Abstracts

GaInP/GaAs HBT broadband monolithic transimpedance amplifiers and their high frequency small and large signal characteristics (1998 [RFIC])

Jae-Woo Park, S. Mohammadi, D. Pavlidis, C. Dua, J.L. Guyaux and J.-C. Garcia. "GaInP/GaAs HBT broadband monolithic transimpedance amplifiers and their high frequency small and large signal characteristics (1998 [RFIC])." 1998 Radio Frequency Integrated Circuits (RFIC) Symposium 98. (1998 [RFIC]): 179-182.

Monolithic broadband transimpedance amplifiers were developed using GaInP/GaAs single HBTs. The HBTs showed a cut off frequency (f/sub T/) of 60 GHz and maximum oscillation frequency (f/sub max/) of 100 GHz. The fabricated amplifiers had a maximum bandwidth of 19 GHz and an associated transimpedance gain of 47 dB/spl Omega/. The large signal characteristics of two transimpedance amplifier designs with similar gain were also investigated and showed that the cascode approach is much less sensitive to input power level.

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