ABSTRACT OF THE DISCLOSURE

CIRCUIT FOR MEASURING CHANGES IN CAPACITOR GAP USING A SWITCHED CAPACITOR TECHNIQUE

Disclosed is a single-stage, switched capacitor circuit for measuring changes in a variable by measuring changes in a capacitor gap. The change in the capacitor gap corresponds directly to a change in a measurable variable, such as pressure and acceleration, and thus a change in voltage. The circuit includes at least one reference capacitor, a sensor capacitor, a plurality of switches responsive to a timing device, and a device for generating substantially constant reference voltages. The sensor circuit does not result in a DC offset value, but results in the AC component of the voltage being directly proportional to the change in the variable through a substantially constant voltage is supplied to a node near the sensor capacitance. The circuit may be trimmed using a digital to analog converter and/or capacitors coupled in parallel.

Figure 2A