Abstracts

Flip-Chip X-Band Operation of Thermally-Shunted Microwave HBT's with Sub-Micron Emitters

B. Bayraktaroglu, F. Ali, J. Mason and P. Smith. "Flip-Chip X-Band Operation of Thermally-Shunted Microwave HBT's with Sub-Micron Emitters." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 685-688.

Design and fabrication methods were developed for GaAs-based flip-chip HBTs with emitter sizes down to 1 µm or less. We have fabricated and tested identical size devices in both the conventional and the flip-chip configuration on the same wafer to make a direct comparison of their dc, microwave, and thermal properties. It was shown that flip-chip mounted microwave HBTs can produce the same or better electrical performance than their conventional upright counterparts while offering a 37% improvement in thermal resistance.

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