

ABSTRACT

A MULTI-GIGABIT/S TRANSIMPEDANCE AMPLIFIER

FOR OPTICAL NETWORKS

A Gigabit/s transimpedance amplifier system includes a forward-path amplifier section with a very large bandwidth and an overall frequency-selective feedback section which is active only from DC to low frequencies. The forward-path of the amplifier comprises a regulated cascode for receiving the input signal, a regulated cascode for receiving the feedback signal, a single-ended to differential converter and an output buffer. Stability and frequency selection is achieved by a bandwidth-limited operational amplifier in the feedback path. The Miller multiplication of a capacitive means in the operational amplifier creates a low-frequency pole and stabilizes the feedback loop and thereby limits the frequency range of the feedback.

* * * * *

Fig. 2