

Abstracts

Broad-Band Varactor-Tuned IMPATT-Diode Oscillator (Short Papers)

D.H. Claxton and P.T. Greiling. "Broad-Band Varactor-Tuned IMPATT-Diode Oscillator (Short Papers)." 1975 Transactions on Microwave Theory and Techniques 23.6 (Jun. 1975 [T-MTT]): 501-504.

A varactor-tuned IMPATT-diode oscillator with a continuous and monotonic tuning bandwidth of 27 percent and a potential tuning range in excess of 40 percent is described. The results of a computer program which optimizes the tuning bandwidth of the equivalent circuit of the voltage-controlled oscillator (VCO) are presented. The VCO consists of two varactors located symmetrically on each side of an IMPATT diode all mounted in a ridged waveguide with two matched outputs into 50-Ohm coaxial. Experimental results on bandwidth, power output, frequency linearity, and FM noise are presented.

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