Abstracts

Application of GaInP/GaAs DHBTs to power amplifiers for wireless communications

Pin-Fan Chen, U.-M.T. Hsin, R.J. Welty, P.M. Asbeck, R.L. Pierson, P.J. Zampardi, W.-J. Ho, M.C. Vincent Ho and M.F. Chang. "Application of GaInP/GaAs DHBTs to power amplifiers for wireless communications." 1999 Transactions on Microwave Theory and Techniques 47.8 (Aug. 1999 [T-MTT] (Mini-Special Issue on Low-Power/Low-Noise Technologies for Mobile Wireless Communications)): 1433-1438.

Next-generation power amplifiers must operate at lower supply voltages without sacrificing linearity or efficiency. GaInP/GaAs double-heterojunction bipolar transistors with GaInP collectors can improve over GaAs single-heterojunction bipolar transistors (HBTs) in power-amplifier applications, based on lower offset voltage, increased breakdown electric field, and absence of saturation charge storage. To best exploit these characteristics, amplifier architectures that employ HBTs in switching mode can be used.

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