

Abstracts

Monolithic Frequency Doublers

A. Chu, W.E. Courtney, L.J. Mahoney, R.A. Murphy and R.W. McLelland. "Monolithic Frequency Doublers." 1983 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 83.1 (1983 [MCS]): 45-49.

Monolithic frequency doublers have been fabricated and tested. Planar Schottky barrier varactor diodes, RF matching circuits and bias lines are integrated on a 4 mm by 8 mm GaAs substrate, demonstrating the feasibility of monolithic frequency multipliers for the first time. Output powers greater than 20 mW are obtained from 25.6 to 27.4 GHz. In this frequency range maximum output powers are ~43 mW with conversion efficiencies of ~20%. Maximum efficiencies of 24% are obtained at a reduced output power of 25 mW.

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