Abstracts

Intermodulation in Heterojunction Bipolar Transistors

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This paper examines the modeling of small-signal intermodulation distortion (IM) in heterojunction bipolar transistors (HBTs). We show that IM current generated in the exponential junction is partially cancelled by IM current generated in the junction capacitance, and that this phenomenon is largely responsible for the unusually good IM performance of these devices, Finally we propose a nonlinear IHBT model suitable for IM calculations, show how to measure its parameters, and verify its accuracy experimentally.

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