Abstracts

MMIC Compatible Lightwave-Microwave Mixing Technique (Mar. 1995 [T-MTT])

A. Paolella, S. Malone, T. Berceli and P.R. Herczfeld. "MMIC Compatible Lightwave-Microwave Mixing Technique (Mar. 1995 [T-MTT])." 1995 Transactions on Microwave Theory and Techniques 43.3 (Mar. 1995 [T-MTT]): 518-522.

The work presented here concerns the mixing of a microwave signal with a modulated optical signal in a MESFET. A brief theoretical analysis of the mixing mechanism is given in terms of the input signal parameters and device characteristics. Experimental results for the IF response of the MESFET as a function of RF frequency, incident optical power, optical modulation depth and gate bias voltage are shown. The IF response and the noise figure of the MESFET below 700 MHz were smaller than those of a p-i-n detector/Schottky mixer combination.

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