Abstracts

Computation of the Equivalent Capacitance of a Via in a Multilayered Board Using the Closed-Form Green's Function (Short Papers)

K.S. Oh, J.E. Schutt-Aine, R. Mittra and B. Wang. "Computation of the Equivalent Capacitance of a Via in a Multilayered Board Using the Closed-Form Green's Function (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.2 (Feb. 1996 [T-MTT]): 347-349.

A method based on the quasi-static approximation for computing the equivalent capacitance of a via is presented in this paper. The geometry of a via consists of traces, pads and a perfectly conducting cylindrical rod; the via is buried in a multilayered dielectric medium with optional reference (ground) planes. The total number of traces, pads, and ground planes can be arbitrary, as well as the angles and cross sections. The method is based on the excess charge formulation of an integral equation applied in conjunction with the recently developed closed-form Green's function.

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