

Abstracts

On the Gunn effect in GaAs HBTs

M. Rudolph, R. Doerner and P. Heymann. "On the Gunn effect in GaAs HBTs." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 683-686 vol.2.

A negative RF-resistance effect in GaAs HBTs is described. It results from the nonlinear velocity-field characteristic in GaAs, takes place in the bulk collector, and leads to $|S_{22}|$ exceeding unity. Dependence on bias point and collector doping, and consequences for modeling are discussed.

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