Abstracts

An Efficient Approach for Large-Signal Modeling and Analysis of the GaAs MESFET

V.D. Hwang and T. Itoh. "An Efficient Approach for Large-Signal Modeling and Analysis of the GaAs MESFET." 1987 Transactions on Microwave Theory and Techniques 35.4 (Apr. 1987 [T-MTT]): 396-402.

A nonlinear circuit model of the GaAs MESFET is developed by extracting circuit parameters from dc and small-signal RF measurements in a systematic manner. The circuit model is then analyzed by an efficient algorithm called the modified multiple-reflection method. For the first time, this method is applied to MESFET circuit analysis. Compared with the original multiple-reflection method, the modified multiple-reflection method shows a dramatic increase in convergence speed. The validity of the nonlinear MESFET model is confirmed by comparing the simulation results with experimental data.

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