Abstracts

A 2 W, 65% PAE single-supply enhancement-mode power PHEMT for 3 V PCS applications

Der-woei Wu, R. Parkhurst, Shyh-Liang Fu, J. Wei, Chung-Yi Su, Shih-Shun Chang, D. Moy, W. Fields, P. Chye and R. Levitsky. "A 2 W, 65% PAE single-supply enhancement-mode power PHEMT for 3 V PCS applications." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1319-1322.

An enhancement-mode power PHEMT process has been developed for low-voltage wireless subscriber power amplifier applications. Employing a highly selective reactive ion etching process to define the vertical position of the Schottky gate, this device only requires a positive voltage. A 12-mm gate periphery device demonstrated 33 dBm output power (167 mW/mm), 14.7 dB power gain (16.7 dB linear gain), and 65.4% PAE at 3 V and 1.8 GHz.

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