Abstracts

Broad-Band Characteristics of EHF IMPATT Diodes

L.H. Holway, Jr. and S.L. Chu. "Broad-Band Characteristics of EHF IMPATT Diodes." 1982 Transactions on Microwave Theory and Techniques 30.11 (Nov. 1982 [T-MTT]): 1933-1939.

Measurements have been made of the oscillator characteristics when a GaAs EHF double-drift IMPATT diode designed for a frequency of 35 GHz is operated over an extended frequency range from 33-50 GHz. The diode which was designed for 35 GHz has a broad-band capability which allows it to produce 2.15 W at 44.1 GHz. An analytic model is shown to predict accurately the observed results. The model indicates that the upper limit in frequency can be increased by reducing the diode area or the series resistance as well as by reducing the length of the drift region.

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