

Abstracts

On Injection-Locking Figure of Merit for Avalanche, Gunn, and Other Oscillators (Correspondence)

D.D. Khandelwal. "On Injection-Locking Figure of Merit for Avalanche, Gunn, and Other Oscillators (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)): 989-992.

Injection-locking figure of merit has been derived for a negative-resistance oscillator in terms of the frequency compliance coefficient. A method of estimating this under small-injected-signal conditions for any device operating in any mode and a given circuit is described. The method requires the knowledge of the device impedance evaluated either from a large-signal analysis or experimentally and a proper description of the microwave circuit. A practical case of a Gunn-effect device operating in the quenched-domain mode has been described for illustration.

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