

Oki Semiconductor

OD9604N Photo Diode Preamp Module

2.488 Gbps InGaAs Technology (+ 3.3 V)

INTRODUCTION

Oki Semiconductor's OD9604N PD Preamp Module is a surface-mount 1.3- μm , InGaAs PIN photo diode combined with a transimpedance amplifier. This OD9604N is designed to operate at 2.488 Gbps in STM16/OC48 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
- 2.488 Gbps operation
- Peak-sensitivity wavelength: 1300 nm

APPLICATION

- High-speed optical transmission modules (receiver section)
- High-speed optical receivers
- Inter-office interconnect
- Gigabit Ethernet

ELECTICAL CHARACTERISTICS

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

Parameter	Symbol	Ratings	Units
Supply Voltage	VS	6	V
Optical Input Power	P _{IOP}	4	mW
Operating Case Temperature (Ta)	T _{opr}	- 40 to + 85	°C
Storage Temperature	T _{stg}	- 40 to + 85	°C
Soldering Profile	T _{sol}	260 (10)	°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
Optical Modulation Bandwidth	f ₃ dB	1400	-	-	MHz
Responsivity	Differential, measured with -17 dBm input signal	1230	-	1860	V / W
Input Current before Clipping	-	-16	-	-	dBm
Differential Output Voltage	-	185	250	415	mVp-p
Sensitivity	BER < 10 ⁻¹⁰ (See note)	-	-23.0	-	dBm
Optical Overload	AC Input	-2	-	-	dBm
Low Frequency Cutoff	f ₃ dB	-	44	-	kHz

Notes:

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

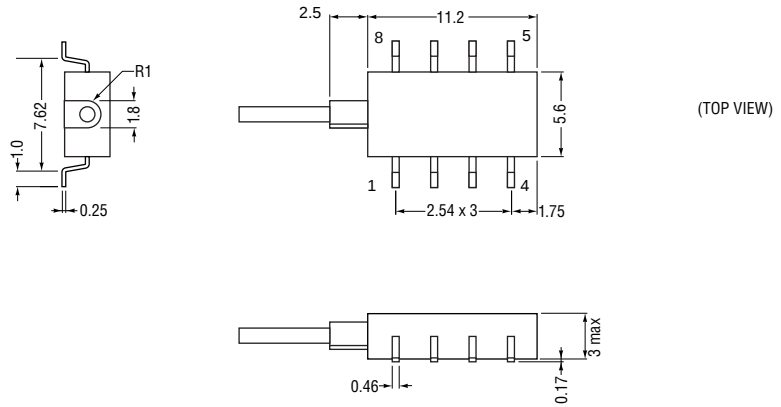
Contact Oki Semiconductor sales office for reliability report.

Connector and Fiber Specifications

Connector	FC-PC, SC-PC, MUJ-PC etc
Fiber	1.31-μm 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	GND
04	Output (+)	08	GND