Abstracts

Finite Element Analysis of Skin Effect Resistance in Submillimeter Wave Schottky Barrier Diodes

J.S. Campbell and G.T. Wrixon. "Finite Element Analysis of Skin Effect Resistance in Submillimeter Wave Schottky Barrier Diodes." 1982 Transactions on Microwave Theory and Techniques 30.5 (May 1982 [T-MTT]): 744-750.

The skin effect resistance of GaAs Schottky barrier diodes, operating at high frequency, has been obtained using a specially developed finite element computer program. The devices were analyzed as multilane finite element models entailing curved high-order numerically integrated isoparametric elements. These models coped easily with complexity of shape and with the near singularity associated with the geometry of the anode. A parametric study entailing twenty-six analyses was carried out, from which it was concluded that the skin effect resistance can be minimized by the correct choice of topographical features such as the extent of the ohmic contact and the anode shape.

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