A simplified broad-band large-signal nonquasi-static table-based FET model

In this paper, a simplified nonquasi-static table-based approach is developed for high-frequency broad-band large-signal field-effect-transistor modeling. As well as low-frequency dispersion, the quadratic frequency dependency of the /spl gamma/-parameters at high frequencies is taken into account through the use of linear delays. This model is suitable for applications related to nonlinear microwave computer-aided design and can be both easily extracted from dc and S-parameter measurements and implemented in commercially available simulation tools. Model formulation, small-signal, and large-signal validation will be described in this paper. Excellent results are obtained from dc up to the device f/sub T/ frequencies, even when f/sub T/ is as high as 100 GHz.

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