

## Nonlinear Charge Control DC and Transmission Line Models for GaAs MODFET's

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A new simple analytical nonlinear charge control model is developed for two-dimensional electron gas density of GaAs MODFET and included in the d.c. model. MODFET is modeled as a lossy transmission line for microwave frequency analysis. The model predictions show a good agreement with experimental results of 0.3 $\mu$ m GaAs MODFET for both d.c. characteristics and 1-26 GHz frequency range.

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