Abstracts

Determination of the Electrode Capacitance Matrix for GaAs FET's

N.G. Alexopoulos, J.A. Maupin and P.T. Greiling. "Determination of the Electrode Capacitance Matrix for GaAs FET's." 1980 Transactions on Microwave Theory and Techniques 28.5 (May 1980 [T-MTT] (Special Issue on Gigabit Logic for Microwave Systems)): 459-466.

In this paper, a method is presented which provides the electrode capacitance matrix for GaAs FET's. The method incorporates a Green's function, valid for conductors printed on or embedded in a grounded substrate, with the moment method technique. Although calculations for various geometries of printed conductors are considered, emphasis is placed on the computation of self- and mutual-capacitances for the source, gate, drain equivalent circuit of a GaAs FET. As an example, the speed power characteristics of a depletion-rnode GaAs FET inverter circuit are examined, as a function of device width, pad and gate length.

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