

Oki Semiconductor

OD9601N Photo Diode Preamp Module

1.25-Gbps InGaAs Technology (+ 3.3 V)

INTRODUCTION

Oki Semiconductor's OD9601N PD Preamp Module is a surface-mount 1.3- μm , InGaAs PIN photo diode combined with a transimpedance amplifier. This OD9601N is designed to operate at 1.25 Gbps in STM4/OC12/OC24 environments. This photo diode uses a single + 3.3-V power supply and provides a differential output signal. It is available in an 8-pin Mini-Dil package and is coupled to a single-mode fiber with a pigtail.

FEATURES

- Surface-mount Mini-Dil package
- Low cost
- 1.25 Gbps operation
- Peak-sensitivity wavelength: 1300 nm

APPLICATION

- Optical transmission modules (receiver section)
- Optical receivers
- Inter-office interconnection
- Gigabit Ethernet

ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (ambient temperature Ta=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Units
Supply Voltage	V_s	6	mW
Incident Optical Power	P_{IOP}	-3	dBm
Operating Case Temperature	T_{opr}	- 40 to + 85	°C
Storage Temperature	T_{stg}	- 40 to + 85	°C
Soldering Profile	T_{sol}	230 (30)	°C (sec)

Exceeding these maximum ratings could cause immediate damage or lead to permanent deterioration of the device.

Optical and Electrical Characteristics (Ta=25°C, V_{CC} =3.3 V, λ =1310 nm unless otherwise noted)

Parameter	Test Conditions	Min.	Typ.	Max.	Units
Supply Voltage	-	+3.0	+3.3	+3.6	V
Supply Current	-	-	26	50	mA
Low Frequency Cutoff	-3 dBm Pin= -22 dBm, fr = 50 MHz	-	44	-	kHz
Rise / Fall Time	20% to 80% Pin= -3 dBm	-	-	300	ps
Sensitivity	BER < 10^{-12} (See note 1)	-	-28	-	dBm
Differential Output Voltage	Pin= -3 dBm	185	250	415	mV
Optical Modulation Bandwidth	-3 dBm Pin= - 22 dBm, fr = 50 MHz	750	820	1100	MHz
Differential Responsivity	Differential, measured with -22 dBm input signal	2.7	3.4	4.1	kV / W
Input Noise Equivalent Optical Power	BW=1500 MHz, Pin=0 mW	-	0.23	-	μ W

Notes:

Data rate: 1.25 Gbps. Data sequence: PRBS 2²³ -1.

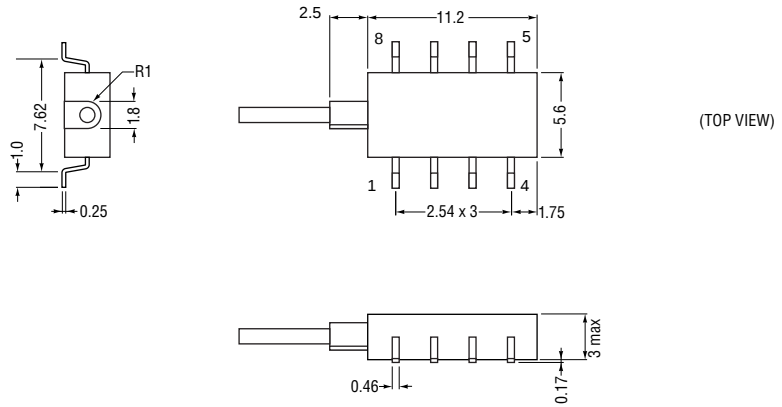
Contact Oki Semiconductor sales office for reliability report.

Connector and Fiber Specifications

Connector	FC-PC, SC-PC, MUJ-PC etc
Fiber	1.31- μ m single-mode fiber Diameter: 0.9 mm Color: Dark blue Bending Radius: 20 mm (minimum) Heat resistant Length: Options (contact Oki Semiconductor)

PACKAGE DIMENSIONS

(Units: mm)



Pin Configuration

Pin No.	Description	Pin No.	Description
01	V _{CC}	05	Output (+)
02	GND	06	NC
03	GND	07	NC
04	Output (-)	08	GND