Abstracts

Large-Signal MESFET Characterization Using Harmonic Balance

B.R. Epstein, S.M. Perlow, D.L. Rhodes, J.L. Schepps, M.M. Ettenberg and R. Barton. "Large-Signal MESFET Characterization Using Harmonic Balance." 1988 MTT-S International Microwave Symposium Digest 88.2 (1988 Vol. II [MWSYM]): 1045-1048.

A method is described that combines large-signal load tuning (i.e., load-pull) measurements with harmonic balance and optimization techniques to characterize GaAs MESFET devices. An important advantage of the method is that device model parameters are obtained at the frequencies at which the device will operate in circuits. Consequently, ambiguities regarding any frequency dependencies of the parameters are eliminated, thereby improving the accuracy of the device model and simulation. The method is best suited as a supplement to previously reported DC and small signal parameter extraction methods.

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