Abstracts

A New Empirical Large-Signal HEMT Model (Short Papers)

K. Shirakawa, M. Shimizu, Y. Kawasaki, Y. Ohashi and N. Okubo. "A New Empirical Large-Signal HEMT Model (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.4 (Apr. 1996 [T-MTT]): 622-624.

We propose an empirical large-signal model of high electron mobitity transistors (HEMT's). The bias-dependent data of small-signal equivalent circuit elements are obtained from S-parameters measured at various bias settings. And C/sub gs/, C /sub gd/, gm, and g/sub ds/ are described as functions of V/sub gs/ and V/ sub ds/. We included our large-signal model in a commercially available circuit simulator as a user-defined model and designed a 30/60-GHz frequency doubler. The fabricated doubler's characteristics agreed well with the design calculations.

❑ Return to main document.