PerSe®
Smart Sensing

Solutions Selector Guide
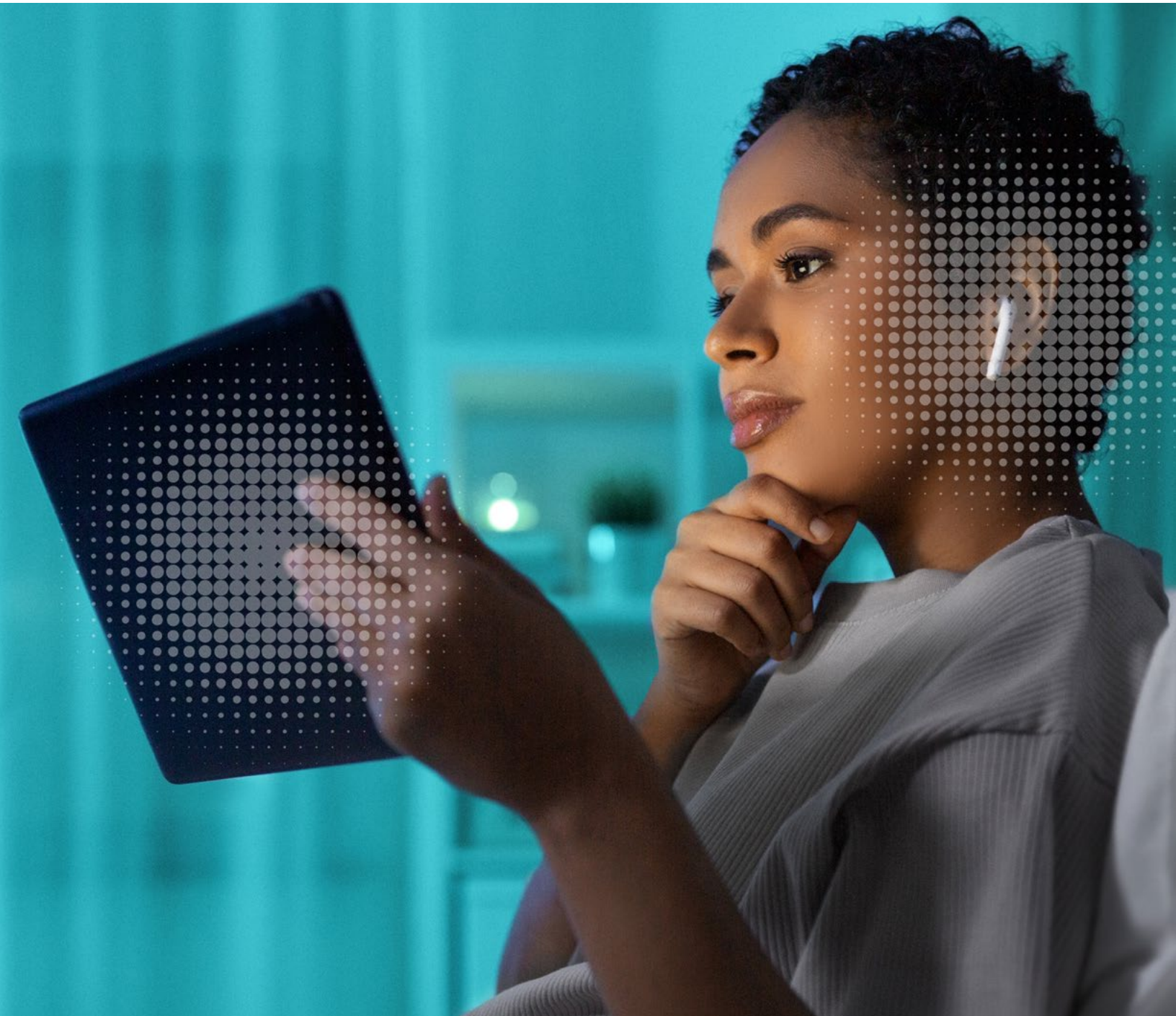
PerSe®
by Semtech

SEMTECH®

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PerSe®
by Semtech

Innovative Human Detection
for Smarter Sensing Applications

Our high-performance PerSe (Person Sensing) product line is expanding. Our PerSe by Semtech product line features three core product portfolios - PerSe Connect, PerSe Contact, and PerSe Control -targeting consumer, automotive, and industrial applications.

