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Semtech Debuts Touchscreen Controller Platform with Lowest Power, Smallest Footprint and ±15kV ESD Protection

SX8650 Designed for Resistive Touchscreens on Portable Devices; Offers Class-Leading ESD Protection and Extremely Low Power Consumption

CAMARILLO, Calif., Nov 03, 2009 (BUSINESS WIRE) -- Semtech Corp. (Nasdaq: SMTC), a leading supplier of analog and mixed-signal semiconductors, today announced the SX8650, an ultra-low power 4-wire resistive touchscreen controller with enhanced ±15kV electrostatic discharge (ESD) protection.

The SX8650 is the first in a new platform of touchscreen controllers and is optimized for power (23uA), size (1.46mm x 1.96mm), and ESD protection. These features make it the most application-specific resistive touchscreen controller on the market for such applications as mobile phones, digital still cameras, MP3 players, PDAs, personal navigation devices, and handheld gaming devices.

The SX8650 supports the 400 kHz fast-mode I²C serial bus data protocol and has an operating voltage from 1.65V to 3.7V. It features a highly accurate 12-bit analog-to-digital converter for coordinates and touch pressure measurement, and is able to achieve an equivalent throughput output rate of 50 kSPS. With current consumption as little as 23uA at 8 kSPS and the ability to enter low power states automatically between conversions, this controller is the ideal choice for portable and battery powered 4-wire resistive touchscreen devices. The SX8650 is a complete touchscreen solution incorporating a dedicated hardware / RESET pin, a built-in preprocessing algorithm for data averaging that greatly reduces bus loading and further minimizes the overall system power budget, as well as on-chip programmable settling time capability to optimize the throughput rates for a vast variety of touch panel designs.

"The SX8650 addresses the field returns issue prevalent in touchscreen applications due to destructive ESD events. Each analog input was specifically designed to enable robust ESD protection up to ±15kV in both human body model (HBM) and IEC 61000-4-2 standards, thus eliminating the need for external transient voltage suppression devices while minimizing cost and board space," said Sam Massih, Product Line Manager, Consumer Analog Products for Semtech. "Coupled with the extremely low operating current and tiny footprint, this makes Semtech's SX8650 the premier solution for today's portable touch-sensing devices."

The SX8650 is available in both a 3mm x 3mm 12-DFN and 1.46mm x 1.96mm 12-WLCSP space-saving packages and is guaranteed to operate over the extended (-40°C to +85°C) temperature range.

Key Features of the SX8650

- Best-in-class on-chip ESD protection:
  - ±15kV HBM (X+, X-, Y+, Y-)
  - ±2kV CDM
  - ±25kV air gap discharge
  - ±15kV contact discharge
  - ±300V MM
- Extremely low power consumption:
  - 23uA @ 1.8V (8 kSPS)
  - 70uA @ 1.8V (35 kSPS)
- Ultra small footprint solution: 3mm x 3mm 12-DFN and 1.46mm x 1.96mm 12-WLCSP
- Integrated preprocessing block (median and averaging filter)
- Fully programmable settling time
- Equivalent throughput up to 50 kSPS
- High precision 12-bit resolution
- Touch pressure measurement

- Single 1.65V to 3.7V supply and reference

- Dedicated hardware reset pin

- 400 kHz fast-mode I²C interface

Pricing and Availability

The SX8650 (order codes: SX8650IWLTRT, SX8650ICSTRT) is available in production quantities and is priced at $0.76 for DFN packages and $0.78 for WLCSP packages in 3,000-piece lots. Semtech offers comprehensive design assistance, including field- and factory-based support. Data sheets, volume pricing, and delivery quotes, as well as evaluation kits and samples, are available by contacting info@semtech.com.

About Semtech

Semtech Corporation is a leading supplier of analog and mixed-signal semiconductors for high-end consumer, computing, communications 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 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. For more information, visit its http://www.semtech.com.

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