

TouchXpress Controllers from Silicon Labs Speed Development of Capacitive Sensing Applications

Low-Power Fixed-Function Devices Eliminate Firmware Complexity, Enabling Turnkey Solutions for Sleek, Touch-Based User Interface Designs

“ With the growing demand for capacitive touch controls in embedded systems, developers are looking for faster, easier and more economical ways to add capacitive sense technology to their designs ”

AUSTIN, Texas--([BUSINESS WIRE](#))--[Silicon Labs](#) (NASDAQ: SLAB) has introduced the TouchXpress™ family of fixed-function controllers, providing the fastest, easiest way to add low-power capacitive touch interfaces to embedded designs. Silicon Labs' robust CPT007B and CPT112S TouchXpress controllers eliminate time-consuming firmware development, providing a simple turnkey solution for adding sleek, touch-based user interface designs to a wide range of products including home appliances, white goods, consumer electronics, lighting control, medical equipment and instrument/control panels. TouchXpress evaluation boards and advanced configuration and profiling software tools available within the Silicon Labs' [Simplicity Studio](#) environment enable embedded developers to get their capacitive touch applications up and running quickly and easily.

For additional TouchXpress product information and to order product samples and evaluation kits, visit www.silabs.com/TouchXpress.

New TouchXpress Fixed-Function Devices

Responding to the increasing demand for easily implemented capacitive sensing and touch functionality in embedded systems, Silicon Labs introduces two TouchXpress family members:

- The CPT007B GPIO switch replacement device enables developers to quickly replace up to seven mechanical buttons with capacitive touch sensors with no firmware development. The GPIO interfaces provide direct on/off sensor status to the host processor.
- The CPT112S capacitive sense I2C device features up to 12 sensor inputs to simplify the addition of capacitive sense functionality for touch-based interfaces. The I2C interface provides an easy way to track the status of touch sensors, and an interrupt pin can wake the host processor from sleep after a proximity touch detection.

Both capacitive touch controllers support advanced features such as moisture immunity, wake-on proximity, touch time-out, mutually exclusive touch qualifier and buzzer feedback for an enhanced user experience. The CPT112S device also offers a slider control option.

No Firmware or Capacitive Sense Expertise Needed

Based on Silicon Labs' proven, patented capacitive sensing technology, the TouchXpress controllers provide best-in-class drop-in solutions that ease touch interface development for embedded designers of all skill levels. No firmware development, programming or capacitive sense expertise is needed to implement capacitive touch interfaces based on TouchXpress technology. No external components are required, and developers can easily configure and evaluate all capacitive sense parameters using Silicon Labs' simple, intuitive GUI-based Xpress Configurator and Capacitive Sense Profiler.

The TouchXpress controllers' exceptional energy efficiency enables long battery life, as well as the use of smaller batteries for wearables and other portable devices. An impressive signal-to-noise ratio (SNR) results in better reliability and touch performance, which are important to instrumentation and control applications.

TouchXpress Product Highlights

- Industry-leading ultra-low power: active current down to 200 µA with <1 µA sleep current
- 270:1 SNR enables highly robust capacitive sense solutions
- Up to 12 capacitive sensor inputs with programmable sensitivity
- Robust moisture immunity avoids false touches caused by sweat, water droplets or mist
- Wake-on proximity feature reduces overall system power consumption
- Advanced tools minimize development time
- Small footprint (3 mm x 3 mm package) for space-constrained applications

“With the growing demand for capacitive touch controls in embedded systems, developers are looking for faster, easier and more economical ways to add capacitive sense technology to their designs,” said Daniel Cooley, vice president of marketing for Silicon Labs’ IoT products. “Silicon Labs’ robust, low-power TouchXpress controllers eliminate the hassle of complex firmware development and are backed by advanced tools and a proven design environment to implement flexible touch interfaces with minimal risk and faster time to market.”

Enablement Tools Simplify Application Development

Silicon Labs simplifies capacitive touch development with native support for TouchXpress controllers within the [Simplicity Studio development platform](#). This unified software environment provides advanced tools for configuring and profiling capacitive sense data. The easy-to-use Xpress Configurator quickly configures touch parameters, generates required customizations and includes factory programming options. The Capacitive Sense Profiler features a simple GUI for real-time capacitive sense evaluation, which accelerates prototyping and eases the task of visualizing and tuning the system. To further speed development, Silicon Labs supports the CPT007B and CPT112S controllers with the cost-effective SLEXP8007A and SLEXP8008A evaluation kits, respectively.

Pricing and Availability

Samples and production quantities of TouchXpress controllers are available now in 3 mm x 3 mm QFN20 packages. Pricing for the CPT007B device in 10,000-unit quantities begins at \$0.83 (USD). Pricing for the CPT112S device in 10,000-unit quantities begins at \$0.72 (USD). The SLEXP8007A and SLEXP8008A evaluation kits are available now for \$19.00 each (USD MSRP). For additional TouchXpress product information and to order samples and evaluation boards, please visit www.silabs.com/TouchXpress.

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Silicon Labs

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