Abstracts

Rigorous Analysis of the Characteristic Impedance in Conductor-Backed Miniature Coplanar Waveguides Considering Multiple Layers of Lossy and Finite Thickness Metal

K. Wu and R. Vahldieck. "Rigorous Analysis of the Characteristic Impedance in Conductor-Backed Miniature Coplanar Waveguides Considering Multiple Layers of Lossy and Finite Thickness Metal." 1992 MTT-S International Microwave Symposium Digest 92.2 (1992 Vol. II [MWSYM]): 987-990.

This paper present a complete investigation of realistic conductor-backed miniature coplanar waveguides based on GaAs and allumina substrates. A self-consistent approach is used together with the method of lines to determine characteristic impedances, losses and propagation constants. This analysis is general and includes not only the finite thickness and conductivity of metallization but also the effect of first and second metallic layers and the via-hole location. Results are compared with those obtained with the mode-matching method and published measured data.

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