Abstracts

Analytical Analyses of V, Elliptic, and Circular-Shaped Microshield Transmission Lines

N. Yuan, C. Ruan and W. Lin. "Analytical Analyses of V, Elliptic, and Circular-Shaped Microshield Transmission Lines." 1994 Transactions on Microwave Theory and Techniques 42.5 (May 1994 [T-MTT]): 855-859.

Several new types of monolithic coplanar transmission lines, v, elliptic, and circular-shaped microshield coplanar waveguide, have been proposed. The characteristic impedance expressions for those transmission lines have been derived using the conformal mapping method (CMM) under the assumption of the pure-TEM propagation and zero dispersion. In the analyses of the elliptic and the circular-shaped microshield coplanar lines, the methods using the graphical approximation and taking the geometric mean value of the upper and the lower bounds to the size of the line are put forward to calculate the characteristic impedance of this two kinds of microshield coplanar lines. The numerical results show the effects of the different shaped microshield walls on characteristic impedances.

❑ Return to main document.