Abstracts

Wide band CAD model for coplanar waveguide using FDTD technique

E. Lan, S.M. El-Ghazaly, V. Nair, K. Eisenbeiser and B. Ooms. "Wide band CAD model for coplanar waveguide using FDTD technique." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1583-1586.

The coplanar waveguide (CPW) is one of the most suitable transmission lines for millimeter-wave circuits. This paper presents the development of a very wide band CAD model for the CPW and its discontinuities. The propagation characteristics of CPW and its discontinuities on semiconductor substrates are modeled using the FDTD technique. Empirical equations suitable for implementation in commercial software packages are developed. Several CPW structures were fabricated on GaAs substrates and tested. Very good agreement between the measurement and the model is observed over a wide frequency band, from 1 to 110 GHz.

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