Abstracts

Three-Dimensional Modeling of Thermal Flow in Multi-Finger High Power HBTs

R. Hattori, T. Shimura, M. Kato, T. Sonoda and S. Takamiya. "Three-Dimensional Modeling of Thermal Flow in Multi-Finger High Power HBTs." 1995 MTT-S International Microwave Symposium Digest 95.2 (1995 Vol. II [MWSYM]): 461-464.

Three-dimensional modeling of thermal flow in multi-finger HBTs has been investigated with thermal network method to find out the optimal structure which can effectively reduce the junction temperature uniformly in whole fingers under the high power operation. Thermal cross-talk effects and temperature distribution in a finger or between the fingers are examined. The HBT structure with emitter air-bridge connected to via hole is proposed as an optimal structure. The estimation accuracy of the calculation was confirmed from the good agreement between the calculation result and the measured value of the thermal resistance in HBT with the emitter air-bridge structure.

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