

Abstracts

A GaAs MESFET Oscillator Quasi-Linear Design Method

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A simplified quasi-linear method is proposed to design a GaAs MESFET oscillator. By expressing the generated power P_{gen} as a function of FET gate and drain RF voltages, it is possible to maximize P_{gen} under the limiting conditions on intrinsic FET terminal voltage amplitudes. The feedback circuit elements to realize a GaAs MESFET oscillator are derived. An X-band GaAs MESFET oscillator was designed by the quasi-linear method and was fabricated by using microwave integrated-circuit technology.

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