S-Touch

A simple solution for touch-sensing

STMicroelectronics' new S-Touch series of touch sensor controllers offer simple and highly efficient solutions for capacitive and resistive touch-sensor functions.

Using a finite state machine approach which eliminates the need for firmware, S-Touch's full digital architecture delivers the industry's fastest sampling time of 2 ms.

With ultra-low power consumption (5 µA per key) and tiny packages – such as the world's smallest QFN16 measuring only 2.6 mm x 1.8 mm – S-Touch solutions are perfect for portable applications.

Key features

- High sensitivity
- High tolerance to environmental changes (hotspot handling)
- No RC components on sensor lines
- Ultra-low power consumption (max. 5 µA per key)
- Ultra-fast sampling time (typ. 2 ms)
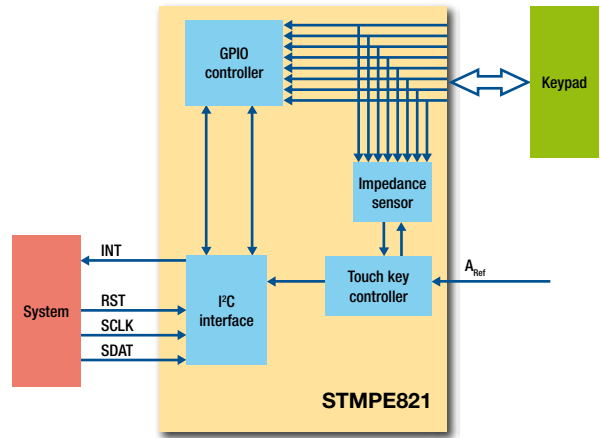- Ultra-small packages

Main applications

- Mobile phones, PDAs, notebooks
- Portable media players, game consoles
- Home appliances, instrumentations
- Medical, security devices
- Factory automation equipment

www.st.com/s-touch

S-Touch capacitive touch-key solutions

S-Touch capacitive touch-key controllers use a finite state machine approach with fully digital architecture and are aimed at a wide range of touch-key sensing applications, such as keypads, rotators or buttons.

Features

- Fast 400 kHz I²C interface
- Ultra-low power consumption:
  - Sleep mode: 1 µA
  - Active mode: 160 µA
  - Standby mode: 80 µA
- Ultra-fast sampling time (typ. 2 ms)
- Highly innovative calibration method enables high tolerance to environmental changes such as temperature or PCB variation, RF noise and water drops
- Highly sensitive impedance change detection engine to ensure reliable operation, even with thick isolation coating ($\Delta C \sim 60$ fF)
- Built-in data filtering technology with 100 levels of touch strength detection
- 1-pin sensor in ultra-small packages
- 8 kV HBM ESD protection
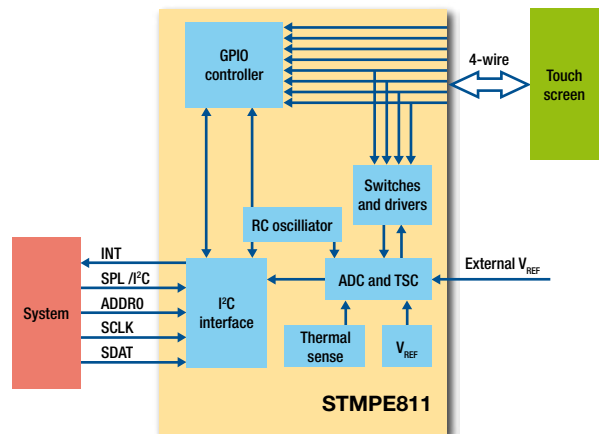- Evaluation board available by 3rd quarter, 2007

Part number	Package	V_{cc}	No of touch keys/GPIOs
STMPE1208S	QFN40 (5 mm x 5 mm)	2.5 V – 5.5 V with internal LDO	12 keys and 12 GPIOs standalone
STMPE821	QFN16 (2.6 mm x 1.8 mm)	1.8 V – 3.3 V	8 keys or 8 GPIOs multiplex

S-Touch resistive touch-screen solution

The S-Touch STMPE811 resistive touch-screen controller uses a 4-wire resistive methodology with built-in ADC to offer both ease of design and great flexibility to touch-screen applications.

Features

- 12-bit ADC for high-resolution resistive touch-screens
- 128-depth data buffering
- Fast I²C (400 KHz) or SPI (1 MHz) serial interface
- Advanced movement tracking to reduce CPU/bus use
- Window masking function allows intelligent use of screen
- Up to 8 GPIOs and 4 additional ADC inputs
- 8 kV HBM ESD protection
- Ultra-low power consumption (active <1 mA, idle <1 µA)
- Ultra-small package: QFN16 (3 mm x 3 mm)

For selected STMicroelectronics sales offices fax:

China +86 21 34054689; France +33 1 55489569; Germany +49 89 4605454; Italy +39 02 8250449; Japan +81 3 57838216; Singapore +65 6481 7771; Sweden +46 8 58774411; Switzerland +41 22 9292900; United Kingdom and Eire +44 1628 890391; USA +1 781 861 2678

Full product information at www.st.com

Recycled and chlorine free paper

Order code: FLTOUCH0907