Abstracts

Theoretical Efficiency for Triplers Using Nonideal Varistor Diodes at Submillimeter Wavelengths

K. Benson and M.A. Frerking. "Theoretical Efficiency for Triplers Using Nonideal Varistor Diodes at Submillimeter Wavelengths." 1985 Transactions on Microwave Theory and Techniques 33.12 (Dec. 1985 [T-MTT] (1985 Symposium Issue)): 1367-1374.

The theoretical efficiency for frequency triplers multiplying from 300 to 900 GHz has been calculated for nonideal GaAs Schottky diodes operating in the varistor mode. The maximum efficiency is determined to be about 7 percent, only slightly smaller than that for ideal varistors. Guidelines for optimum bias conditions and embedding network impedances have been determined using the large-signal analysis computer program of Siegel and Kerr.

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