Abstracts

HEMT for Low Noise Microwaves: CAD Modeling Oriented

A. Caddemi, G. Martines and M. Sannino. "HEMT for Low Noise Microwaves: CAD Modeling Oriented." 1992 Transactions on Microwave Theory and Techniques 40.7 (Jul. 1992 [T-MTT] (Special Issue on Process-Oriented Microwave CAD and Modeling)): 1441-1445.

By means of an automatic measuring system which allows the rapid and accurate characterization of microwave transistors in terms of noise and scattering parameters simultaneously, 32 HEMT's of four manufacturers have been tested. From the experimental data so obtained the equivalent circuit of the "typical" device which represents each transistor set has been extracted using a decomposition technique. This procedure allows the optimum fitting of the global performance by exploiting the correlation between the model elements and the measured parameters over the operating frequency range. Since the method takes into account also the noise behavior of several devices of each series, we get a substantial improvement of the model performance to be employed in (M)MIC CAD of low noise amplifiers.

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