Abstracts

Large-Signal Modeling of GaAs Power FET Amplifiers

M.A. Khatibzadeh, R.J. Trew and I.J. Bahl. "Large-Signal Modeling of GaAs Power FET Amplifiers." 1987 MTT-S International Microwave Symposium Digest 87.1 (1987 Vol. I [MWSYM]): 107-110.

A new large-signal, analytic model for the GaAs MESFET is used in conjunction with the modified harmonic balance technique to study the performance of a monolithic, C-band power FET amplifier. The new device model is physics based and requires device, material and bias data as input. The model includes the effects of non-uniform doping profiles and charge accumulation in the channel. Both small- and large-signal parameters calculated with the model are in good agreement with measured data. The power and harmonic performance of the complete amplifier are also in good agreement with measured data.

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