Abstracts

High Power and High Efficiency AlInAs/GaInAs on InP HEMTs

M. Matloubian, L.D. Nguyen, A.S. Brown, L.E. Larson, M.A. Melendes and M.A. Thompson. "High Power and High Efficiency AlInAs/GaInAs on InP HEMTs." 1991 MTT-S International Microwave Symposium Digest 91.2 (1991 Vol. II [MWSYM]): 721-724.

In this paper we report on the development of AlInAs/ GaInAs on InP power HEMTs. Output power densities of more than 730 mW/mm and 960 mW/mm with power-added efficiencies (PAE) of 50% and 40% respectively were achieved at 12 GHz. When biased for maximum efficiency, PAE of 59% and output power of 470 mW/mm with 11.3 dB gain were obtained. These results are the first reported power performance of InP-based HEMTs and demonstrate the viability of these HEMTs for power amplification.

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