

## Analysis of MESFET Injection-Locked Oscillators in Fundamental Mode of Operation

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In this paper, nonlinear analyses of MESFET oscillator in free-running and injection-locked states are studied based on the Volterra series method and stability analysis. The approach shown is capable of quantitatively analyzing the injection locking performance of oscillator using three-terminal devices in the fundamental mode of operation. Both the transmission-type and reflection-type injection locked oscillators (ILO) are simulated and experimentally verified.

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