

Abstracts

High-Frequency MESFET Noise Modeling Including Distributed Effects

W. Heinrich. "High-Frequency MESFET Noise Modeling Including Distributed Effects." 1989 Transactions on Microwave Theory and Techniques 37.5 (May 1989 [T-MTT]): 836-842.

A microwave FET noise analysis is presented including distributed effects caused by the wave propagation along the gate width direction. Using this model the noise characteristics of submicrometer-gate MESFET's at frequencies beyond 20 GHz are evaluated. We found that, in the case of well-designed quarter-micron LN-MESFET's, distributed effects may be neglected. Common lumped approximations, on the other hand, are shown to produce noticeable deviations. An improved lumped model is proposed.

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