

Unique extraction of substrate parameters of common-source MOSFETs

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The unique extraction method of small-signal substrate parameters for MOSFETs is proposed. To cover the output resistance reduction at microwave frequency range, drain substrate resistance as well as drain junction capacitance is considered. Parasitic series resistances are extracted at the zero-gate-bias cold-FET condition using the asymptotic behavior of Z-parameters. The modeled S-parameters fit the measured ones well without any optimization after parameter extraction.

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