Abstracts

Al/sub 0.3/Ga/sub 0.7/As/GaAs HEMT's Under Optical Illumination

A.A. de Salles and M.A. Romero. "Al/sub 0.3/Ga/sub 0.7/As/GaAs HEMT's Under Optical Illumination." 1991 Transactions on Microwave Theory and Techniques 39.12 (Dec. 1991 [T-MTT] (1991 Symposium Issue)): 2010-2017.

Theoretical and experimental work for the dc and RF performance of depletion mode Al/sub 0.3/Ga/sub 0.7/As/GaAs HEMT's under optical illumination is presented. Photoconductive effect increasing the 2-DEG channel electron concentration and photovoltaic effect in the gate junction are considered. Optical tuning of a 2 GHz HEMT oscillator and optical control of the gain of a 2 to 6 GHz HEMT amplifier are presented and potential applications are described.

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