

Abstracts

Study of the Harmonic Effects for Waveguide Gunn-Diode Oscillator Optimization

E.M. Bastida. "Study of the Harmonic Effects for Waveguide Gunn-Diode Oscillator Optimization." 1980 Transactions on Microwave Theory and Techniques 28.4 (Apr. 1980 [T-MTT]): 305-313.

The dependence on harmonic load conditions of waveguide Gunn oscillator performance is theoretically and experimentally studied. A simple waveguide mount is presented, which by controlling the diode harmonic load conditions, with one single adjustment permits considerable simultaneous improvement in output power, bias tuning, and varactor tuning linearities, as well as in frequency stability with the temperature. The oscillator noise level can also be minimized, though not at the same time as the other improvements. Finally, the usefulness of harmonic control in simplifying some typical thermal procedures is shown.

[Return to main document.](#)