Abstracts

Experimental and Computed Four Scattering and Four Noise Parameters of GaAs FET's Up to 4 GHz (Short Papers)

A. Anastassiou and M.J.O. Strutt. "Experimental and Computed Four Scattering and Four Noise Parameters of GaAs FET's Up to 4 GHz (Short Papers)." 1974 Transactions on Microwave Theory and Techniques 22.2 (Feb. 1974 [T-MTT]): 138-140.

The four scattering parameters, operating in the pinch-off mode, of a Schottky-barrier-gate FET (MESFET) are investigated with the aid of an appropriate equivalent circuit. The dependence of the electron drift velocity on the electric field of the channel has been simplified to be piecewise linear by Turner and Wilson. Hot electron effects have therefore been neglected. The four noise parameters of the device have also been computed using the noise sources of van der Ziel. All computed parameters are compared with their measured values in the frequency region 0.5-4 GHz. Investigated GaAs FET's are commercial units.

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