Semiconductor Solutions for High Speed Communication and Fiber Optic Applications

The FOA11002A1 is the industry's lowest power consuming STM64/OC-192 Transimpedance Amplifier for SDH/SONET systems in Silicon Germanium technology. This new device is a key component for future high speed optical communication systems for regional, metropolitan and backbone transport data networks at the highest speeds up to 10.7 Gbit/s over one single fiber. It is a member of the complete 10 Gbit/s chipset in the Silicon Germanium technology.

Features

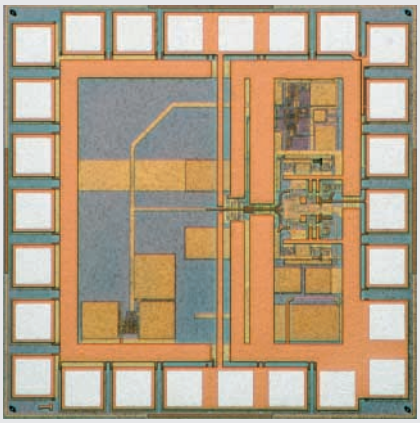
- Input sensitivity: -18.0 dBm electrical at BER = 10^{-12}
- Transimpedance: 6 kΩ
- Overload: 0 dBm electrical
- Single power supply: +5 V
- Low power consumption: 170 mW
- Internal DC compensation loop increases dynamic range
- Internal bias generation for PIN photo diode including low-pass filter
- Operates with PIN photo diode or APD
- Monitor output for mirrored photodiode current

Typical Applications

- Fiber optics telecom and datacom applications
- SONET/SDH OC-192/STM-64 with and without FEC
- Preamplifier modules
- Optical receiver modules

Main Advantages

- Data rate from 9.95 Gbit to 10.7 Gbit/s up to 10.7 Gbit/s Input sensitivity:
  - 18.0 dBm at BER = 10^{-12}
- Transimpedance: 6 kΩ
- High overload: 1.5 mA pp maximum input current
- Single power supply: +5 V
- Low power consumption: 170 mW
- Internal DC compensation loop increases dynamic range
- Internal bias generation for PIN photo diode including low-pass filter
- Operates with PIN photo diode or APD
- Monitor output for mirrored photodiode current
- Few external components necessary
- Small chip size of 0.97 x 0.97 mm (available as bare die)



Packing

Type	Sales Code	Package
TIA	FOA11002A	Bare die

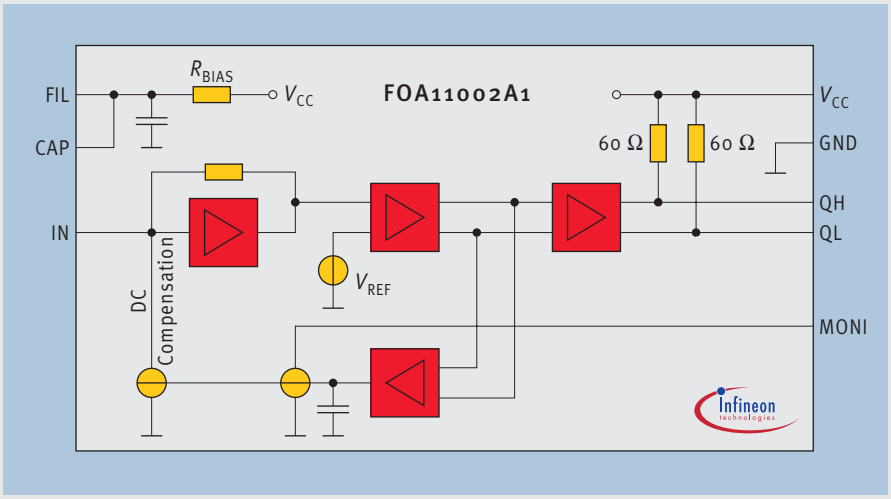
FOA11002A1

Transimpedance Amplifier
TIA 9.95 - 10.7 Gbit/s, 5.0 V

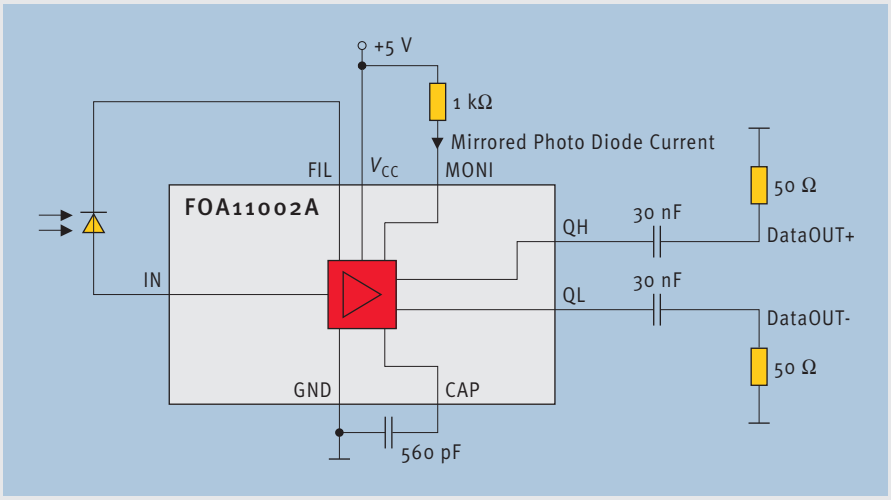
Infineon technologies

Never stop thinking.

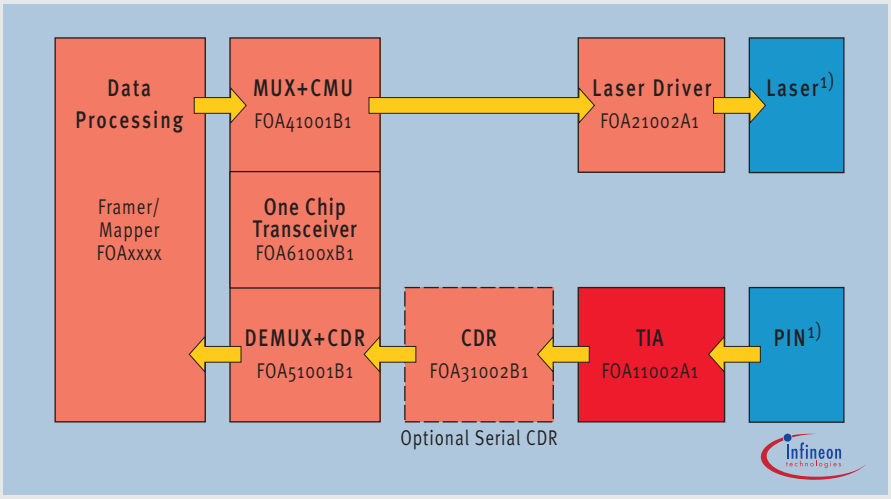
FOA11002A1 Block Diagram



Application Example



10 Gbit/s Chipset Overview



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