Abstracts

Coupling between microstrip lines embedded in polyimide layers for 3D-MMICs on Si

G.E. Ponchak, E.M. Tentzeris and J. Papapolymerou. "Coupling between microstrip lines embedded in polyimide layers for 3D-MMICs on Si." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 1723-1726 vol.3.

Three-dimensional circuits built upon multiple layers of polyimide are required for constructing Si-SiGe monolithic microwave/millimeter-wave integrated circuits on CMOS (low resistivity) Si wafers. However, the closely spaced transmission lines are susceptible to high levels of coupling, which degrades circuit performance. In this paper, Finite Difference Time Domain (FDTD) analysis and measured characteristics of novel shielding structures that significantly reduce coupling between embedded microstrip lines are presented.

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