Abstracts

35-GHz HEMT Amplifiers Fabricated Using Integrated HEMT-HBT Material Grown by Selective MBE

D.K. Umemoto, D.C. Streit, K.W. Kobayashi and A.K. Oki. "35-GHz HEMT Amplifiers Fabricated Using Integrated HEMT-HBT Material Grown by Selective MBE." 1994 Microwave and Guided Wave Letters 4.11 (Nov. 1994 [MGWL]): 361-363.

We have fabricated 35-GHz balanced low-noise amplifiers using pseudomorphic InGaAs-GaAs HEMT material monolithically integrated with HBT material grown by selective MBE. The 0.2-µm T-gate HEMT amplifiers fabricated using a merged HEMT-HBT process have equivalent gain and noise figure compared to amplifiers fabricated using normal MBE and our baseline HEMT-only process. This demonstration of high performance HEMT amplifiers using integrated HEMT-HBT material and a merged HEMT-HBT process enables the fabrication of a new class of multifunction monolithic microwave integrated circuits.

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