

Temperature Dependence of DC Currents in HBT

H. Wang, C. Algani, A. Konczykowska and W. Zuberek. "Temperature Dependence of DC Currents in HBT." 1992 MTT-S International Microwave Symposium Digest 92.2 (1992 Vol. II [MWSYM]): 731-734.

A DC thermal-electrical HBT model is presented in this paper. Only three parameters were needed to simulate completely an HBT with the self-heating effect, and it can be very easily implemented in any CAD softwares which use the SPICE BJT model. Parameter extractions have been carried out on several measured data and good fittings were obtained over a wide temperature range. This model is ready to be used to design high power heterojunction bipolar transistors and circuits with their thermal effects.

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