

Abstracts

On the Interaction of the MMIC and its Packaging (Short Papers)

Y.L. Chow, G.E. Howard and M.G. Stubbs. "On the Interaction of the MMIC and its Packaging (Short Papers)." 1992 Transactions on Microwave Theory and Techniques 40.8 (Aug. 1992 [T-MTT]): 1716-1719.

The software WATMIC-EMsim is used to simulate the interaction of an MMIC circuit and its packaging. Specifically in this paper, the circuit is the spiral transformer, and the packaging is the surrounding ground ring used to interface the transformer to its coplanar probes. It is found that the resonant frequencies of the transformer are affected greatly with the introduction of the ring but, with its introduction, only slightly by the width of the ring. This paper points out that this finding of interaction mimics the well known phenomenon in electrostatic capacitance. More importantly, this paper points out that in the field theoretic analysis of an MIC/MMIC circuit the influence of the packaging must be considered.

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