Abstracts

Full-Wave Analysis of Discontinuities in Uniplanar and Multiplanar Transmission Lines Using the Frequency-Domain TLM Method

H. Jin, R. Vahldieck, P. Russer and J. Huang. "Full-Wave Analysis of Discontinuities in Uniplanar and Multiplanar Transmission Lines Using the Frequency-Domain TLM Method." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 713-716.

This paper introduces a rigorous analysis of a variety of transmission line transition discontinuities and module interconnect assemblies in MMIC and miniature MIC circuits using the frequency-domain TLM method. Numerical results of frequency-dependent s-parameters are presented which include the effect of finite thickness and conductivity of the metallization as well as mode interaction between cascaded discontinuities. The effects of the bonding wire for module assemblies is investigated. It is found that the properties of the interconnect are largely depended on the total length of the wire and are quite insensitive to the shape of the wire. This is in a good agreement with experimental observations.

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