Abstracts

Capacitance of a Circular Symmetric Model of a Via Hole Including Finite Ground Plane Thickness (Short Papers)

P. Kok and D. De Zutter. "Capacitance of a Circular Symmetric Model of a Via Hole Including Finite Ground Plane Thickness (Short Papers)." 1991 Transactions on Microwave Theory and Techniques 39.7 (Jul. 1991 [T-MTT]): 1229-1234.

The capacitance of a simplified model of a via hole is calculated based on an integral equation approach for the surface charge density. The finite ground plane thickness is explicitly taken into account. Numerical data are obtained for a large range of realistic geometrical data. The relative importance of the contribution to the total capacitance coming from the ground plane opening is explicitly evaluated. It is found that the via capacitance is proportional to the square root of its height, at least for the range of geometrical data considered in this paper.

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