Abstracts

Modeling of Multiconductor Buses and Analysis of Crosstalk, Propagation Delay, and Pulse Distortion in High-Speed GaAs Logic Circuits

G. Ghione, I. Maio and G. Vecchi. "Modeling of Multiconductor Buses and Analysis of Crosstalk, Propagation Delay, and Pulse Distortion in High-Speed GaAs Logic Circuits." 1989 Transactions on Microwave Theory and Techniques 37.3 (Mar. 1989 [T-MTT]): 445-456.

The paper presents an analysis of crosstalk, propagation delay, and pulse distortion in multiconductor buses for high-speed GaAs logic circuits. A simple but accurate quasi-TEM model of the bus is developed, and a critical analysis is carried out both on the accuracy of different approximate lumped and distributed models and on the impact of such approximations on the time-domain response. Results are presented on the behavior of multiconductor buses in the presence of realistic input waveforms, and design criteria are obtained.

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