

# Abstracts

## 20-GHz 5-dB-Gain Analog Multipliers with AlGaAs/GaAs HBTs

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K. Osafune and Y. Yamauchi. "20-GHz 5-dB-Gain Analog Multipliers with AlGaAs/GaAs HBTs." 1991 MTT-S International Microwave Symposium Digest 91.3 (1991 Vol. III [MWSYM]): 1285-1288.

From-DC-to-above-20-GHz monolithic Gilbert cell analog multipliers have been developed using AlGaAs/GaAs HBT technology. As a double balanced active mixer, it exhibits very high conversion gain of above +5 dB with extremely high LO-IF isolation of 33 dB for RF/LO inputs up to 20 GHz. As a detection mixer in coherent optical heterodyne receivers, it can operate for RF/LO inputs up to 15 GHz under a less than -7.5 dBm LO input condition.

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