Abstracts

An HBT unilateral model to design distributed amplifiers

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A novel heterojunction bipolar transistor (HBT) unilateral model oriented to a fast prediction of the performance of HBT monolithic-microwave integrated-circuit distributed amplifiers is proposed. The HBT unilateral model includes, by simple expressions, the effects caused by the HBT parasitics. A graphical design procedure for HBT distributed amplifiers is also proposed. This method is based on a set of generalized charts and represents a simple and fast design tool for designers. Comparisons between the performance of specially designed HBT distributed amplifiers and the results obtained using the HBT unilateral model demonstrate the validity of the proposed approach.

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