

VARIABLE FREQUENCY OSCILLATOR WITH SIMULATED CAPACITOR

BY

N. COJAN Jr., ARCADIE CRACAN and RADU COJAN

Abstract. A variable frequency oscillator which uses two all-pass networks and an inverter is proposed. The programmable capacitance used in the all-pass filters is obtained by multiplying the fixed value capacitor with a programmable k -factor. The circuit is implemented in a standard CMOS 0.180 μm technology. An implemented example of the proposed structure is given consisting of multiplying a capacity of 10 pF from 0.1 to 100 times and thus realizing an oscillator with a frequency variable from 1 kHz to 100 kHz.

Key words: variable frequency; oscillator; simulated capacitor; variable capacitor.