Abstracts

Characterization of Microwave Oscillator and Amplifier Circuits Using an IMPATT Diode Biased Below Breakdown (Comments and Authors' Reply)

N.D. Kenyon, G.S. Hobson, R.C. Tozer and R. Charlton. "Characterization of Microwave Oscillator and Amplifier Circuits Using an IMPATT Diode Biased Below Breakdown (Comments and Authors' Reply)." 1975 Transactions on Microwave Theory and Techniques 23.5 (May 1975 [T-MTT]): 454-455.

In the above short paper, the method described for the characterization of IMPATT's and their circuits is based entirely upon an assumption that the whole oscillator can be correctly described by a single-resonant circuit. This the authors have been careful to emphasize. But it is by no means clear that such an assumption is tenable for any normal circuit configurations, nor that the test described to confirm the given equivalent circuit is sufficiently stringent. Though the resonant absorption may be fairly narrow, and its variation with diode bias smooth, this is no guarantee that the circuit is single tuned, that it does not, for example, require a further series reactance giving a broad resonance elsewhere, or that the components of the equivalent circuit are not themselves functions of frequency.

❑ Return to main document.