

Abstracts

A D-Band Monolithic Fundamental Oscillator Using InP-Based HEMT's (1993 [MCS])

Y. Kwon, D. Pavlidis, T. Brock and D.C. Streit. "A D-Band Monolithic Fundamental Oscillator Using InP-Based HEMT's (1993 [MCS])." 1993 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 93.1 (1993 [MCS]): 49-52.

The design and experimental characteristics of the first fundamental D-band monolithic HEMT oscillator are reported. The circuit is based on a dual feedback topology and uses 0.1 μ m pseudomorphic double heterojunction InAlAs/In_{0.7}Ga_{0.3}As HEMT's. It includes on-chip bias circuitry and an integrated E-field probe for direct radiation into the waveguide. An oscillation frequency of 130.7 GHz was measured and the output power level was -7.9 dBm using HEMT's of small gate periphery (90 μ m). This represents the highest frequency of fundamental signal generation out of monolithic chips using three-terminal devices.

[Return to main document.](#)