Abstracts

The maximum operating region in SiGe HBTs for RF power amplifiers

A. Inoue, S. Nakatsuka, R. Hattori and Y. Matsuda. "The maximum operating region in SiGe HBTs for RF power amplifiers." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1023-1026 vol.2.

Microwave waveforms of SiGe HBTs have been directly measured. The maximum operating region has been experimentally investigated by sweeping the load lines and power of the input signal. The device is found to operate beyond the conventional BVceo, while GaAs HBTs cannot survive at that voltage. The conventional BVceo is found to limit the average Vc of the maximum load lines, but has no influence on the peak voltage. Another BVceo measured with a voltage generator is proposed to represent the avalanche breakdown instead of the conventional one.

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