

Abstract

Integrated Temperature Sensor

5 An integrated temperature sensor circuit (9) comprises two
different current sources (14 and 15) multiplexed using switches
(12 and 13) controlled by Clocks 1 and 2 having opposite phases into
a bipolar transistor 11. V_{be} is developed on capacitor (23) during
the first clock phase and ΔV_{be} is developed on capacitor (23) during
10 the second clock phase. A second capacitor (27) is coupled between
the input and output of an operational amplifier (25). The second
capacitor (27) is discharged during the first clock phase and is
charged during the second clock phase. Since ΔV_{be} is dependent on
temperature, the voltage at the output of the operational amplifier
15 (25) is dependent on the temperature and the ratio of the two
capacitors.

FIG. 1