Abstracts

A silicon-on-insulator 28-V RF power LDMOSFET for 1-GHz integrated power amplifier applications

E. McShane, K. Shenai and S.K. Leong. "A silicon-on-insulator 28-V RF power LDMOSFET for 1-GHz integrated power amplifier applications." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 2135-2138 vol.3.

This paper presents the first results of a 1-GHz SOI RF power LDMOSFET with 115 mW of output power. A 6-W P/sub OUT/ (competitive with comparable bulk LDMOSTs) can be achieved by scaling the FET dimensions with little degradation of RF performance. Both DC and RF characteristics are presented, and model parameters are extracted. Class A amplifier results are shown to deliver a PAE of 25%, power gain of 16 dB, and 1-dB compression of 40 mW. These results are extremely encouraging for IPA development with SOI RF power LDMOSFETs.

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