Abstracts

Numerically efficient spatial-domain moment method for multislot transmission lines in layered media-application to multislot lines in MCM-D technology

E.A. Soliman, P. Pieter, E. Beyne and G.A.E. Vandenbosch. "Numerically efficient spatial-domain moment method for multislot transmission lines in layered media-application to multislot lines in MCM-D technology." 1999 Transactions on Microwave Theory and Techniques 47.9 (Sep. 1999, Part II [T-MTT] (Special Issue on Multilayer Microwave Circuits)): 1782-1787.

Multislot planar transmission lines are analyzed using a mixed-potential integral-equation formulation solved by the method of moments. Closed-form Green's functions for horizontal magnetic filaments are obtained using the discrete complex image in conjunction with the two-level approximation scheme. The calculations are applied on the specific case of the multislot lines built in the microwave multichip-module deposition technology. The effect of the thin dielectric films on the propagation and the dispersion characteristics is investigated. This effect was found to be significant and mode dependent. Numerical results for the modal currents and dispersion curves are also presented.

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