Abstracts

A Large-Signal HSPICE Model for the Heterojunction Bipolar Transistor (Short Papers)

C.T. Matsuno, A.K. Sharma and A.K. Oki. "A Large-Signal HSPICE Model for the Heterojunction Bipolar Transistor (Short Papers)." 1989 Transactions on Microwave Theory and Techniques 37.9 (Sep. 1989 [T-MTT] (Special Issue on FET Structures Modeling and Circuit Applications)): 1472-1475.

The emergence of the heterojunction bipolar transistor (HBT) from digital integrated circuit designs to analog/microwave MMIC applications has led to the need for accurate nonlinear models at microwave frequencies. The ability to predict performances of RF circuits such as mixers, voltage-controlled oscillators, and amplifiers is very important to the first-pass success of MMIC chip designs. The development of an accurate HSPICE model for the 3 x 10 μm^2 HBT allows the simulation of nonlinear measurements such as gain at the 1 dB compression point (P/sub 1 db/) and third-order intercept point (IP3) for circuit designs utilizing this emerging technology.

❑ Return to main document.