Abstracts

A Simplified Field Analysis of a Distributed IMPATT Diode Using Multiple Uniform Layer Approximation (Short Papers)

M. Matsumoto, M. Tsutsumi and N. Kumagai. "A Simplified Field Analysis of a Distributed IMPATT Diode Using Multiple Uniform Layer Approximation (Short Papers)." 1988 Transactions on Microwave Theory and Techniques 36.8 (Aug. 1988 [T-MTT]): 1283-1285.

A small-signal field analysis of a distributed IMPATT diode is presented. The active region of the diode is assumed to consist of a uniform avalanche layer and avalanche-free drift layers. The propagation constant and field distributions are obtained without numerical solution of differential equations, which is necessary in the analysis described in [9]. Some numerical results are given which show the dependence of the amplification characteristics on the thickness of the avalanche and drift layers.

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