Abstracts

High-Efficiency Frequency Multiplication with GaAs Avalanche Diodes (Short Papers)

B.M. Kramer, A.C. Derycke, A. Farrayre and C.F. Masse. "High-Efficiency Frequency Multiplication with GaAs Avalanche Diodes (Short Papers)." 1976 Transactions on Microwave Theory and Techniques 24.11 (Nov. 1976 [T-MTT] (Special Issue on Millimeter Waves: Circuits, Components, and Systems)): 861-863.

GaAs avalanche diodes for frequency multiplication at millimeter wavelengths have been investigated. The GaAs diode design is described and compared with that of Si diodes. Experimental results obtained in the optimum circuit are presented. Frequency multiplication from 4 to 32 GHz with 6-dB conversion loss (400 to 100 mW) and 1.5-W dc bias power was achieved. A temperature dependence of the output power was measured to be less than 1 dB over the -40 to +60/spl deg/C range.

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