Abstracts

A microwave model for high electron mobility transistors

V. Kasemsuwan and M.A. El Nokali. "A microwave model for high electron mobility transistors." 1997 Transactions on Microwave Theory and Techniques 45.3 (Mar. 1997 [T-MTT]): 420-427.

In this paper, the authors present a high-frequency model for the high electron mobility transistor (HEMT). The model includes the distributed effects in the channel of the device through two newly developed wave equations in the linear and saturation regimes. The equations are solved taking into account the electric fields along and perpendicular to the flow of the current. The Y and S parameters are derived and the theoretical predictions of the model are compared with the experimental data and shown to be in good agreement over a wide range of frequencies.

❑ Return to main document.