Abstracts

Nonlinear modeling of a SiGe HBT with applications to ultra low phase noise dielectric resonator oscillators

M. Regis, O. Llopis, L. Escotte, R. Plana, A. Gruhle, T.J. Brazil, M. Chaubet and J. Graffeuil. "Nonlinear modeling of a SiGe HBT with applications to ultra low phase noise dielectric resonator oscillators." 1999 MTT-S International Microwave Symposium Digest 99.1 (1999 Vol. I [MWSYM]): 83-86 vol.1.

We propose a large signal model for a packaged SiGe heterojunction bipolar transistor. Pulsed I-V measurements are used to avoid thermal effects. The current model yields excellent correlation with pulsed output characteristics and S-parameters up to 18 GHz. The model's validity is established by designing ultra low phase noise C and X band dielectric resonator oscillators (DROs).

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