Abstracts

Small-Signal and Noise Model Extraction Technique for Heterojunction Bipolar Transistor at Microwave Frequencies

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The increasing use of Heterjunction Bipolar Transistors (HBT's) in microwave analog circuits requires a valid description of these devices by means of an equivalent circuit including noise sources in an extended bias and frequency range. This paper describes a technique to extract the elements of the equivalent circuit from simultaneous noise and S-parameter measurements. Additionally, the conventional high frequency bipolar junction transistor (BJT) noise model is shown to work well with HBT's. Recent results obtained from GaInP/GaAs HBT's are reported.

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