Abstracts

A Low-Noise 80-GHz Silicon IMPATT Oscillator Highly Stabilized with a Transmission Cavity

S. Nagano and S. Ohnaka. "A Low-Noise 80-GHz Silicon IMPATT Oscillator Highly Stabilized with a Transmission Cavity." 1974 Transactions on Microwave Theory and Techniques 22.12 (Dec. 1974, Part II [T-MTT] (1974 Symposium Issue)): 1152-1159.

Design consideration and experimental performance of a new transmission-cavity-controlled Silicon-lMPATT-diode oscillator for millimeter wavelengths are described. The oscillator has the frequency stability of 1 x 10/sup -4/ over a temperature variation of 0-50°C and remarkably improved noise characteristics, and is free from troublesome moding problems. Discussion is made of the circuit design that satisfies frequency stabilization, noise reduction, mode stabilization, and circuit-efficiency improvement.

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