Abstracts

The Influence of Device Physical Parameters on HEMT Large-Signal Characteristics

M. Weiss and D. Pavlidis. "The Influence of Device Physical Parameters on HEMT Large-Signal Characteristics." 1988 Transactions on Microwave Theory and Techniques 36.2 (Feb. 1988 [T-MTT] (Special Issue on Computer-Aided Design)): 239-249.

The small- and large-signal high-frequency characteristics of submicron HEMT's are analyzed by taking into account parasitic effects such as parallel conduction, fringing capacitances, and substrate leakage. The dependence of large-signal properties on device physical parameters is reported. This includes device gate length, donor layer thickness and doping, and spacer thickness. Satisfactory agreement is shown to exist between theoretically and experimentally obtained device characteristics.

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