Abstracts

Monolithic 60 GHz GaAs CW IMPATT Oscillator (1988 [MCS])

B. Bayraktaroglu. "Monolithic 60 GHz GaAs CW IMPATT Oscillator (1988 [MCS])." 1988 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 88.1 (1988 [MCS]): 63-66.

A monolithic circuit design was developed for GaAs IMPATT diodes to enable their operation under CW conditions at V-band ferquencies. All impedance matching circuits were fabricated on the top surface of the GaAs substrate. At 61.5 GHz 100 mw CW output power was obtained with 13.5% conversion efficiency. In an alternative design, varactor diodes were integrated with the IMPATT circuits to produce the first monolithic VCOs operating under CW conditions. Over 3.5 GHz tuning bandwidth was obtained at a center frequency of 70 GHz with a CW output power of 15 mW.

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