Abstracts

Octave tunable, highly linear, RC-ring oscillator with differential fine-coarse tuning, quadrature outputs and amplitude control for fiber optic transceivers (2002 [RFIC])

M.A.T. Sanduleanu, D. van Goor and H. Veenstra. "Octave tunable, highly linear, RC-ring oscillator with differential fine-coarse tuning, quadrature outputs and amplitude control for fiber optic transceivers (2002 [RFIC])." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 435-438.

This paper presents a low-voltage, RC-ring oscillator for fiber optic transceivers (SDH/SONET applications). It has one octave coarse tuning range, differential tuning inputs, quadrature outputs and a linear fine-control. A replica biasing circuit regulates the common-mode voltage and the amplitude at the output. The oscillator has been realized in a pre-production 70 GHz f/sub T/, SiGe BiCMOS process (QUBIC4G). The tuning range covered with process and temperature variations is 3.4-6.8 GHz. At 6.6 GHz oscillation frequency the measured phase noise is -92 dBc/Hz at 3 MHz; offset from the carrier. The typical power consumption of the VCO core is 80 mW from a 2.5 V power supply and the area is 0.3 mm/sup 2/.

❑ Return to main document.