

Abstracts

Modeling of Noise Parameters of MESFET's and MODFET's and Their Frequency and Temperature Dependence (1989 Vol. I [MWSYM])

M.W. Pospieszalski. "Modeling of Noise Parameters of MESFET's and MODFET's and Their Frequency and Temperature Dependence (1989 Vol. I [MWSYM])." 1989 MTT-S International Microwave Symposium Digest 89.1 (1989 Vol. I [MWSYM]): 385-388.

A simple wideband noise model of microwave MESFET (MODFET, HEMT, etc.) is described and verified at room and cryogenic temperatures. Closed form expressions for T_{\min} - minimum noise temperature, Z_{opt} - optimum generator impedance, g_n - noise conductance are given in terms of frequency, the elements of FET equivalent circuits, and the equivalent temperatures of intrinsic gate resistance and drain conductance. The model allows prediction of the noise parameters for a broad frequency range from a single frequency measurement of noise parameters.

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