

FULLY INTEGRATED TWO AXIS SHOCK DETECTOR

ABSTRACT OF THE INVENTION

The present invention discloses a fully integrated precision HDA shock sense circuit with high-order filters implemented in integrated circuit
5 technology. Filters are integrated with an improved on-chip bias generator so that they can provide stable, trimmable and/or programmable frequency responses with a minimum number of external capacitors. The invention provides dual full-wave rectifiers for X-axis and Y-axis shock sensing so that more accurate and reliable shock detection can be achieved. Input signals
10 from X-axis and Y-axis shock sensors are converted to current and provided to the dual full-wave rectifiers. The currents thus full-wave rectified are summed and lowpass filtered to generate an output signal, which is then fed to a comparator to produce a shock detection logic signal.

Figure 3