Abstracts

Bias circuits for GaAs HBT power amplifiers

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This paper discusses the effects of process and temperature variations on the performance of GaAs HBT power amplifier bias circuits. A novel feedback bias circuit, which overcomes these problems, is presented. The measured variation from 54 to 60 mA in the bias current, over the temperature range of -25 to +85/spl deg/C, agrees well with the simulations. The circuit is insensitive to variations in the regulated voltage which is a desirable feature in a case when the amplifier is biased to a constant current. On the other hand, a smooth bias and gain control can be achieved by adding an extra resistor connected to a separate control voltage.

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