Abstracts

Large-Signal Microwave Performance Prediction of Dual-Gate GaAs MESFET Using an Efficient and Accurate Model (Short Papers)

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This paper presents a microwave large-signal model for the dual-gate MESFET. The model enables prediction of device performance in small-signal and large-signal circuits. The model is an extension of a previously developed model for the ordinary MESFET. It relies on basic principles, thus correlating the device geometry and physical parameters to its performance. The speed and accuracy of the model are demonstrated by calculating three types of device performance: dc curves smell-signal scattering parameters, and huge-signal simulation of an amplifier. Good agreement was achieved between calculated and measured perfomance. The computed results are presented for comparison only, and no attempt was made to present a comprehensive analysis of the device performance.

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