Abstracts

Finite Element Method Applied to Skin-Effect Problems in Strip Transmission Lines

G.I. Costache. "Finite Element Method Applied to Skin-Effect Problems in Strip Transmission Lines." 1987 Transactions on Microwave Theory and Techniques 35.11 (Nov. 1987 [T-MTT]): 1009-1013.

This paper describes a two-dimensional finite element approach to the quasi-static TEM analysis of shielded or open conducting strips with applications to VLSI parasitic elements and transmission line characteristics of printed circuits. The approach uses a combination of two-dimensional and one-dimensional finite elements to solve the field problems in terms of the magnetic vector potential in the frequency domain. The method and the algorithm can be applied to shielded or open conducting strips and takes into account the skin effect and proximity effect between structures. The ac resistance and reactance calculated by rising this approach can be used as input parameters to a circuit analysis program such as SPICE or similar programs.

❑ Return to main document.