Abstracts

Robust cascode HBTs for efficient high power microwave applications

M. Salib and B. Bayraktaroglu. "Robust cascode HBTs for efficient high power microwave applications." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 897-900.

A new cascode HBT design was developed to overcome the thermal instability of high power HBTs without using ballast resistors. Thermally-stabilized cascode HBTs (TSC-HBTs) achieved unconditional thermal stability under dc bias as well as under high RF drive with large output mismatch conditions. Various cell sizes were developed for X/Ku-band applications to produce 0.25 W to 1.0 W output power with high power-added efficiency (70% at 8 GHz) and high power gain (>20 dB at 14 GHz).

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