

Abstracts

Single-Gate MESFET Frequency Doublers

A. Gopinath and J.B. Rankin. "Single-Gate MESFET Frequency Doublers." 1982 *Transactions on Microwave Theory and Techniques* 30.6 (Jun. 1982 [T-MTT]): 869-875.

A simple analytic model of the FET frequency doubler is used to determine the relative contributions of the various nonlinearities to harmonic generation. FET doubler conversion gain and its variation with frequency relative to the fundamental frequency available gain is also estimated. Large-signal computer simulations are used to determine the validity of the analytic model and provide further information on conversion gain and its frequency dependence. The analytic and computer predictions are compared with experimental measurements on a 4- to 8-GHz single-gate FET frequency doubler.

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