

NEW

查询G10518-51供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

PHOTODIODE

InGaAs PIN photodiode with preamp G10518-51/-54

ROSA type, 1.3 μm , 10 Gbps

Features

- $\phi 1.25$ mm (G10518-54)/ $\phi 2.5$ mm (G10518-51) sleeve type ROSA (Receiver Optical Sub-Assembly)
- High-speed response: 10.7 Gbps
- Low power supply voltage: $V_{cc}=V_{pd}=3.3$ V
- Differential output
- Sensitivity: +3 to -19.5 dBm Typ.
- Trans-impedance: 6 k Ω Typ. (single-ended)

Applications

- SDH/SONET, 10 gigabit ethernet
- Optical fiber communications

■ Absolute maximum ratings (Ta=25 °C)

| Parameter | Symbol | Value | Unit |
|--|--------|--------------------|------|
| Supply voltage | Vcc | -0.5 Min, +3.7 Max | V |
| Reverse voltage (photodiode) | VR | 7 | V |
| Operating temperature (case temperature) | Topr | -20 to +85 | °C |
| Storage temperature | Tstg | -40 to +85 | °C |

■ Electrical and optical characteristics (Ta=25 °C, Vcc=3.05 to 3.53 V, Vpd=3.05 to 5.0 V, RL=50 Ω *2, unless otherwise noted)

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--------------------------------|--------|--|------|-------|-------|------------------|
| Responsivity | R | $\lambda=1.31$ μm | 0.70 | 0.80 | - | A/W |
| Supply current | Icc | Dark state, RL= ∞ | - | 32 | 45 | mA |
| Cut-off frequency | fc | $\lambda=1.31$ μm , -3 dB | 6.5 | 8.0 | - | GHz |
| Low cut-off frequency | fc-L | $\lambda=1.31$ μm , -3 dB | - | 10 | 50 | kHz |
| Noise equivalent power *1 | NEP | Dark state, DC to 7.5 GHz | - | 1.1 | 2.2 | μWrms |
| Trans-impedance *1 | Tz | f=100 MHz | 4 | 6 | - | k Ω |
| Minimum receivable sensitivity | Pmin | 10 Gbps, NRZ, $\lambda=1.31$ μm PRBS=2 ³¹ -1, BER=10 ⁻¹² | - | -19.5 | -17.5 | dBm |
| Maximum receivable sensitivity | Pmax | Extinction ratio=14 dB | +2 | +3 | - | dBm |
| Output amplitude | Vomax | | 300 | 450 | 650 | mVpp |
| Dark current | Id | Dark state, RL= ∞ | - | 0.05 | 0.5 | nA |
| Optical return loss | ORL | $\lambda=1.31$ μm | 12 | 14 | - | dB |

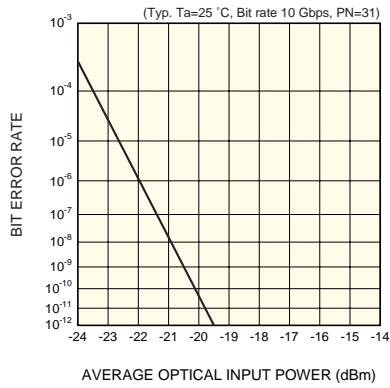
*1: Single-ended (Vout+) measurement

*2: Capacitive coupling



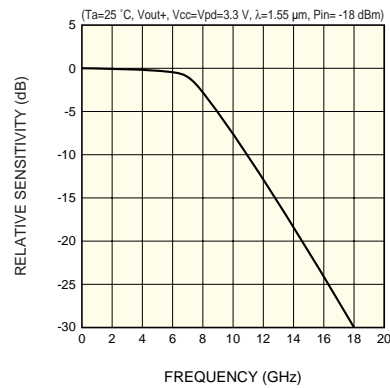
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Bit error rate



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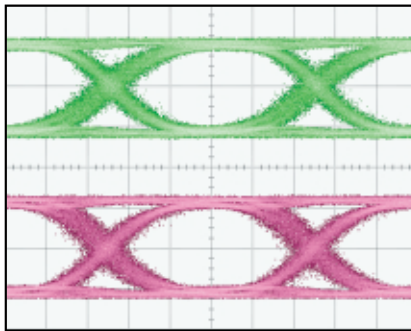
Frequency response



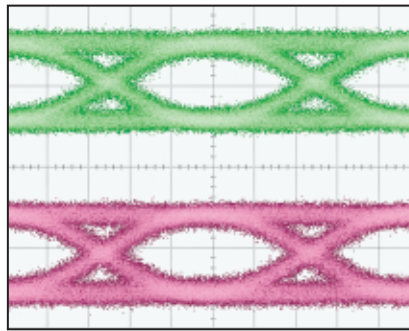
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Eye diagram

Bit rate 10 Gbps, PN=31, NRZ, λ=1.55 μm, Extinction ratio 14 dB, Vcc=Vpd=3.3 V



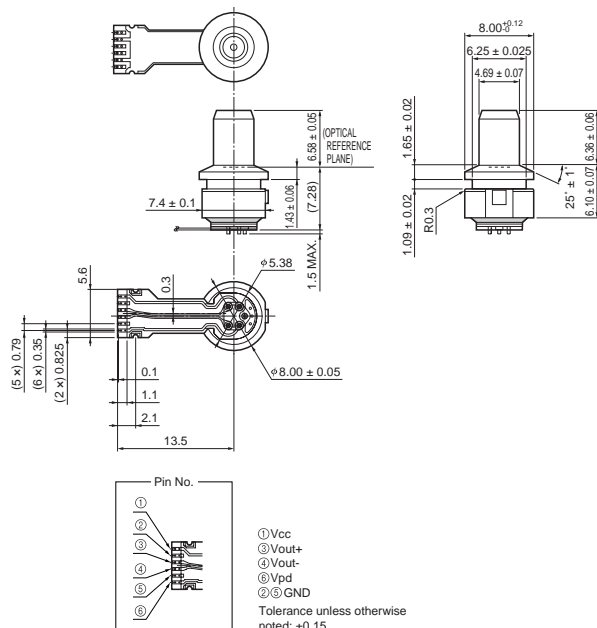
Pin= +2.5 dBm, 100 mV/div., 20 ps/div.



Pin= -20 dBm, 50 mV/div., 20 ps/div.

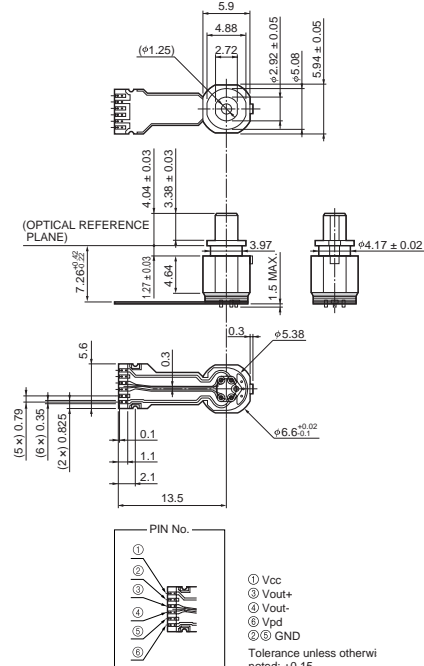
Dimensional outlines (unit: mm)

G10518-51



KGPD0029EA

G10518-54



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