

Abstracts

Finite-Boundary Corrections to the Coplanar Waveguide Analysis (Short Papers)

M.E. Davis, E.W. Williams and A.C. Celestini. "Finite-Boundary Corrections to the Coplanar Waveguide Analysis (Short Papers)." 1973 Transactions on Microwave Theory and Techniques 21.9 (Sep. 1973 [T-MTT]): 594-596.

Conformal mapping calculations of impedance and effective dielectric constant are presented for coplanar waveguide (CPW) lines with finite-substrate thickness. These calculations and experimental data show a departure from the infinite dielectric approximation as the substrate thickness approaches the guide slot width. The quasi-TEM approximation is retained and calculations of static energy density within the substrate are given. This approximation agrees well with field calculations using a finite-element solution to Laplace's equation.

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