Abstracts

Computer Simulation of Anomalous-Mode Oscillation in Silicon Avalanche Diodes (Correspondence)

M. Matsumura and H. Abe. "Computer Simulation of Anomalous-Mode Oscillation in Silicon Avalanche Diodes (Correspondence)." 1970 Transactions on Microwave Theory and Techniques 18.11 (Nov. 1970 [T-MTT] (Special Issue on Microwave Circuit Aspects of Avalanche-Diode and Transferred Electron Devices)): 975-977.

Computer simulations of the free-running oscillation of an avalanche diode inserted at one end of a multifrequency coaxial-line resonator are presented. The obtained transient behaviors indicate that for triggering of the anomalous-mode oscillation, a large-signal IMPATT-mode oscillation is not always necessary. The waveform of the anomalous mode under steady-state conditions can be constructed by the superposition of a sawtooth and a positive spike waveform.

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