Abstracts

Measurement-Based Large-Signal Diode Modeling System for Circuit and Device Design

D.E. Root, M. Pirola, S. Fan, W.J. Anklam and A. Cognata. "Measurement-Based Large-Signal Diode Modeling System for Circuit and Device Design." 1993 Transactions on Microwave Theory and Techniques 41.11 (Dec. 1993 [T-MTT] (1993 Symposium Issue)): 2211-2217.

A new relaxation-time large-signal table-based diode model for circuit simulation and an associated automated system which characterizes the device and generates the model data file, are presented. Excellent agreement between simulated and measured fundamental and second through fourth harmonic power levels is demonstrated for a HEMT diode up to frequencies of 48 GHz. Excellent agreement is demonstrated between simulated and measured large-signal oscillation frequency versus varactor tuning voltage for a varactor-tuned oscillator circuit fabricated with a varactor diode designed using the model.

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