Abstracts

Heterostructure-barrier-varactor design

J. Stake, S.H. Jones, L. Dillner, S. Hollung and E.L. Kollberg. "Heterostructure-barrier-varactor design." 2000 Transactions on Microwave Theory and Techniques 48.4 (Apr. 2000, Part II [T-MTT] (Special Issue on Terahertz Electronics)): 677-682.

In this paper, we propose a simple set of accurate frequency-domain design equations for calculation of optimum embedding impedances, optimum input power, bandwidth, and conversion efficiency of heterostructure-barrier-varactor (HBV) frequency triplers. A set of modeling equations for harmonic balance simulations of HBV multipliers are also given. A 141-GHz quasi-optical HBV tripler was designed using the method and experimental results show good agreement with the predicted results.

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