Abstracts

A transferred-substrate HBT wide-band differential amplifier to 50 GHz

B. Agarwal, Q. Lee, R. Pullela, D. Mensa, J. Guthrie and M.J.W. Rodwell. "A transferred-substrate HBT wide-band differential amplifier to 50 GHz." 1998 Microwave and Guided Wave Letters 8.7 (Jul. 1998 [MGWL]): 263-265.

Differential amplifiers are used in automatic gain control amplifiers and limiting amplifiers in fiber-optic receivers. Here we present a differential amplifier fabricated in the transferred-substrate heterojunction bipolar transistor (HBT) integrated circuit technology. The amplifier has a gain of 11 dB and the 3-dB bandwidth is greater than 50 GHz. Two gain stages with DC interstage coupling are used. Biasing is through active current mirrors and a single negative power supply. A bandwidth of 50 GHz is the highest bandwidth ever reported for a broad-band differential amplifier in any technology.

❑ Return to main document.