Abstracts

A realistic large-signal MESFET model for SPICE (Sep. 1997 [T-MTT])

A.E. Parker and D.J. Skellern. "A realistic large-signal MESFET model for SPICE (Sep. 1997 [T-MTT])." 1997 Transactions on Microwave Theory and Techniques 45.9 (Sep. 1997 [T-MTT]): 1563-1571.

A comprehensive large-signal MESFET model that provides a realistic description of measured characteristics over all operating regions is presented, It describes subthreshold conduction and breakdown. It has frequency dispersion of both transconductance and drain conductance, and derates with power dissipation. All derivatives are continuous for a realistic description of circuit distortion and intermodulation. The model has improved descriptions of capacitance and bias dependence. It has small-signal S-parameter accuracy extended to a wide range of operating conditions. The model is implemented with new techniques for continuity and dispersion. These provide accurate prediction of circuit performance and also improve simulation speed.

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