Abstracts

Submillimeter-wave sideband generation using varactor Schottky diodes

D.S. Kurtz, J.L. Hesler, T.W. Crowe and R.M. Weikle, II. "Submillimeter-wave sideband generation using varactor Schottky diodes." 2002 Transactions on Microwave Theory and Techniques 50.11 (Nov. 2002 [T-MTT] (Mini-Special Issue on the 2002 IEEE Radio Frequency Integrated Circuit (RFIC) Symposium)): 2610-2617.

A submillimeter-wave sideband generator based on phase modulation is described. The sideband generator consists of a whisker-contacted Schottky varactor mounted in a reduced-height waveguide. A microwave pump signal modulates the reflection coefficient the varactor presents to an incident submillimeter-wave carrier. The circuit discussed in this paper has exhibited a carrier-to-single sideband conversion loss of 14 dB and an output power of 55 /spl mu/W at 1.6 THz.

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