

Abstracts

Influence of the Harmonics on the Power Generated by Waveguide-Tunable Gunn Oscillators (Short Papers)

E.M. Bastida and G. Conciauro. "Influence of the Harmonics on the Power Generated by Waveguide-Tunable Gunn Oscillators (Short Papers)." 1974 Transactions on Microwave Theory and Techniques 22.8 (Aug. 1974 [T-MTT]): 796-798.

It has been observed that in many cases the power generated by waveguide-tunable Gunn oscillators varies irregularly and rapidly with the tuning. These power variations, which are not to be confused with those deriving from mode switching, markedly depend on the components connected to the oscillator, and are present in spite of their good matching in the operating band. Theoretical evaluations and an experimental test have been performed which allows one to ascribe this phenomenon to the interaction between the fundamental and harmonic signals due to the diode nonlinearity. The understanding of this phenomenon allows one to design the oscillator in such a way as to reduce its effects.

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