Abstracts

Large-signal characteristics of AlGaN/GaN power MODFETs

E. Alekseev, D. Pavlidis, N.X. Nguyen, C. Nguyen and D.E. Grider. "Large-signal characteristics of AlGaN/GaN power MODFETs." 1999 MTT-S International Microwave Symposium Digest 99.2 (1999 Vol. II [MWSYM]): 533-537 vol.2.

This work addresses the scalability of power performance of AlGaN/GaN MODFETs with large gate periphery, as necessary for microwave power devices. High-frequency large-signal characteristics of AlGaN/GaN MODFETs have been studied for devices with gate widths from 0.2 to 1 mm. 1-dB gain compression occurred at input power levels varying from -1 to +10 dBm as the gate width increased, while gain remained almost constant at /spl sim/17 dB. Output power density was maximum (1.3 W/mm) for devices with 0. 6 mm gates and maximum output power (29.9 dBm) occurred in devices with 1 mm gates, while power-added-efficiency remained almost constant at /spl sim/30%.

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