Abstracts

Full extraction of PHEMT state functions using time domain measurements

D.G. Morgan, G.D. Edwards, A. Phillips and P.J. Tasker. "Full extraction of PHEMT state functions using time domain measurements." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 823-826 vol.2.

The large signal state functions of the PHEMT, (Pseudomorphic High Electron Mobility Transistor) are fully extracted for the first time using dynamic measurements only. A novel reverse waveform measurement technique combined with forward waveform measurements yield the intrinsic current and charge surfaces, state functions. The new reverse extraction results have been verified to be bias and power level independent and the resultant state functions obtained are confirmed to be unique. The technique provides a direct high frequency curve-tracing tool, and allows for the generation of the parameter surfaces required for dynamic table-based models.

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