NEW

PHOTODIODE

GaAs PIN photodiode with preamp

G9285-14

ROSA type, 850 nm, 1.25 Gbps

Features

- φ1.25 mm sleeve type ROSA (Receiver Optical Sub-Assembly)
- High-speed response: 1.25 Gbps
- High gain with AGC (Auto Gain Control): 2.0 V/mW (-20 dBm)
- Low power supply voltage: 3.3 V, 5 V
- Differential output
- Sensitivity: 0 to -25 dBm Typ.

Applications

- Gigabit Ethernet
- Fiber channel

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Supply voltage	Vcc	-0.3, +5.5	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 or 5 V, Vee=GND, R_L=50 Ω *2, λ=850 nm, unless otherwise noted)

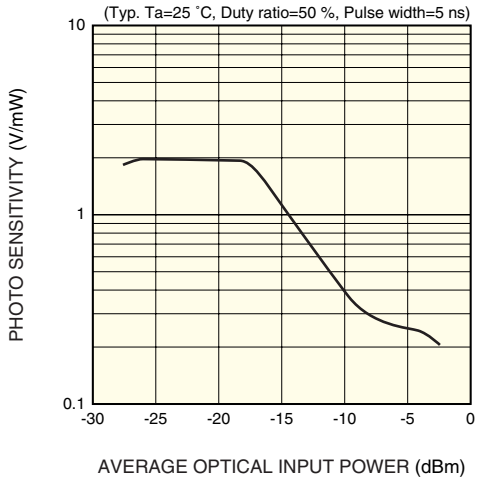
Parameter	Symbol	Condition		Min.	Typ.	Max.	Unit
Photo sensitivity *2, *3	S	Pin= -20 dBm *3 (f=100 MHz)		1.4	2.0	-	V/mW
Supply current	Icc	Dark state, R_L=∞		-	35	41	mA
Output bias voltage	Vo	Dark state, R_L=∞	Vcc=3.3 V	-	1.6	-	V
			Vcc=5.0 V	-	3.3	-	
Cut-off frequency *2, *3	fc	-3 dB (0 dB at 100 MHz)		-	1000	-	MHz
Low cut-off frequency *2	fc-L	Pin= -20 dBm, -3 dB		-	DC	-	kHz
Noise equivalent power *2, *3	NEP	Dark state, to 938 MHz		-	450	-	nWrms
Minimum receivable sensitivity	Pmin	1.25 Gbps, NRZ, PN=23, BER=10^{-12}, Extinction ratio=9 dB		-	-25	-	dBm
Maximum receivable sensitivity	Pmax			-	0	-	

*2: Output: Capacitive coupling
*3: Single-ended (Vout+) measurement

PRELIMINARY DATA
Mar. 2003

SOLID STATE DIVISION

■ Photo sensitivity vs. average optical input power



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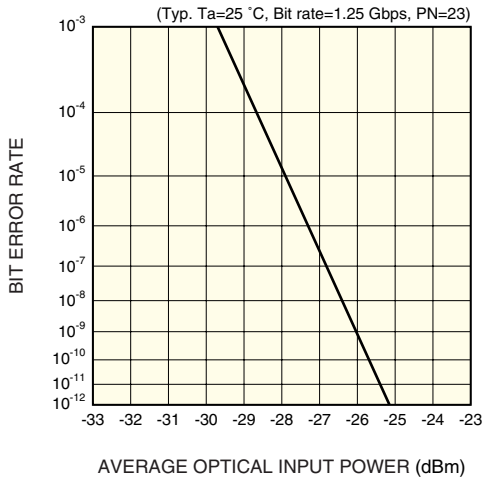
■ Bit error rate



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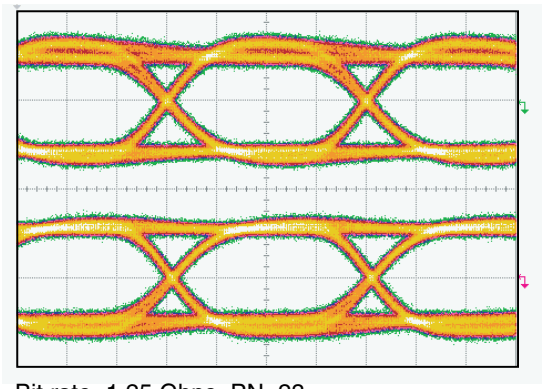
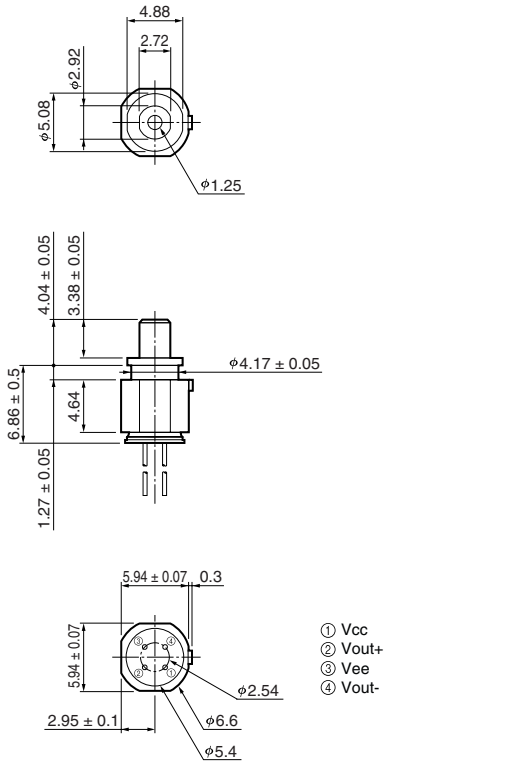
■ Eye diagram



Bit rate=1.25 Gbps, PN=23
λ=850 nm, Pin= -20 dBm, Vcc=3.3 V

■ Dimensional outline

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



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