Abstracts

A new extraction method for the two-parameter FET temperature noise model

M. Garcia, J. Stenarson, K. Yhland, H. Zirath and I. Angelov. "A new extraction method for the two-parameter FET temperature noise model." 1998 Transactions on Microwave Theory and Techniques 46.11 (Nov. 1998, Part I [T-MTT]): 1679-1685.

This paper presents a direct extraction method for the associated noise temperatures T/sub d/ and T/sub g/ in the field-effect transistor (FET) temperature noise model. The method is related to nodal analysis of circuits. T/sub d/ and T/sub g/ are extracted from the small-signal model parameters and the noise parameters of the device. It is also theoretically shown that there exist source admittances that cancel the thermal noise contribution at the output from either T/sub d/ or T/sub g/ in the model. Finally, a commercially available GaAs pseudomorphic high electron-mobility transistor (pHEMT) is measured and modeled for a wide range of bias points. Comparisons between measured and modeled noise parameters are presented in the 2-26 GHz frequency range.

❑ Return to main document.