Abstracts

1-W SiGe Power HBT's for Mobile Communication

A. Schuppen, S. Gerlach, H. Dietrich, D. Wandrei, U. Seiler and U. Konig. "1-W SiGe Power HBT's for Mobile Communication." 1996 Microwave and Guided Wave Letters 6.9 (Sep. 1996 [MGWL]): 341-343.

Silicon Germanium (SiGe) Power heterobipolar transistors (HBT's) with 10 and 60 x 2.25 x 15µm² emitter fingers, respectively, were fabricated in a completely passivated manner by a production-like process. Each emitter stripe of the big transistors includes a ballast resistance of 6 Omega. Class A load pull measurements at 1.9 GHz revealed a power-added efficiency (PAE) of 44% at 1-W rf output power for the 60-stripes transistor. In addition, a ten-finger driver HBT reached a PAE of 72% at 0.9 GHz for class A/B operation.

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