Abstracts

A Solution to Characteristics of Planar Transmission Lines Made of Finite-Thickness Metal on Multi-Layer Media

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When analyzing signal transmission characteristics of metal lines on semiconductor devices and circuits, the assumption that metal is perfectly conducting is not always valid. In this paper, a simple, accurate way to include metallic loss in spectral domain analysis of planar transmission lines built on multi-layer semiconducting media is presented. Applications to analyzing IC interconnection dalays, calculating FET gate electrode losses and optimizing monolithic slow-wave devices are also described.

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