Abstracts

Monolithic Integrated 75 GHz Oscillator with High Output Power Using a Pseudomorphic HFET (1994 Vol. I [MWSYM])

A. Bangert, M. Schlechtweg, W. Reinert, W.H. Haydl, A. Hulsmann and K. Kohler. "Monolithic Integrated 75 GHz Oscillator with High Output Power Using a Pseudomorphic HFET (1994 Vol. I [MWSYM])." 1994 MTT-S International Microwave Symposium Digest 94.1 (1994 Vol. I [MWSYM]): 135-138.

Recently, there has been growing interest in MMICs for circuit applications in the 76 to 77 GHz frequency range allocated for automotive systems in Europe. We have designed and fabricated an oscillator for a frequency of 75 GHz, using a quasi linear approach combined with a simple matching procedure to achieve maximum output power. The MMICs were fabricated using pseudomorphic GaAs HFETs with mushroom gates (0.16 µm length, 2x25 µm width) as the active devices. The output power of the oscillator was 8 mW at 75 GHz with a drain bias of V/sub DS/=3V. To our knowledge, this is the highest output power from a single stage HFET oscillator at this frequency.

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