Abstracts

Yield Sensitivity of HEMT Circuits to Process Parameter Variations (Short Papers)

J.C. Sarker and J.E. Purviance. "Yield Sensitivity of HEMT Circuits to Process Parameter Variations (Short Papers)." 1992 Transactions on Microwave Theory and Techniques 40.7 (Jul. 1992 [T-MTT] (Special Issue on Process-Oriented Microwave CAD and Modeling)): 1572-1576.

This work summarizes the use of a graphical tool, yield factor histograms, to study the yield sensitivity of HEMT circuits to process parameter variations. A computer program called SPICENTER is used to incorporate the HEMT statistical physical model with a SPICE circuit model and then to generate the yield factor histograms and yield sensitivities as functions of the process parameters. This work presents, for the first time, the application of these tools to microwave circuits. Two example HEMT circuits, a 2-input NOR gate and an inverter chain, illustrate the concepts. Yield sensitivity is presented as yield percent change per parameter percent change.

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