Abstracts

GaAs Monolithic Frequency Doublers with Series Connected Varactor Diodes (1984 [MWSYM])

A. Chu, W.E. Courtney, L.J. Mahoney, R.W. McClelland and H.A. Atwater. "GaAs Monolithic Frequency Doublers with Series Connected Varactor Diodes (1984 [MWSYM])." 1984 MTT-S International Microwave Symposium Digest 84.1 (1984 [MWSYM]): 51-54.

GaAs monolithic frequency doublers using series connected varactor diodes have been fabricated for the first time. Output powers of 150 mW at 36.9 GHz with 24% efficiency and 300 mW at 24.8 GHz with 18% efficiency have been obtained. Peak efficiencies of 35% at output power levels near 100 mW have been achieved at both frequencies. Both K-band and Ka-band frequency doublers are derived from a lower power, single-diode design by series connection of two diodes and scaling to achieve different power and frequency specifications. Their fabrication was accomplished using the same process sequence.

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