

Abstracts

Numerical Analysis of Shielded Coplanar Waveguides

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A numerical method is presented to calculate the impedance and the effective dielectric constant for a coplanar waveguide with a ground plane under a thin dielectric. Impedance and effective dielectric constant values are given as a function of geometry for GaAs and alumina substrates. An approximate analytical expression is given to generate the numerical value of the impedance with good accuracy. The results can be used in designing shielded coplanar waveguides. Measurements of a tapered 50- Ω test structure are presented.

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