Abstracts

A Generalized Approach to the Design of Microwave Oscillators

A new approach to the design of microwave oscillators is presented which allows both frequency and power output to be predicted. The main feature of this technique is that it allows the optimum performance to be obtained from the active device. This is achieved by employing a generalized substitution theorem, which is described and mathematically proven, A design example and experimental results are given for a 12-GHz MESFET oscillator. The experimental results were found to be within 9 percent of the predicted values for both frequency and power, without any experimental adjustment adjustment.