

Abstracts

Monolithic AlGaAs-GaAs HBT Single- and Dual-Stage Ultra-Broadband Amplifiers

F. Ali, R. Ramachandran and A. Podell. "Monolithic AlGaAs-GaAs HBT Single- and Dual-Stage Ultra-Broadband Amplifiers." 1991 Microwave and Guided Wave Letters 1.5 (May 1991 [MGWL]): 107-109.

The circuit design and performance of single- and dual-stage ultra-wideband MMIC amplifiers utilizing AlGaAs-GaAs Heterojunction Bipolar Transistors (HBT's) are presented. The single-stage feedback amplifier has 10 dB gain and a 3-dB bandwidth of DC to 18 GHz. The two-stage ac coupled version achieves over 20 dB of gain and a 3-dB band-width of 0.1 to 18 GHz. Both of these amplifiers are extremely small in size (single-stage--24 mils x 24 mils, two-stage--24 mils x 40 mils) since there are no reactive matching elements. This results in high chip yield and low cost.

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