Abstracts

Waveform-Based Modeling and Characterization of Microwave Power Heterojunction Bipolar Transistors

C.-J. Wei, Y.E. Lan, J.C.M. Hwang, W.-J. Ho and J.A. Higgins. "Waveform-Based Modeling and Characterization of Microwave Power Heterojunction Bipolar Transistors." 1995 Transactions on Microwave Theory and Techniques 43.12 (Dec. 1995, Part II [T-MTT] (1995 Symposium Issue)): 2898-2902.

A waveform measurement technique has been successfully used to extract the large-signal nonlinear characteristics of microwave power heterojunction bipolar transistors. The extracted model parameters were compared to those extracted from dc and small-signal parameters in a conventional manner. It was found that, for high input drive conditions, the present model predicts a much longer collector transit time than the conventional model. Therefore, the present model is more consistent with the physical structure of the transistors and more suitable for evaluating future design improvement.

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