Abstracts

Pulsed Double-Drift Silicon IMPATT Diodes and Their Application

G. Pfund, C.P. Snapp and A. Podell. "Pulsed Double-Drift Silicon IMPATT Diodes and Their Application." 1974 Transactions on Microwave Theory and Techniques 22.12 (Dec. 1974, Part II [T-MTT] (1974 Symposium Issue)): 1134-1140.

The performance and application of double-drift silicon IMPATT diodes designed for pulsed operation at frequencies between 8.5 and 18 GHz are described. Peak pulse powers greater than 18 W at 10 GHz and 13.5 W at 16.5 GHz were obtained for 800-ns pulses at a 25-percent duty cycle with the average junction-temperature, rise limited to 200°C. Conversion efficiencies were between 11 and 13.7 percent. The microwave cavity and pulsed bias circuitry are described in detail.

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