Abstracts

Use of Self Bias to Improve Power Saturation and Intermodulation Distortion in CW Class B HBT Operation

D.A. Teeter, J.R. East and G.I. Haddad. "Use of Self Bias to Improve Power Saturation and Intermodulation Distortion in CW Class B HBT Operation." 1992 Microwave and Guided Wave Letters 2.5 (May 1992 [MGWL]): 174-176.

It is shown that the dc base bias circuit can be used to control the RF performance of an HBT operating under CW conditions near class B mode. By a careful choice of base bias resistance, gain can be linearized, output power at 1-dB gain compression increased, and intermodulation distortion reduced. Measurements on HBT's biased near class B operation showed a 10-dB improvement in 1-dB gain compression point and 10-dB reduction in intermodulation distortion for moderate power levels. Results for various values of dc base resistance for a typical HBT are presented.

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