Abstracts

A Quasioptical Resonant-Tunneling-Diode Oscillator Operating Above 200 GHz (Special Section Short Papers)

E.R. Brown, C.D. Parker, A.R. Calawa, M.J. Manfra and K.M. Molvar. "A Quasioptical Resonant-Tunneling-Diode Oscillator Operating Above 200 GHz (Special Section Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.4 (Apr. 1993 [T-MTT]): 720-722.

A quasioptical resonant-tunneling-diode oscillator is demonstrated at frequencies above 200 GHz. The oscillator is stabilized by a semiconfocal open cavity. The maximum output power and the linewidth are approximately 50 µW and 20 kHz, respectively, at a fundamental frequency of 210 GHz. By varying the cavity length, the oscillator frequency can be adjusted over a 0.4 GHz range in a repetitive manner. This behavior is explained by analogy with laser oscillators. The quasioptical RTD oscillator is well suited as a local oscillator for low-power radiometric mixers.

❑ Return to main document.