Abstracts

An Ultra Broadband GaAs MESFET Preamplifier IC for a 10 Gb/s Optical Communication System

M. Miyashita, K. Maemura, K. Yamamoto, T. Shimura, M. Nogami, K. Motoshima, T.I Kitayama and Y. Mitsui. "An Ultra Broadband GaAs MESFET Preamplifier IC for a 10 Gb/s Optical Communication System." 1992 Transactions on Microwave Theory and Techniques 40.12 (Dec. 1992 [T-MTT] (1992 Symposium Issue)): 2439-2444.

An ultra broadband GaAs MESFET preamplifier IC has been developed for a 10 Gb/s optical communication system. High transimpedance of 44 dB Omega has been obtained over dc to 12 GHz. A receiver has also been fabricated by using this preamplifier IC and a photodiode. The receiver operates with extremely low equivalent input noise current of 12.6 pA//spl radic/Hz over dc to 7.8 GHz. This paper describes circuit design and high frequency characteristics of both the preamplifier IC and the receiver.

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