Abstracts

Hybrid Integrated Frequency Multipliers at 300 and 450 GHz

T. Takada and M. Hirayama. "Hybrid Integrated Frequency Multipliers at 300 and 450 GHz." 1978 Transactions on Microwave Theory and Techniques 26.10 (Oct. 1978 [T-MTT] (Special Issue on Microwave and Millimeter-Wave Integrated Circuits)): 733-737.

300- and 450-GHz band doublers and triplers using thin-film integrated circuits have been developed. The multipliers are built with a GaAs honeycomb-type Schottky barrier diode designed to have a high cutoff frequency and transitions from microstrip to rectangular waveguides. A 450-GHz band tripler delivered an output power of -11.2 dBm with a corresponding conversion loss of 19.4 dB. The output power of the 300-GHz band doubler was -3.6 dBm, and its minimum conversion loss was 10.7dB. The hybrid integrated frequency multipliers are useful as solid-state sources in the short-millimeter-wave and subrnillimeter-wave regions.

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