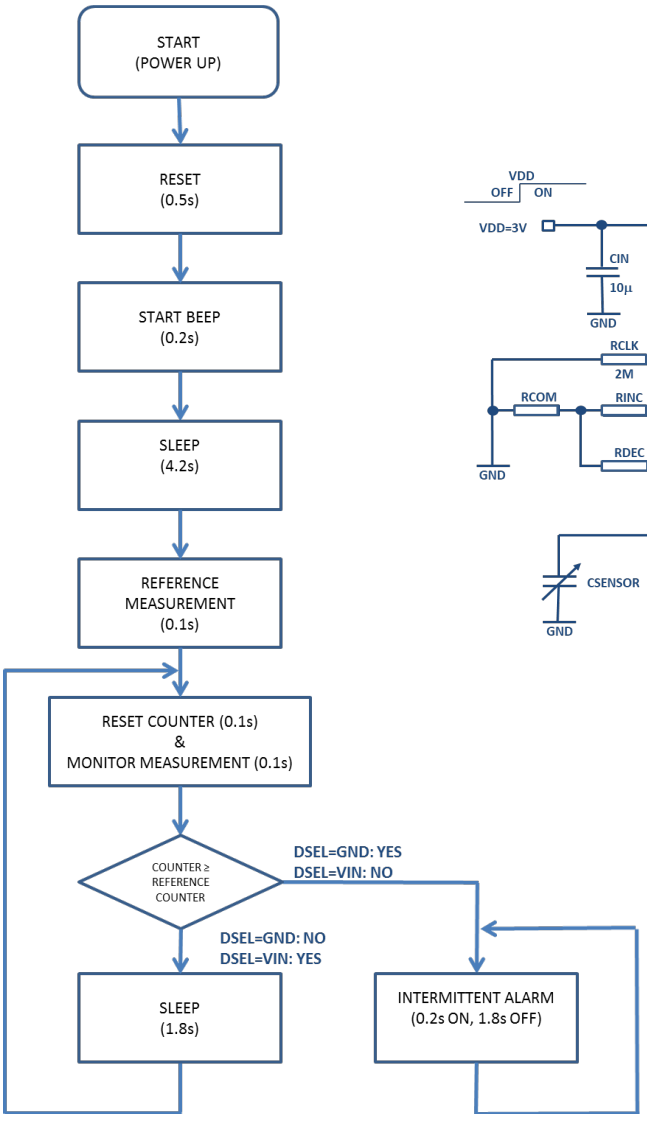
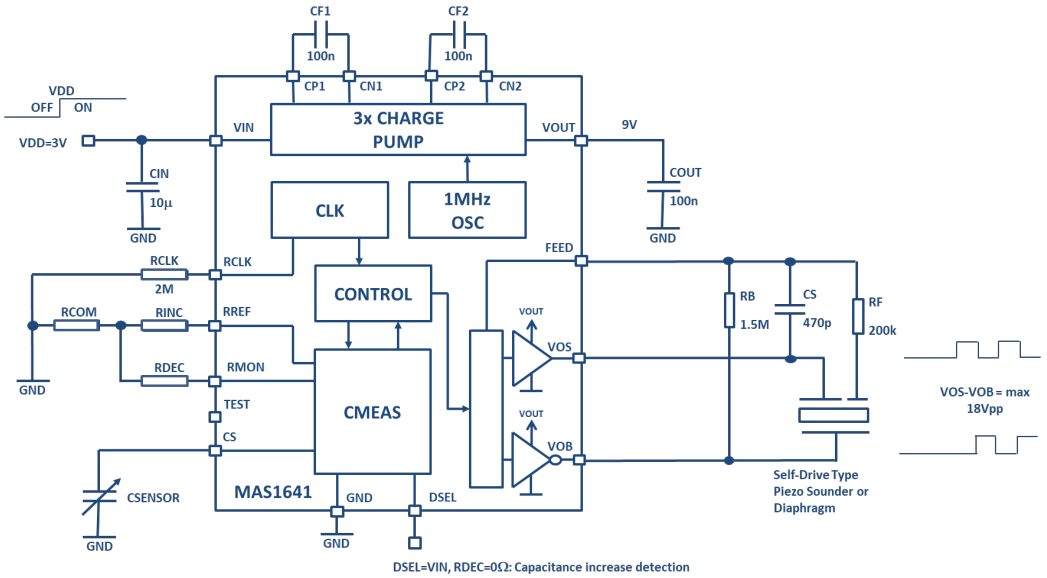
Capacitance Change Detection with Piezo Alarm

The MAS1641 can be configured to detect either capacitance reduction or increase over a threshold which is adjustable by external resistors. A very high sound pressure level (SPL) alarm is achieved by voltage boosting solution which is based on an inductor free, low EMI and high efficiency 3x charge pump. The output driver stage can drive up to 18Vpp intermittent alarm signal to the piezo just from a low 3V supply. It can operate from a low supply voltage down to 2.25V and it draws only a very low 36uA current when monitoring capacitance change. The MAS1641 is available in a small QFN-16 3x3x0.75 mm package.

Features

- For Self-Drive Type Piezoelectric Sounders
- Adjustable sensing range and alarm threshold
- Piezo driver with intermittent alarm sound
- Very Low Current Consumption, typ 36uA
- Up to 18Vpp Piezo Drive from 3V Supply
- Low Voltage Operation, min 2.25V
- Low External Part Count
- Low Profile and Small Size





Applications

The MAS1641 is a very low power single chip solution for a capacitance change detection and a piezo alarm. Typical applications include battery powered alarm systems detecting infusion liquid level drop or water leakage.

- Infusion liquid level drop detection and alarm
- Capacitive water leakage detection and alarm
- Capacitance change detection and alarm

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