Abstracts

Performance Capabilities of HBT Devices and Circuits for Satellite Communication

K. Fricke, G. Gatti, H.L. Hartnagel, V. Krozer and J. Wurfl. "Performance Capabilities of HBT Devices and Circuits for Satellite Communication." 1992 Transactions on Microwave Theory and Techniques 40.6 (Jun. 1992 [T-MTT] (Special Issue on Microwaves in Space)): 1205-1214.

We have investigated the HBT performance with emphasis on its possible utilization in satellite power amplifiers. After recalling the requirements of satellite power amplifiers the suitability of HBT is discussed in depth including the output power capabilities, the realizable power-added efficiency and linearity, reliability considerations and circuit aspects. Models and simulation tools of HBT in power amplifiers are discussed and the results obtained so far are quoted. A comparison of realized HBT and various FET devices and circuits demonstrates that the HBT is a promising device for applications in satellite power amplifiers. The HBT will be a preferable device for microwave power amplification if the problems concerning the reliability can be solved and further investigations will be performed to obtain larger devices with higher rated output power.

❑ Return to main document.