

Abstracts

A 0.5-16 GHz capacitively coupled HBT medium power amplifier MMIC with active bias regulation

K.W. Kobayashi, A.K. Oki, M. Lammert, A. Gutierrez-Aitken, E. Kaneshiro, P.C. Grossman, K. Sato, T.R. Block and D.C. Streit. "A 0.5-16 GHz capacitively coupled HBT medium power amplifier MMIC with active bias regulation." 2000 Radio Frequency Integrated Circuits (RFIC) Symposium 00. (2000 [RFIC]): 165-168.

This work describes a 0.5-16 GHz capacitively coupled HBT medium power distributed amplifier targeted for 10 Gb/s fiber-optic transmitter applications. The amplifier obtains a nominal 8-9 dB gain from 500 MHz to 16 GHz with frequency capability down to baseband, and delivers as much as 19 dBm of output power. With a 10 Gb/s PRBS signal applied, the MMIC obtains a peak-to-peak output voltage of >3 V with a clear eye opening while consuming a P_{dc} of only 420 mW or half the dc power of previous HBT mod driver ICs.

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