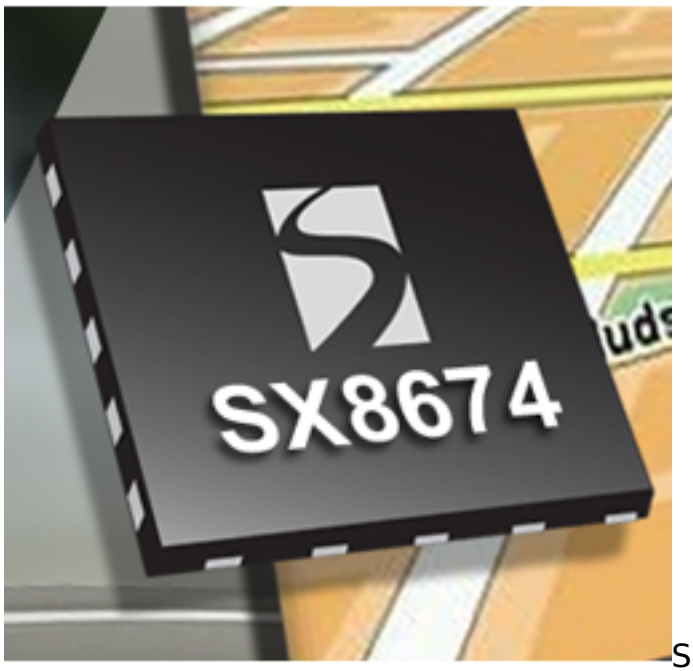
Semtech Expands the 4D-Touch Platform with Multi-Touch Support to Enhance the User Experience



Semtech today announced the SX8674/75/76/77/78 multi-touch resistive touchscreen controllers which bring pinch and stretch gesture recognition to the Semtech 4D-Touch platform. Semtech is the first to provide standard resistive panels with proximity sensing and Multi-touch support giving manufactures the opportunity to upgrade their existing platforms with the popular zoom-in/zoom-out gesture in picture viewer, internet browsing, and gaming applications.

The SX867X family is part of Semtech's 4D-Touch platform of ultra low power controllers that are packed with innovative features such as long-distance proximity detection and advanced haptics driver support in an extremely tiny footprint. They also feature robust ±15kV ESD protection making them ideal for a wide variety of applications such as mobile phone, tablet, DSC, handheld GPS, IP phones, printers, automotive center consoles and POS terminals.

4D-Touch devices also feature a highly accurate 12-bit analog-to-digital converter for coordinates and touch pressure measurement with current consumption as little as 0.4uA at standby. They can enter a low power state between conversions to reduce power consumption, making them ideal for portable applications. Unlike other touchscreen controllers the SX867X devices do not require expensive matrix type resistive panel for multi-touch operation. The proprietary touch-sensing circuitry in the SX867X devices is capable of supporting various common multi-touch gestures such as pinch, stretch and rotation on any 4-wire analog resistive touch screen.

SX867X devices also support a proximity detection distance of more than 5 cm using any standard 4/5-wire resistive panel, enabling various power-saving features such as automatic backlight dimming or system wake-up when the hand approaches the panel. Unlike traditional IR solutions that require additional, costly components for proximity detection, this new generation of resistive touch screen controllers enables proximity detection with zero external components.

A haptics motor driver is incorporated on-chip for controlling linear resonant actuator (LRA) and eccentric rotating mass (ERM) micro motors (up to 250mA) while providing acknowledgement to touch events, thus emulating the tactile feedback similar to mechanical keys which enhances the overall user experience. Immersion Corp. has certified the SX8677 and SX8678 as optimal motor drivers for its TouchSense 3000® software suite of haptic waveforms available to all customers via an Immersion license. Semtech's pin-compatible SX865X controllers have the same features except multi-touch gesture recognition allowing manufacturers to develop multiple versions of a product using the same board design.

"Multi-touch gesture support is a very popular way to improve the user experience of many consumer electronic devices, and the SX867X devices allow manufacturers to deliver that functionality along with proximity detection and haptics control in a single tiny footprint," said Sam Massih, Product Line Director, Consumer Analog Products for Semtech. "Coupled that with the ultra low power consumption and robust on-chip ESD protection, these complete touch sensing devices will enable OEMs to enhance the user experience in their next generation consumer products without adding any significant cost to the enabling electronics or panels."

The SX8674/75/76/77/78 which are all offered in space-saving 2.07mm x 2.07mm 19-WLCSP as well as 4mm x 4mm 20-QFN packages while the touch only version SX8651 and SX8653 come in a small 1.46mm x 1.96mm 12- WLCSP and 3mm x 3mmm 12-DFN (4mm x 3mm 14-DFN for SX8653). Semtech guarantees all of these devices to operate over the extended (-40°C to +85°C) temperature range.

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