Abstracts

Cavity Stabilized X-Band Gunn Oscillator (Nov. 1970 [T-MTT])

Y. Ito, H. Komizo and S. Sasagawa. "Cavity Stabilized X-Band Gunn Oscillator (Nov. 1970 [T-MTT])." 1970 Transactions on Microwave Theory and Techniques 18.11 (Nov. 1970 [T-MTT] (Special Issue on Microwave Circuit Aspects of Avalanche-Diode and Transferred Electron Devices)): 890-897.

The design and resultant experimental investigation of a pulling mechanism for a highly stable X-band Gunn oscillator, stabilized by a high Q TE/sub 011/-mode reflection cavity, are described. The oscillator shows a temperature coefficient of less than -7 x 10/sup -7/ / °C, a low FM noise of 8 Hz per 1-kHz BW at 100 kHz from the carrier, and a wide-band mechanical-tuning capability of several hundred megahertz. In addition, experimental results concerning the hysteresis phenomena of oscillating frequencies, power, FM-noise versus cavity-pulling frequencies, and bias voltages are described.

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