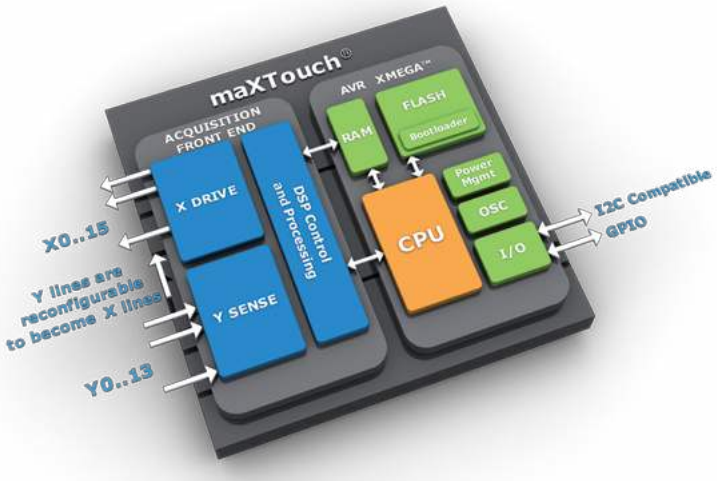
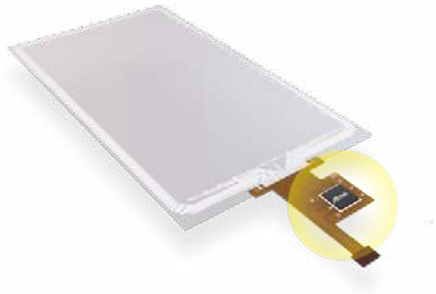
Atmel maXTouch Portfolio

Automotive Qualified Touch Screen Controllers

A commitment to the automotive market



With 30 years of automotive design experience and a commitment to the automotive business, Atmel holds a leading position in car access, in-vehicle networking (IVN), and capacitive touch. Atmel touch devices deliver superior product specs and features to help you tackle your design challenges and differentiate your products. We can support your company's specific sourcing process and flows with our dedicated automotive group and world-class manufacturing. Our products are AEC-Q100 qualified, and our production facilities are TS16949 automotive certified. All of this is backed by dedicated R&D and Quality organizations with more than three decades of experience serving automotive customers. Additionally, we offer easy-to-use tools and development environments to get your project off to a solid start.



Atmel® maXTouch® automotive touchscreen controllers combine patented Atmel charge transfer technology and either an 8/16-bit or 32-bit Atmel AVR® CPU to provide up to 16 simultaneous touches, fast response time, and smart processing of a capacitive touch image. This enables accurately regenerating and reporting the user's interaction with the touchscreen. Multitouch performance identifies and individually tracks touches, allowing a range of built-in gestures to be reported to the host processor.

A high signal-to-noise ratio (SNR) enables the device to work well with fingertip touch as well as a gloved touch. These controllers are also designed to work in demanding, rapidly changing environments. Additionally, because only the touchscreen area is touch-sensitive, you enjoy the freedom to place the chip on the main board or adjacent to the sensor on the flex connector.

Leveraging our role as a leading touchscreen controller supplier into Automotive

Building on more 15 years of touch innovation, Atmel maXTouch technology delivers next-generation controller capabilities for touchscreen applications, including both superior performance and low power consumption. It enables touch interfaces that identify, qualify and track the user's contacts with exceptional precision and sensitivity. Atmel's MaxTouch devices scan all sensor nodes within one touch acquisition cycle, and with its powerful post processing, unintended touches such as a resting palm on the screen will be suppressed. All of this enables seamless touch interfaces that are intuitive, flexible, and reliable.

Atmel touchscreen devices for automotive are fully AEC-Q100 qualified and support temperature ranges from -40° C up to +105° C.

Atmel maXTouch Portfolio

Automotive Qualified Touch Screen Controllers

Automotive maXTouch Key Features

Key Features	Benefits
Automotive qualified	AEC-Q100 qualified Temperature range of up to -40° to +105°C
High level of analog filtering	Support of Single layer shield less sensors
Unlimited, unambiguous touch	Multi-touch support up to 16 simultaneous touches
High SNR through high voltage drive	Enables gloved hand operation
Smart processing with integrated 32-bit	Embedded single and dual-touch gestures Rejection of unintended touches such as a resting hand
Embedded post processing	Noise filtering. Improved EMI and ESD behavior
High scan speed	Up to 280Hz scan speed to support character recognition for in-host processing

The right device for the right application

maXTouch Automotive Devices

Key Features	Benefits
MXT224S-A	224 nodes. Targets larger touch pads or touchscreens up to 6″
MXT336S-A	336 nodes. Provides the ultimate interface for automotive touchscreens with sizes up to 7″
MXT540E-A	Qualified up to 105°C. Addresses automotive touchscreens from 7″ to 8″
MXT768E-A	Qualified up to 105°C. Addresses touchscreens up to 10″
MXT1188S-A	1188 nodes. Ideally suited for touchscreens up to 12″
MXT1664S-A	1664 nodes. Ideally suited to address touchscreens up to 14″ or even larger
MXT3432S	3432 nodes. For very large centerstack screens

Key Features	Benefits
Unlimited, unambiguous touch identification, tracking and reporting	• Multi-touch support up to 16 simultaneous touches
Integrated gesture calculation (single and dual touch)	• Single and dual touch gesture support – pinch, stretch, etc.
Smart processing with integrated 32-bit MCU and DSP engine	• Classifying and rejecting unintended touch, e.g., a resting hand on the screen
Embedded post-processing algorithms	• Noise filtering • Improved EMI/ESD behavior • Adjacent key suppression
Very fast response time <10 ms	• Supports character recognition in host
High SNR	• Fingertip, back of finger touches supported • Gloved finger operation • Single layer, shield-less sensors
Supports up to two screens and additional touch buttons 2 additional self capacitance channels (540E/768E-A)	• Realize touch screen, buttons and proximity • Single chip enables completely integrated centerstack designs

To learn more and all your sampling needs, please visit - http://www.atmel.com/products/automotive/automotive_touch/
For evaluation kits, please contact sales.

Atmel | Enabling Unlimited Possibilities®

Atmel Corporation 1600 Technology Drive, San Jose, CA 95110 USA **T:** (+1)(408) 441.0311 **F:** (+1)(408) 436.4200 | **www.atmel.com**