PerSe Connect optimizes the RF power for best performance in smartphones, while maintaining stringent global safety compliance. For wearables, PerSe Contact enhances human contact/interaction by providing auto on/off/gesture control features. In automotive and industrial applications, PerSe Control enables advanced HMI control.

Only PerSe can intelligently sense human presence to enable a smart response

Learn more by downloading our infographic at
semtech.com/PerSe

PerSe®
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PerSe® Connect

High Performance SAR Sensor for Smartphones and Computing

PerSe Connect enhances connectivity for a wide range of wireless technologies such as 5G/Wi-Fi 7.

SX9376 is part of Semtech's PerSe Connect portfolio. It offers up to 8 sensor inputs to support advanced radio frequency (RF) control for performance optimization and worldwide Specific Absorption Rate (SAR) regulation compliance. Its high sensing performance and high DC offset compensation capability make it the ideal choice for applications such as smartphones, tablets and laptops.

APPLICATIONS

- Smartphones (5G/Wi-Fi 7)
- Tablets (5G/Wi-Fi 7)
- Laptops (5G/Wi-Fi 7)
- Other wireless portable devices
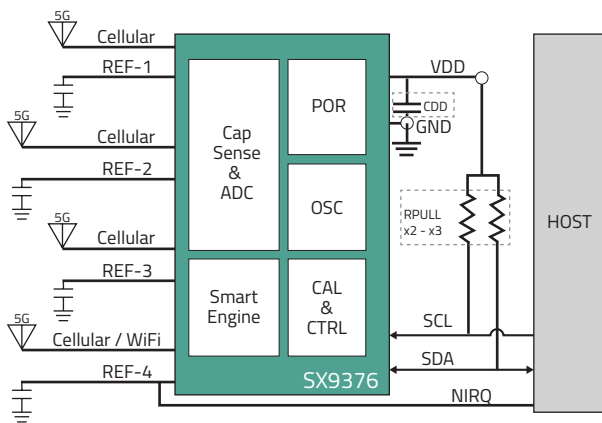
FEATURES

- 1.8V input supply voltage
  - I2C serial interface (I3C Capable)
  - 4 I2C addresses selectable by 2 pins
- Up to 8 capacitive sensing inputs
  - Patented On-chip smart human sensing
  - Capacitance resolution down to 0.74aF
  - Capacitance offset compensation up to 600pF
  - Capable of digital output for status
- Flexible event/status handling can be paused automatically for event handling
- Automatic calibration
  - Ultra low power consumption active mode: 29 uA
  - Doze mode: 7 uA
  - Sleep mode: 1.2 uA
- -40°C to +85°C Operation
- Pb & Halogen free, RoHS/WEEE compliant
- Compact size:
  - 1.8 mm x 1.9 mm x 0.55 mm QFN
  - 1.60 mm x 1.90 mm DFN

PerSe Connect

Part Number	Sensor Inputs	Supply Voltage	Resolution	Offset Compensation	Package (mm)
SX9376	8	1.8V	0.74aF	600pF	QFN (1.80 x 1.90)
SX9338	5	3.3V	5aF	220pF	DFN (1.80 x 2.10)
SX9328	3	1.8V	8aF	180pF	WLCSP (0.92 x 1.69)
SX9320	2	1.8V	4aF	200pF	WLCSP (0.92 x 1.69)

PerSe® Contact

Low Power Human Sensor for Wearables

PerSe Contact optimizes user experience in wearable products.

Semtech SX9206 is part of the PerSe Contact portfolio. It offers 6 sensor inputs to support features such as in-ear/on-wrist control as well as gesture detection. With ultra-low power consumption and a tiny footprint, it is the ideal choice for applications such as earbuds, smart glasses and smartwatches.

