Abstracts

Determination of Semiconductor Junction Device Package Networks (Dec. 1974 [T-MTT])

P.T. Greiling and R.W. Laton. "Determination of Semiconductor Junction Device Package Networks (Dec. 1974 [T-MTT])." 1974 Transactions on Microwave Theory and Techniques 22.12 (Dec. 1974, Part II [T-MTT] (1974 Symposium Issue)): 1140-1145.

A generalized method for the determination of semiconductor device package characteristics in the form of linear lumped element networks is described. The method is based upon a computer algorithm for the reduction of mean square error between measured and calculated impedance and is applicable to any package geometry in any microwave circuit media. Impedance measurements are made with the device in situ, without requiring special reference packages. Rapid convergence is obtained by an analysis of the pole-zero configuration of a lossless approximation to the measured data for obtaining initial element values. Results are given for IMPATT and TRAPATT devices in coaxial and microstrip circuits, together with an experimental demonstration of the validity of the result for a TRAPATTdiode in a 20-Omega microstrip circuit.

❑ Return to main document.