Abstracts

CFET - A New High Quality MMIC Control Device

D.J. Seymour, R.P. Coats, R.E. Lehmann and J. Helvey. "CFET - A New High Quality MMIC Control Device." 1995 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 95.1 (1995 [MCS]): 95-96.

A new gallium arsenide (GaAs) device developed for use in microwave monolithic control circuitry has been demonstrated. Known as a CFET, for Control Field Effect Transistor, this device eliminates the need for a conventionrd submicron gate by achieving control by use of a gate located behind the source-drain channel. The resulting capacitance is smaller than a conventional MESFET, resulting in a figure of merit of 800 GHz as compared to 250 GHz for a conventional MESFET. The device capabilities are demonstrated by measured performance of a SPDT switch providing 0.35-dB insertion loss and 20-dB isolation over the dc - 10.0-GHz frequency band.

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