Abstracts

New MODFET Small Signal Circuit Model Required for Millimeter-Wave MMIC Design: Extraction and Validation to 120 GHz

P.J. Tasker and J. Braunstein. "New MODFET Small Signal Circuit Model Required for Millimeter-Wave MMIC Design: Extraction and Validation to 120 GHz." 1995 MTT-S International Microwave Symposium Digest 95.2 (1995 Vol. II [MWSYM]): 611-614.

A new MODFET circuit model required for millimeter-wave MMIC design has been developed, since it was found that the conventional MODFET circuit topology normally used was not able to accurately simulate measurement data above 75 GHz. This new model accounts for distributed effects in the transistor layout and includes a modified intrinsic transistor circuit topology. This circuit model has been experimentally validated by on-wafer S-parameter measurements performed to 120 GHz. This was made possible by the development of two advanced millimeter-wave on-wafer S-parameter measurement systems.

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