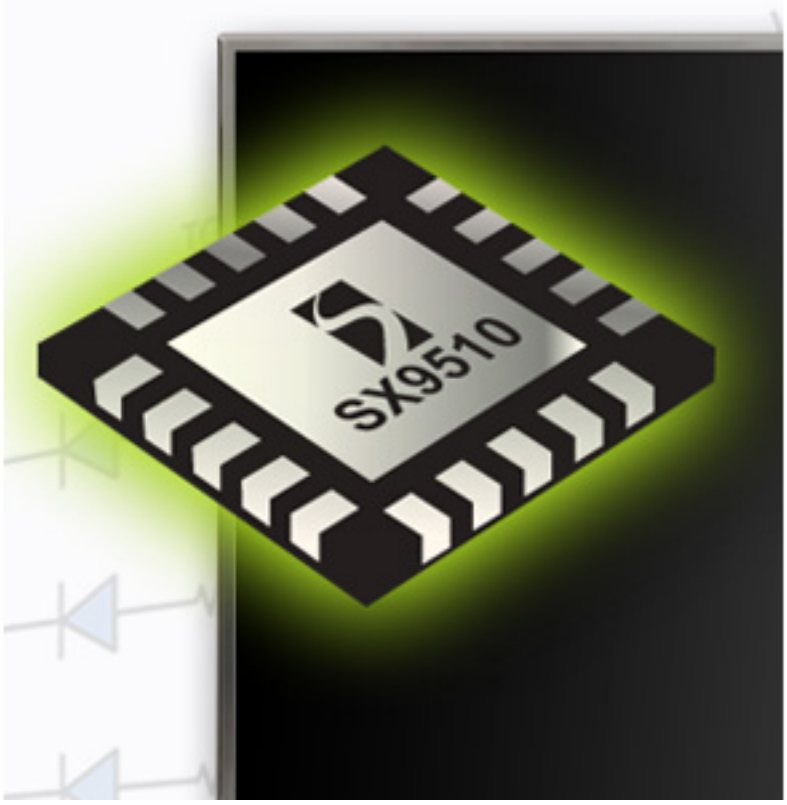
Next-generation capacitive-touch platform includes high-resolution sensing



Semtech Corporation announced the SX95xx platform of capacitive touch [1] ICs for a wide range of home appliances and consumer electronics. The feature-rich touch button family enhances the ECO mode present in many green home electronics by integrating an IR decoder for system wake up. This enables the host to go into sleep mode during system standby and minimizes the overall power consumption.

The analog sensor front end in this platform is equipped with a high-resolution ADC, which can detect down to 4fF of capacitance and is optimized for robust touch and proximity detection. These controllers also feature an advanced 256-step LED driver for various blinking and breathing control providing enhanced visual feedback in TV applications. Each device is designed with a unique innovative circuitry which combines the capacitive sensor with the LED driver to reduce the overall solution footprint.

“As more user interfaces are turning into touch applications, the demand for robust operation is becoming more critical. The core design in the new SX95xx platform addresses this concern by providing high-resolution sensing with robust noise immunity.” said David Wong, Marketing Manager for Consumer Analog Products at Semtech. “Coupled with the innovative features such as built-in IR decoder and enhanced proximity sensing make this an ideal solution for a wide range of green home appliances.“

The SX9510 [2]/11 [3]/12 [4]/13 [5] are in an 8-channel configuration which are offered as space saving 4mm x 4mm 20-QFN and 4.4mm x 7.8mm 24-TSSOP packages; and the SX9500/01 provide 4-channels in a tiny 3mm x3mm 20-QFN package. Semtech guarantees all of these devices to operate over the extended (-40°C to +85°C) temperature range.

Key features of the SX95xx platform

· High Resolution Touch Sensing Solution

o 8 ch. – SX9510/11/12/13

o 4 ch. – SX9500/01

· Enhanced Proximity Sensing (SX9510/12)

· Integrated IR Decoder for ECO System Design (SX9510/11)

· Built-in LED Drivers for Visual Feedback (SX9510/11/12/13)

· On-chip Buzzer Control for Audible Feedback (SX9510/11/12/13)

· Automatic Compensation Eliminating False Triggers from Environmental Factors

· 400kHz I2C Interface (SX9500/10/11/12/13)

· Dedicated Output (SX9501/10/11/12/13)

Applications

· LCD TVs, Monitors [6]

· White Goods [7]

· Consumer Products [8], Instrumentation

· Automotive [9]

· Mechanical Button Replacement

Pricing and availability

The 8-channel SX9510 (order code: SX9510EWLTRT), SX9511 (order code: SX9511EWLTRT), SX9512 (order code: SX9512EWLTRT) and SX9513 (order code: SX9513EWLTRT) are available in production quantities and are priced at $1.18, $0.85, $0.99 and $0.71 respectively in 1,000-piece lots. The 1,000-piece price for the TSSOP package options are SX9510 (order code: SX9510ETSTRT), SX9511 (order code: SX9511ETSTRT), SX9512 (order code: SX9512ETSTRT) and SX9513

(order code: SX9513ETSTRT) are $1.22, $0.88, $1.02 and $0.74 respectively. The 4-channel SX9500 (order code: SX9500IULTRT) and SX9501 (order code: SX9501IULTRT) come inQFN packages and are priced at $0.50 in 1,000-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 www.semtech.com/info [10]

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http://www.ecnmag.com/products/2012/10/next-generation-capacitive-touch-platform-includes-high-resolution-sensing

Links:
[1] http://www.semtech.com/touch-interface/capacitive-touch-controllers/
[2] http://www.semtech.com/touch-interface/capacitive-touch-controllers/sx9510/
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