Abstracts

Study of the Effect of the C/sub max//C/sub min/ Ratio on the Performance of Back-to-Back Barrier-N-N (bbBNN) Varactor Frequency Multipliers

D. Choudhury, A.V. Raisanen, R.P. Smith and M.A. Frerking. "Study of the Effect of the C/sub max//C/sub min/ Ratio on the Performance of Back-to-Back Barrier-N-N (bbBNN) Varactor Frequency Multipliers." 1994 Microwave and Guided Wave Letters 4.4 (Apr. 1994 [MGWL]): 101-103.

The effect of the C/sub max//C/sub min/ ratio on the performance of planar back-to-back Barrier-N-N/sup +/ (bbBNN) frequency multipliers is studied. A simplified physical model of the device is used to relate the electrical characteristics to the material and the structural parameters. Multiplication efficiency is evaluated using a large signal analysis approach. Results indicate that if the optimum device size for a given frequency is used, a high C/sub max//C/sub min/ ratio results in high efficiency.

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