Abstracts

A semianalytical parameter-extraction procedure for HBT equivalent circuit

Bin Li, S. Prasad, Li-Wu Yang and S.C. Wang. "A semianalytical parameter-extraction procedure for HBT equivalent circuit." 1998 Transactions on Microwave Theory and Techniques 46.10 (Oct. 1998, Part I [T-MTT]): 1427-1435.

A parameter-extraction approach for the heterojunction bipolar transistor (HBT), which combines the analytical approach and empirical optimization procedure, is developed. The extraction techniques for extrinsic base-collector capacitance and pad parasitics are also included in this approach. The cutoff operation of the HBT's is utilized to extract the values of the pad capacitances. An excellent fit between measured and simulated S-parameters in the frequency range of 50 MHz-36 GHz is obtained over a wide range of bias points.

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