SX9210

Smart Proximity Sensor for Wearables

Product Overview

06-15-2021

For the most up-to-date information, visit www.mouser.com or the supplier's website.
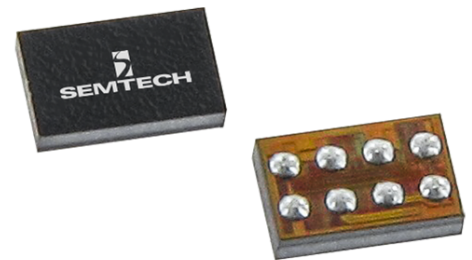
Description

Semtech SX9210 Smart Proximity Sensor for Wearables is a capacitive controller that uses up to 3 capacitive sensor inputs. This sensor can use any of the three sensor inputs along with the Smart Sense Engine for features like in-ear detection, on-table detection, and proximity detection. The SX9210 sensor comes with the ability to intelligently turn the power on/off, play/pause, and change volume. This sensor includes an on-chip auto-calibration controller that performs sensitivity adjustments to maintain peak performance over a wide variation of temperature, humidity, and noise environments. The SX9210 sensor is used in wearable and hearable applications where package size and power consumption are of special importance.

Features

- Up to 3 capacitive sensor inputs:
    - Patented smart sense engine
    - Capacitance resolution down to 0.008fF
    - Capacitance offset compensation up to 75pF
    - Advanced temperature compensation
- Automatic calibration
- Programmable interrupt or real-time status pin
- Two reset sources:
    - POR and soft reset
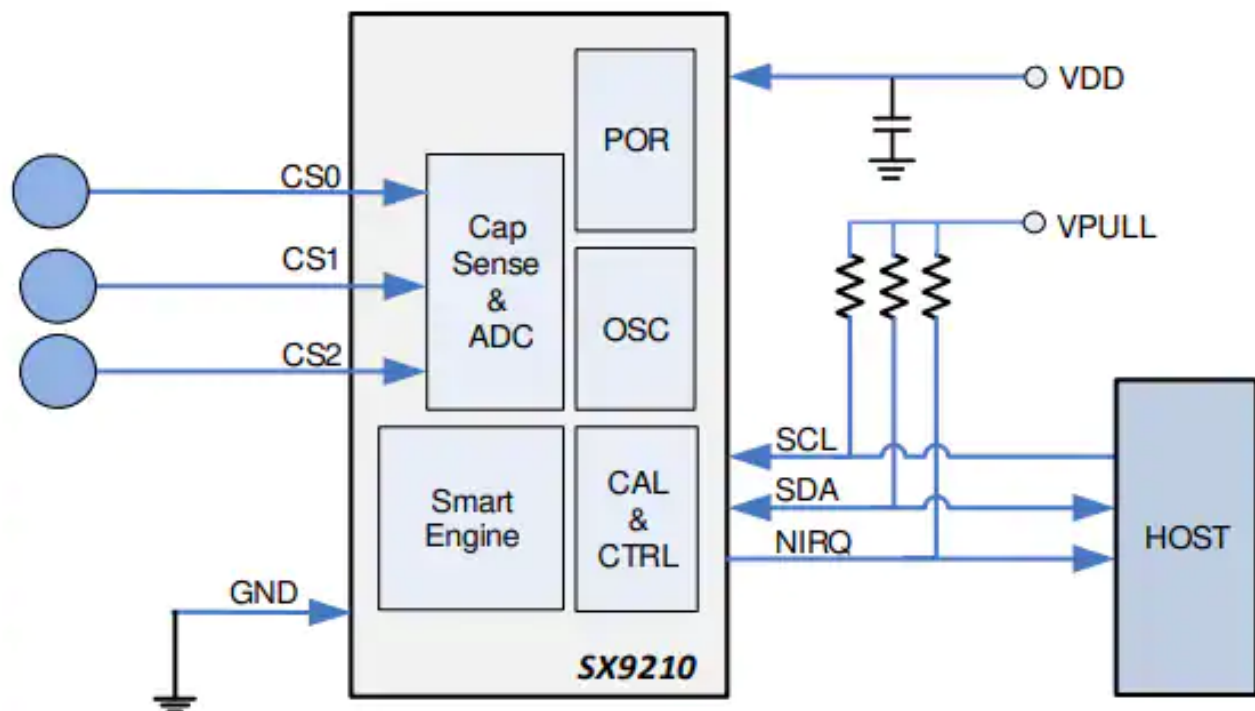- Compact size:
    - 0.92mm x 1.69mm WLCSP package

Applications

- Wearables
- Hearables

Specifications

- 1.8V input supply voltage
- Ultra-low power consumption:
    - Active mode: 22µA
    - Doze mode: 6µA
    - Sleep mode: 1.75µA
- 400kHz I^{2}C serial interface:
    - 2 sub-addresses selectable by pin
- -40°C to 85°C operating temperature range

Typical Application Circuit Diagram

Mouser Part Number(s)

SX9210ICSTRT

To learn more, visit https://www.mouser.in/new/semtech/semtech-sx9210-proximity-sensor/