Abstracts

Class E RF/microwave power amplifier: linear "equivalent" of transistor's nonlinear output capacitance, normalized design and maximum operating frequency vs. output capacitance

A. Mediano, P. Molina and J. Navarro. "Class E RF/microwave power amplifier: linear "equivalent" of transistor's nonlinear output capacitance, normalized design and maximum operating frequency vs. output capacitance." 2000 MTT-S International Microwave Symposium Digest 00.2 (2000 Vol. II [MWSYM]): 783-786.

Previous studies led by the authors yield a maximum operating frequency value for a class E amplifier considering a linear capacitance shunting the device. This linearity also appears in most classical mathematical analyses published so far. This paper faces the problem of finding a linear equivalent capacitance (easy to handle) of the nonlinear voltage-dependent output capacitance of the semiconductor device. A novel definition for equivalence is herein presented, as well as further important consequences in the class E amplifier's normalisation and design and in the frequency scheme.

❑ Return to main document.