Abstracts

Comparison of modulated impurity-concentration InP transferred electron devices for power generation at frequencies above 130 GHz

R. Judaschke. "Comparison of modulated impurity-concentration InP transferred electron devices for power generation at frequencies above 130 GHz." 2000 Transactions on Microwave Theory and Techniques 48.4 (Apr. 2000, Part II [T-MTT] (Special Issue on Terahertz Electronics)): 719-724.

In this paper, InP transferred electron devices of various doping profiles have been theoretically investigated for fundamental- and harmonic-mode operation at frequencies up to 260 GHz. The results are based on an efficient and accurate hydrodynamic simulator, which analyzes the device under both conditions: impressed terminal voltage and realistic load impedances. In comparison with state-of-the-art graded profile diodes, improved performance is demonstrated for modulated impurity-concentration devices for both modes of operation.

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