

A monolithic W-band HEMT VCO with feedback topology

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A monolithic voltage-controlled oscillator for automotive radar systems operating in the 76-77 GHz frequency range has been developed. The circuit is based on a feedback topology and consists of a two-stage amplifier, a power divider, and a voltage-controlled phase shifter. It was fabricated using a production-oriented GaAs HEMT technology featuring a gate length of 0.12 μm . For oscillation frequencies in the 74-78 GHz range, a minimum output power of 7 dBm and a typical electronic tuning range of 2 GHz have been measured.

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