Abstracts

Greater than 70% PAE enhancement-mode GaAs HJFET power amplifier MMIC with extremely low leakage current

S. Yoshida, Y. Wakabayashi, M. Kohno and K. Uemura. "Greater than 70% PAE enhancement-mode GaAs HJFET power amplifier MMIC with extremely low leakage current." 1999 MTT-S International Microwave Symposium Digest 99.3 (1999 Vol. III [MWSYM]): 1183-1186 vol.3.

A fully enhancement-mode heterojunction FET (E-HJFET) with Vth of +0.25 V has been newly developed. The E-HJFET exhibited 79.6% power added efficiency (PAE) at 31.5 dBm output power level and 11.5 dB power gain (Gp) at 836 MHz. A two-stage power amplifier was developed using this E-HJFET. Under 3.5 V single supply voltage operation, the MMIC exhibited 71.9% PAE, 31.5 dBm output power with 24.5 dB power gain at 836 MHz. The total leakage current of the developed MMIC under zero gate voltage was as small as 5 /spl mu/A.

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