mbps Avalanche Photodiode-Preamplifier Receiver Coaxial Module

GENERAL DESCRIPTION

OF3610B-C2 is an optical receiver module that use an InGaAs avalanche photodiode with a low noise Pre-Amplifier. Package style is a hermetically sealed coaxial package with single mode fiber pigtail. This receiver module was designed especially for 622Mbps SONET/SDH applications.

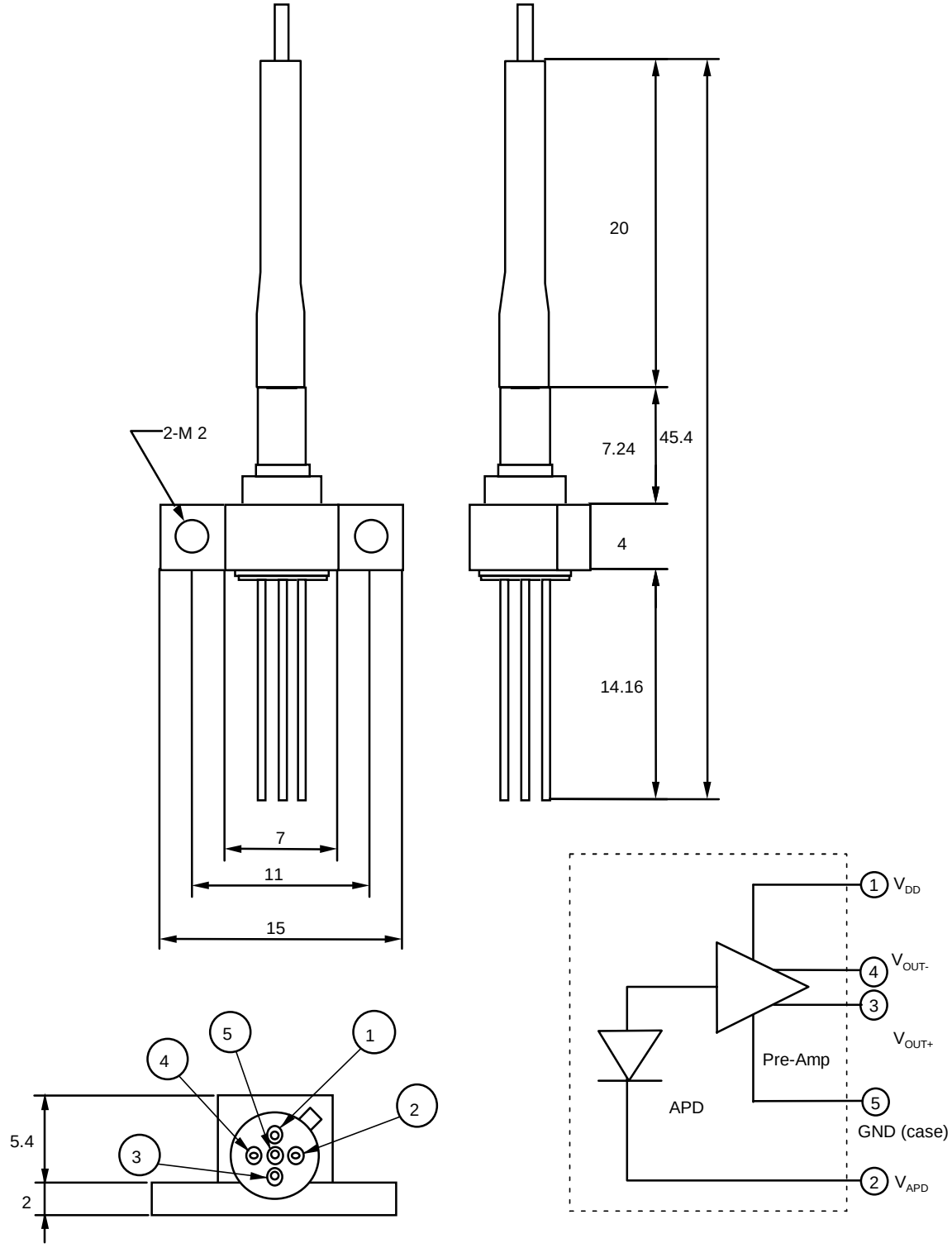
FEATURES

- Single 3.3 V supply with preamplifier bias terminal
- Automatic gain control
- Sensitivity: -38 dBm (Typ.)
- Differential output: 100 Ω Load

APPLICATIONS

- Digital optical transmission receivers
- 622Mbps SONET/SDH receivers

PACKAGE DIMENSIONS



Note 1: Unit = mm
Note 2: Fiber hood dimension is provisional.

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Condition	Ratings	Unit
TIA Supply Voltage	V_{DD}	Ta = 25°C	5.5	V
Forward Current	I_F		4	mA
Reverse Current	I_R		0.5	mA
Operating Case Temperature	T_{OP}	—	-20 to +85	°C
Storage Temperature	T_{STG}	—	-40 to +85	°C

OPTICAL AND ELECTRICAL CHARACTERISTICS

(V_{DD} = 3.3V, Ta = 25°C , unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
APD Reverse Break over down Voltage	VBR	IDARK = 10 μA	40	70	90	V
Temperature Coefficient of VBR*1	γ	IDARK = 10 μA, -20 to 85°C	—	0.15	0.30	%/°C
APD Responsivity	R	λ = 1.3 μm, M = 1	0.75	0.84	—	A/W
		λ = 1.5 μm, M = 1	0.85	0.95	—	
AC Transimpedance(Differential)	Zt	RL = 100 Ω	—	6.0	—	kΩ
Bandwidth	BW	RL = 100 Ω, M = 10,	—	470	—	MHz
Minimum Sensitivity	PRL	RL = 100 Ω,622Mb/s,NRZ PRBS2^{31}-1, Ber = 10^{-10}, VR*2 is set at optimum, value (M = 7-11)	—	-38	—	dBm
Recommended Supply Voltage	V_{DD}	—	—	3.3	—	V
Supply Current	I_{DD}	Pin = 0mW	—	25	—	mA

*1) Temperature Coefficient of Reverse Breakdown Voltage

$$\gamma = \frac{V_B(25°C + \Delta T°C) - V_B(25°C)}{V_B(25°C) \cdot \Delta T°C} \times 100\ (\%/°C)$$

*2) VR: Reverse Voltage

FIBER PIGTAIL SPECIFICATIONS

Parameter	Specifications	Unit
Type	SM	---
Mode Field Diameter	10	μm
Cladding Diameter	125	μm
Jacket Diameter	900	μm
Length	1 (Min.)	m

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