

FEATURES

Integrated photodiode + TIA
Differential responsivity: 5.5 mV/ μ W
50 μ m diameter germanium photodiode
Input sensitivity: -19.5 dBm @ 6.144 Gbps
Wavelength range: 830 nm to 1560 nm
Single 3.3 V supply
Power dissipation: 65 mW
Differential output swing: 240 mV p-p
On-chip power monitor function
Die size: 0.835 mm $\times$ 0.675 mm

APPLICATIONS

Optical receivers up to 6.5 Gbps
6G CPRI, OBSAI, and 8G short range and LTE receivers
Receiver optical subassemblies (ROSA)

GENERAL DESCRIPTION

The ADN3000-06 is a complete high speed optical receiver featuring a proprietary large-area germanium PIN photodiode integrated with a transimpedance amplifier (TIA). The integration of the photodiode eliminates bond wires between the diode and TIA that provides guaranteed performance and improved manufacturing reliability. The ADN3000-06 supports data rates of up to 6.5 Gbps for telecommunication and point-to-point LAN applications, and a wide range of operating wavelengths from 830 nm to 1560 nm.

FUNCTIONAL BLOCK DIAGRAM

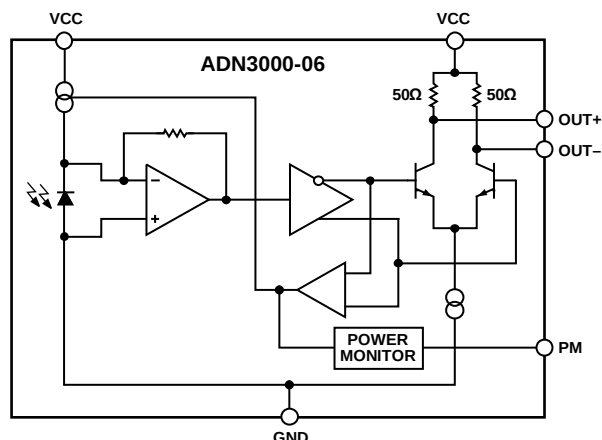


Figure 1.

The ADN3000-06 also features an optical average power monitoring circuit that generates a voltage output proportional to the average photodiode current.

Typical power consumption of ADN3000-06 is 65 mW from a single 3.3 V supply. In saturated output, the signal has a typical differential amplitude of 240 mV p-p.

The ADN3000-06 is available in die form, and it is operational over the extended industrial temperature range of -40°C to $+85^{\circ}\text{C}$.

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ADN3000-06

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