

Abstracts

MMIC Transimpedance Amplifier for an Optical Front-End with High Gain and Minimum Ripple (1994 Vol. II [MWSYM])

J.A. Casao-Perez, P. Dorta, F. Perez and J. Perez. "MMIC Transimpedance Amplifier for an Optical Front-End with High Gain and Minimum Ripple (1994 Vol. II [MWSYM])." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 1195-1198.

In this work we present a new theoretical approach to the design of a transimpedance amplifier. The objective is to achieve a minimum ripple in the bandwidth while minimizing the noise current. The proposed method has been applied to the design of a transimpedance amplifier using GaAs monolithic technology. Measurements of the amplifier and of the built optical receiver are presented. The optical receiver has a 62.5 ± 0.75 dB₀ gain in a bandwidth from 1.8 to 6.5 GHz and the equivalent noise current is lower than $16 \text{ pA}/\sqrt{\text{Hz}}$ in the mentioned band.

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