Abstracts

CW TRAPATT Amplification (Correspondence)

W.J. Evans. "CW TRAPATT Amplification (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)): 986-988.

High-efficiency CW amplification has been obtained using germanium TRAPATT diodes. Several modes of amplification are described. The first mode gives approximately a 12-dB gain with a maximum efficiency of 25 percent at saturation. The second mode exhibits lower gain, but at a relatively low input power the diode switches into a locked TRAPATT oscillator mode with an efficiency of approximately 35 percent. Each of these modes exhibits a noise figure of approximately 120 dB. A third mode which allows the diode to oscillate in the TRAPATT mode at one frequency and to amplify at a second frequency has also been obtained. The noise figure for this mode is approximately 60 dB.

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