APPLICATIONS

- Wearables
- Hearables

FEATURES

- 1.8V input supply voltage
- Up to 6 capacitive sensor inputs
  - Capacitance resolution down to 0.74aF
  - Capacitance offset compensation up to 75pF
  - Multiple thresholds per sensing input
  - Separate configurations per input
- Automotive calibration
- Ultra-low power consumption
  - Active mode: 29 uA
  - Doze mode: 7 uA
  - Sleep mode: 1.2 uA
- Pb & Halogen free, RoHS/WEEE compliant
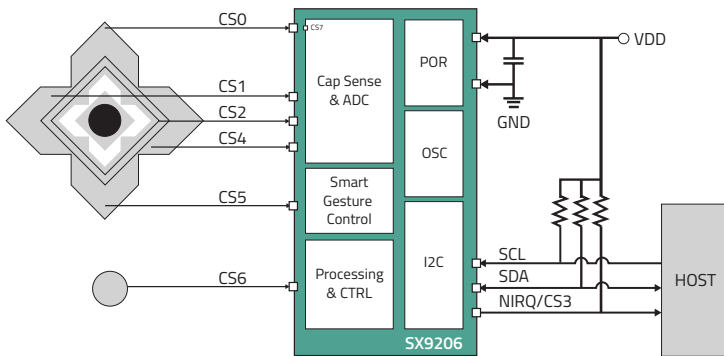
PerSe Contact					
Part Number	Sensor Inputs	Interface	Proximity	Auto Compensation	Package (mm)
SX9206	6	I²C	√	√	QFN (1.8 x 1.8)
SX9210	3	I²C	√	√	WLCSP (0.92 x 1.69)
SX9211	1	I²C	√	√	DFN (1.4 x 1.4)

PerSe® Control

High Resolution, Touch/Proximity Sensor for Industrial and Automotive

PerSe Control enables interactive HMI control in automotive/industrial applications.

Semtech SX9331WQ is part of the PerSe Control family. It offers 5-channel sensors to support a wide variety of touch and proximity sensing functions.

APPLICATIONS

- Automotive
- Industrial
- Telecom
- White goods

FEATURES

- 2.7-3.6V input supply voltage
- Up to 5 high performance capacitive sensors inputs
  - Patented on-chip smart engine
  - Capacitance resolution down to 1aF
  - Capacitance offset compensation up to 300pF
  - Multiple thresholds per sensing input
  - Separate configurations per input
- Automatic calibration
- Up to 2 LED drivers
  - Up to 20mA sink current per IO
  - Intensity control (256-step PWM)
- Ultra-low power consumption
  - Active mode: 27 uA
  - Doze mode: 7 uA
  - Sleep mode: 1.1 uA
- I²C serial interface
  - 2 sub-addresses selectable by pin
- Programmable interrupt or real-time status pin
- -40°C to +105°C operation
- Compact size package
  - 1.60 x 1.60 mm QFN
  - AEC-Q100 compatible (Grade 2)
  - Wettable flank package
- Pb & Halogen free, RoHS/WEEE compliant
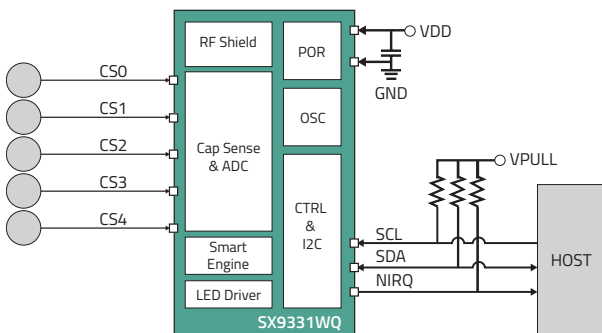
PerSe Control						
Part Number	Sensor Inputs	Interface	Proximity	Auto Compensation	LED Driver	Package (mm)
SX9331WQ	5	I²C	√	√	√	QFN (1.6 x 1.6)
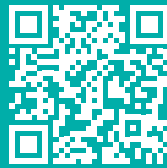
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in your area please visit **semtech.com/sales**

SEMTECH®

Semtech Corporation is a leading global supplier of high performance analog and mixed-signal semiconductors and advanced algorithms for infrastructure, high-end consumer and industrial equipment. Products are designed to benefit the engineering community as well as the global community. The Company is dedicated to reducing the impact it, and its products, have on the environment. Internal green programs seek to reduce waste through material and manufacturing control, use of green technology and designing for resource reduction. Publicly traded since 1967, Semtech is listed on the Nasdaq Global Select Market under the symbol SMTC.

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