Abstracts

High-Gain, Low-Noise Monolithic HEMT Distributed Amplifiers Up to 60 GHz

C. Yuen, C. Nishimoto, M. Glenn, C. Webb, S. Bandy and G. Zdasiuk. "High-Gain, Low-Noise Monolithic HEMT Distributed Amplifiers Up to 60 GHz." 1990 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 90.1 (1990 [MCS]): 23-26.

Ultrabroad bandwidth distributed amplifiers with cutoff frequencies of 45 to 60 GHz were developed using 0.25-µm HEMTs with a mushroom gate profile. Both single and cascode HEMTs were used as the active devices in the amplifiers. A measured gain as high as 10±1 dB from 5 to 50 GHz and a gain of 8±1 dB from 5 to 60 GHz, respectively were achieved from amplifiers using cascode HEMTs. The measured noise figure for these amplifiers is approximately 3-4 dB in the Ka-band. The chip size is 2.3 x 0.9 mm.

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