

Abstracts

InP Gunn-Effect Devices for Millimeter-Wave Amplifiers and Oscillators

R.J. Hamilton, Jr., R.D. Fairman, S.I. Long, M. Omori and F.B. Fank. "InP Gunn-Effect Devices for Millimeter-Wave Amplifiers and Oscillators." 1976 Transactions on Microwave Theory and Techniques 24.11 (Nov. 1976 [T-MTT] (Special Issue on Millimeter Waves: Circuits, Components, and Systems)): 775-780.

CW InP Gunn oscillator performance has been extended up in frequency to the 26.5-40 and 50-75-GHz ranges. CW power outputs of 78 mW at 56 GHz have been attained to date. Amplifier evaluation in Ku band yielded useful gain from 26.5 to 40 GHz in two half-band circuits with noise figures ranging from 12.4 to 16.5 dB on flat profile devices. In a narrow-band amplifier circuit at 23 GHz, a device noise figure of 10.1 dB was obtained at 9-dB gain. A description of material growth, evaluation techniques, and device designs is also presented.

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