Abstracts

Optical Effects on the Static and Dynamic Characteristics of a GaAs MESFET (Short Papers)

J.L. Gautier, D. Pasquet and P. Pouvil. "Optical Effects on the Static and Dynamic Characteristics of a GaAs MESFET (Short Papers)." 1985 Transactions on Microwave Theory and Techniques 33.9 (Sep. 1985 [T-MTT]): 819-822.

In this paper, we describe the effect of light on the S-parameters of a GaAs MESFET. The photon energy is greater than the gap bandwidth of the semiconductor. The photoconductive and photovoltaic dc phenomena in the channel and in the depletion layer are theoretically analyzed with a unidimensional model to describe the light effect on the dc transconductance g/sub m/. The comparison between the dc transconductance, without and under illumination, and the theoretical model shows a very close agreement.

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