Abstracts

A 69 GHz Monolithic FET Oscillator (1984 [MWSYM])

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A monolithic oscillator was fabricated using conventional planar FET technology. The active device used was a 0.35x60 micron FET fabricated on an active layer formed by ion implantation into an undoped VPE buffer layer. Frequency stability is achieved using either an on-chip microstrip resonant circuit or by adding a 30 mil diameter dielectric resonator directly onto the 50 mil square GaAs chip. With no external tuning the oscillator delivered 0.45 milliwatts at 64 GHz. By using an external E-H waveguide tuner, 0.7 milliwatts of power at 65.7 GHz was achieved. The oscillator was tunable from 55 to 75 GHz by adjusting the source-gate tuning inductor and the drain tuning.

❑ Return to main document.