Abstracts

A Note on Experimental Determination of Small-Signal Equivalent Circuit of Millimeter-Wave FETs (Short Papers)

A. Eskandarian and S. Weinreb. "A Note on Experimental Determination of Small-Signal Equivalent Circuit of Millimeter-Wave FETs (Short Papers)." 1993 Transactions on Microwave Theory and Techniques 41.1 (Jan. 1993 [T-MTT]): 159-162.

New expressions for determination of the parasitic induc-tances Lg, Ld, and Ls in the small-signal equivalent circuit of high-frequency Field Effect Transistors (FET's) are derived, based on the "active/passive" (also known as "hot/cold") measurement technique developed in literature. These equations are required when the size of parasitic capacitances is such that their effect on the forward-biased gate measurement cannot be ignored, as has been the case with our millimeter-wave transistors. The method produces an equivalent circuit which has been used successfully for design of multi-stage amplifiers at 60 and 94 GHz.

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