Abstracts

W-Band Oscillator Using Ion-Implanted InGaAs MESFET's

J.M. Schellenberg, C.L. Lau, M. Feng and P. Brusenback. "W-Band Oscillator Using Ion-Implanted InGaAs MESFET's." 1991 Microwave and Guided Wave Letters 1.5 (May 1991 [MGWL]): 100-102.

While FET devices dominate microwave applications at lower frequencies, they have not yet demonstrated sufficient power as a source at W-band frequencies to displace 2-terminal Gunn and IMPATT devices. A fundamental FET oscillator is reported operating at 92.3 GHz with an output power of 14 mW. This is the highest reported output power for an FET oscillator at W-band frequencies and is comparable to commercial Gunn diode oscillators. Further, these results were achieved with an InGaAs MESFET device that was fabricated using low-cost ion-implantation techniques.

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