Abstracts

35 GHz Pulsed HBT MMIC Amplifiers (1994 Vol. I [MWSYM])

R.M. Wohlert, G. Jackson and M.G. Adlerstein. "35 GHz Pulsed HBT MMIC Amplifiers (1994 Vol. I [MWSYM])." 1994 MTT-S International Microwave Symposium Digest 94.1 (1994 Vol. I [MWSYM]): 455-458.

A three-stage MMIC preamplifier and a two-stage power amplifier using GaAs/AIGaAs Heterojunction Bipolar Transistors (HBTs) have been developed for pulsed-power applications at 35 GHz. Both amplifiers have been fully characterized at 35 GHz with RF input power and base bias pulse wave forms having 33% duty cycles and 300 nS pulse lengths. The preamplifier delivers a peak output power of 19.6 dBm at 11% PAE and 12.6 dB associated gain at a bias of VCE = 6V and IC=128 mA. The power amplifier delivers a peak output power of 29 dBm at 15% PAE and 5dB associated gain after minimal external tuning at a bias of VCE=6 V and IC=600 mA. The monolithic amplifiers reported here are based upon 35 GHz power HBTs and represent the first such amplifiers yet reported.

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