Abstracts

A Monolithic 40-GHz HEMT Low-Noise Amplifier (1989 Vol. I [MWSYM])

C. Yuen, C. Nishimoto, S. Bandy and G. Zdasiuk. "A Monolithic 40-GHz HEMT Low-Noise Amplifier (1989 Vol. I [MWSYM])." 1989 MTT-S International Microwave Symposium Digest 89.1 (1989 Vol. I [MWSYM]): 205-208.

A monolithic, single-stage HEMT low-noise amplifier has been developed at 40 GHz. This amplifier includes a single 0.25-µm gate-length HEMT active device with on-chip matching and biasing circuits. A gain of 6.5 dB and a noise figure of 5 dB were measured from 38 to 44 GHz. By replacing the triangular gate profile with a mushroom gate profile, the amplifier achieved 8dB gain and 4-dB noise figure from 36 to 42 GHz. The chip size is 1.1 x 1.1 mm.

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