NEW

PHOTODIODE

InGaAs PIN photodiode with preamp
G9281-14

ROSA type, 1.3/1.55 µm, 622 Mbps

Features

- ϕ1.25 mm sleeve type ROSA (Receiver Optical Sub-Assembly)
- High-speed response: 622 Mbps
- High gain with AGC (Auto Gain Control): 2.9 V/mW (-22 dBm)
- Low power supply voltage: 3.3 V
- Differential output
- Sensitivity: -5 to -32 dBm Typ.

Applications

- SDH/SONET
- Optical fiber communication

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Supply voltage	Vcc	-0.3, +3.8	V
Operating temperature	Topr	-20 to +70 *1	°C
Storage temperature	Tstg	-40 to +85 *1	°C

*1: No condensation

■ Electrical and optical characteristics
(Ta=25 °C, Vcc=3.3 V, Vee=0 V, RL=500 Ω *2, λ=1310 nm, unless otherwise noted)

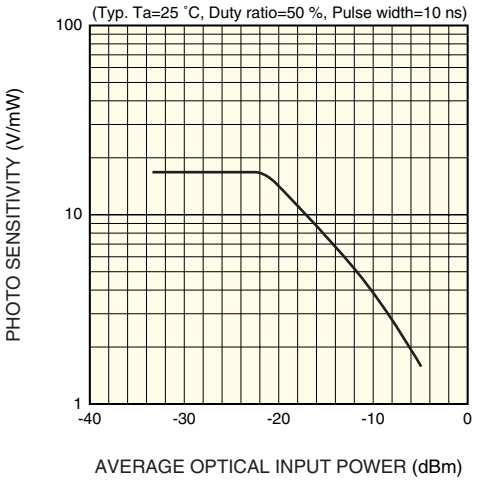
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Photo sensitivity *2	S	Pin= -30 dBm *3	10	16	-	V/mW
Supply current	Icc	Dark state, RL=∞	-	30	40	mA
Output bias voltage	Vo	Dark state, RL=∞	-	1.5	-	V
Cut-off frequency *2	fc	Pin= -30 dBm, -3 dB	380	550	-	MHz
Low cut-off frequency *2	fc-L	Pin= -30 dBm, -3 dB	-	60	-	kHz
Noise equivalent power *2, *3	NEP	Dark state, to 467 MHz	-	95	126	nWrms
Minimum receivable sensitivity	Pmin	622 Mbps, NRZ, PN=23, BER=10^{-10}, Extinction ratio=8.2 dB	-	-32	-	dBm
Maximum receivable sensitivity	Pmax		-	-5	-	

*2: Output: Capacitive coupling
This module should be used with a load resistance larger than 500 Ω.
*3: Single-ended (Vout+) measurement

PRELIMINARY DATA
Mar. 2003

SOLID STATE DIVISION

■ Photo sensitivity vs. average input optical power



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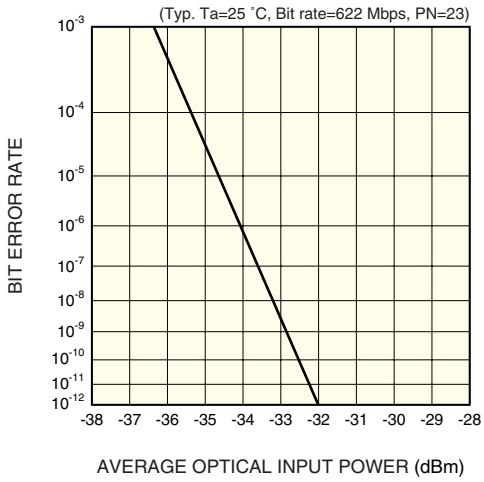
■ Bit error rate



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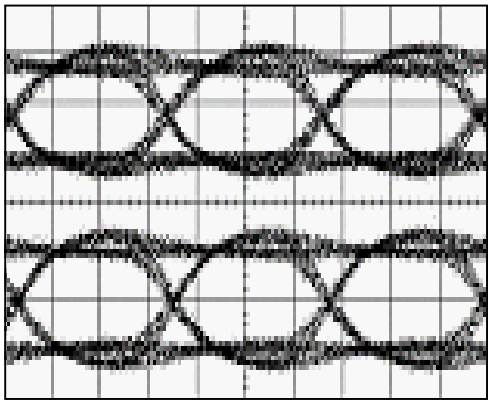
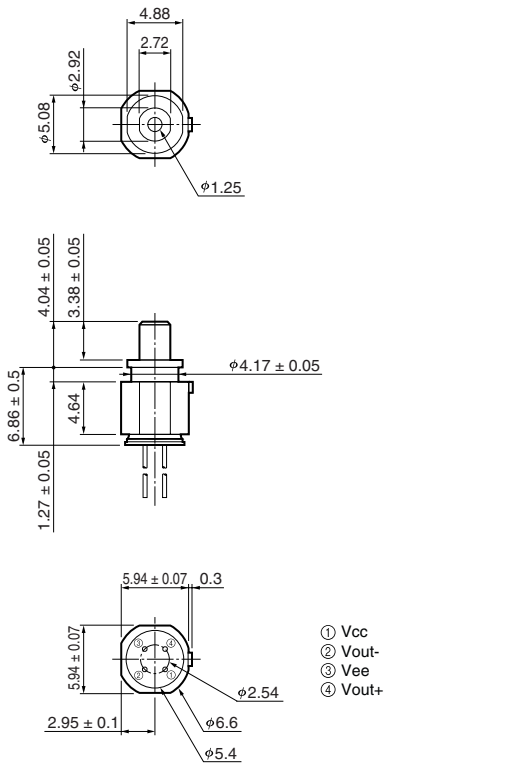
■ Eye diagram



Bit rate=622 Mbps, PN=23, λ=1310 nm
Pin= -25 dBm

■ Dimensional outline

(unit: mm, unless otherwise noted: ±0.15)



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