Abstracts

Silicon-on-sapphire MOSFET distributed amplifier with coplanar waveguide matching

P.F. Chen, R.A. Johnson, M. Wetzel, P.R. de la Houssaye, G.A. Garcia, P.M. Asbeck and I. Lagnado. "Silicon-on-sapphire MOSFET distributed amplifier with coplanar waveguide matching." 1998 Radio Frequency Integrated Circuits (RFIC) Symposium 98. (1998 [RFIC]): 161-164.

Analog applications of silicon RF MOSFET circuits have received increased attention as potentially lower cost and higher integration alternatives to III-V technology. In this work, a thin-film silicon-on-sapphire (SOS) n-MOSEET based distributed amplifier is demonstrated. Impedance matching was achieved by a coplanar waveguide (CPW) on sapphire. The distributed amplifier has a bandwidth of 10 GHz and 5 dB gain. The amplifier's bandwidth is the broadest ever reported for a Si MOSFET technology.

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