Abstracts

Direct extraction of linear HBT-model parameters using nine analytical expression blocks

A. Ouslimani, J. Gaubert, H. Hafdallah, A. Birafane, P. Pouvil and H. Leier. "Direct extraction of linear HBT-model parameters using nine analytical expression blocks." 2002 Transactions on Microwave Theory and Techniques 50.1 (Jan. 2002, Part I [T-MTT] (Mini-Special Issue on 1999 International Microwave and Optoelectronics Conference (IMOC'99))): 218-221.

A method to determine the heterojunction bipolar transistor (HBT) equivalent-circuit elements without numerical optimizations is presented. It is based on the extraction of nine analytical expressions, which are referred to here as "blocks." The model elements are extracted using certain blocks for some of them and three nonlinear equations derived from a combination of four expression blocks for some others. The base and collector resistances can be determined at each bias point. The method is validated treating the on-wafer HBTs.

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