

Abstracts

A family of monolithic inductor-varactor SiGe-HBT VCOs for 20 GHz to 30 GHz LMDS and fiber-optic receiver applications

S.P. Voinigescu, D. Marchesan and M.A. Copeland. "A family of monolithic inductor-varactor SiGe-HBT VCOs for 20 GHz to 30 GHz LMDS and fiber-optic receiver applications." 2000 Radio Frequency Integrated Circuits (RFIC) Symposium 00. (2000 [RFIC]): 173-177.

A family of low-phase noise, monolithic inductor-varactor SiGe-HBT VCOs in the 20 GHz to 30 GHz band was fabricated in a production SiGe technology. The unbuffered differential VCOs have 10-15% tuning range and deliver -3 to 2 dBm directly into each of the 50 Ω loads, and 0 dBm differentially. Phase noise is as low as -101 dBc/Hz at 1 MHz from the 20 GHz carrier and -87 dBc/Hz at 100 kHz from the 26 GHz carrier. The VCO core draws 10 mA from a 5 V supply.

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