Abstracts

A New Empirical Nonlinear Model for HEMT and MESFET Devices

I. Angelov, H. Zirath and N. Rorsman. "A New Empirical Nonlinear Model for HEMT and MESFET Devices." 1992 Transactions on Microwave Theory and Techniques 40.12 (Dec. 1992 [T-MTT] (1992 Symposium Issue)): 2258-2266.

A new large signal model for HEMT's and MESFET's, capable of modeling the current-voltage characteristic and its derivatives, including the characteristic transconductance peak, gate-source and gate-drain capacitances is described. Model parameter extraction is straightforward and is demonstrated for different submicron gate-length HEMT devices including different /spl part/-doped pseudomorphic HEMTs on GaAs and lattice matched to InP, and a commercially available MESFET. Measured and modeled dc and S-parameters are compared and found to coincide well.

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