Abstracts

Unconditionally thermally stable cascode GaAs HBTs for microwave applications

B. Bayraktaroglu and M. Salib. "Unconditionally thermally stable cascode GaAs HBTs for microwave applications." 1997 Microwave and Guided Wave Letters 7.7 (Jul. 1997 [MGWL]): 187-189.

The authors describe the performance of a thermally stabilized cascode-heterojunction bipolar transistor (TSC-HBT) that exhibits unconditional thermal stability without the use of ballast resistors. A thermal isolation inserted between the current source (CE stage) and the power stage (CB stage) eliminates the positive electrothermal feedback that causes thermal runaway in bipolar transistors. The TSC-HBT cell designs with f/sub max/ values in excess of 100 GHz demonstrated about 300% improvement in DC power dissipation capability compared to conventional cascode HBTs in a direct comparison.

❑ Return to main document.