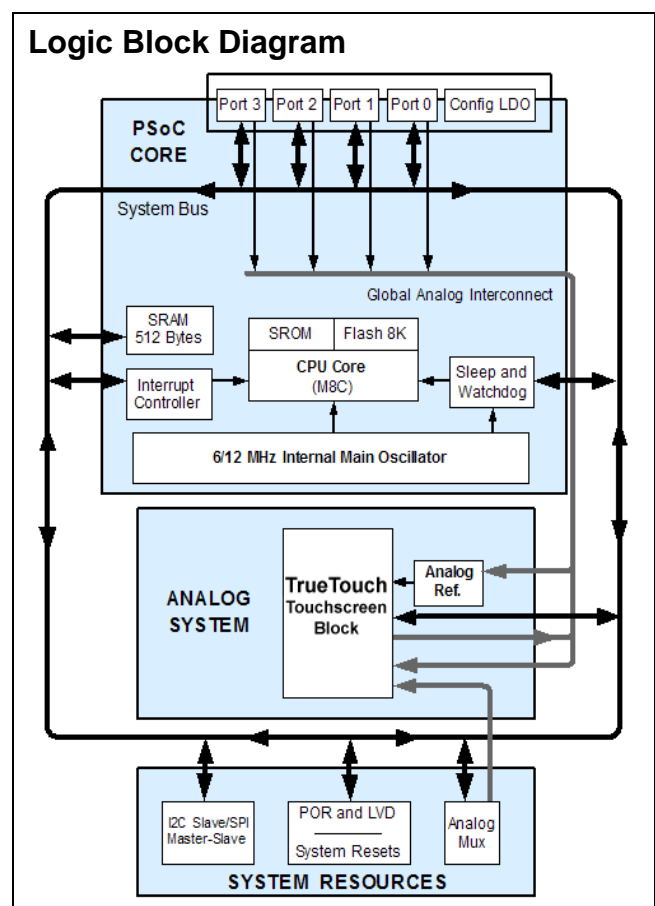


# TrueTouch™ Single-Touch Touchscreen Controller

## Features

- TrueTouch™ Capacitive Touchscreen Controller
  - Supports Single-Touch Touchscreen Applications
  - Supports up to 25 X/Y Sensor Inputs
  - Supports Screen Sizes 4.7" and Below (Typical)
  - Fast Scan Rates: Typical 300 us per Sensor
  - High Resolution: Typical 320 x 240 for 2.6" Screen
  - I<sup>2</sup>C Slave: 1.8V I<sup>2</sup>C Support
  - Available in Thin 0.6 mm 32-Pin QFN Package
  - Transition to Higher Function Multi-Touch Gesture Device
- Lowest Power TrueTouch Touchscreen Device
  - 1.9 mA Average Supply Current at 8 ms Report Rate
  - 1.0 mA Average Supply Current at 16 ms Report Rate
- Powerful Harvard Architecture Processor
  - M8C Processor Speeds Running up to 12 MHz
  - Low Power at High Speed
  - 2.4V to 5.25V Operating Voltage
  - Industrial Temperature Range: -40°C to +85°C
- Flexible On-Chip Memory
  - 8K Flash Program Storage, 50000 Erase/Write Cycles
  - 512 Bytes SRAM Data Storage
  - Partial Flash Updates
  - Flexible Protection Modes
  - Interrupt Controller
  - In-System Serial Programming (ISSP)
- Complete Development Tools
  - Free Development Tool (PSoC Designer™)
  - TrueTouch Touchscreen Tuner
  - Full Featured, In-Circuit Emulator and Programmer
  - Full Speed Emulation
  - Complex Breakpoint Structure
  - 128K Trace Memory
- Precision, Programmable Clocking
  - Internal ±5.0% 6 and 12 MHz Main Oscillator
  - Internal Low Speed Oscillator at 32 kHz for Watchdog and Sleep
- Programmable Pin Configurations
  - Pull Up, High Z, Open Drain, and CMOS Drive Modes on All GPIO
  - Configurable Inputs on All GPIO
  - Selectable, Regulated Digital IO on Port 1
    - 3.0V, 20 mA Total Port 1 Source Current
    - 5 mA Strong Drive Mode on Port 1 Versatile Analog Mux
  - Common Internal Analog Bus
  - Simultaneous Connection of IO Combinations

- Additional System Resources
  - Configurable Communication Speeds
    - I<sup>2</sup>C: Selectable to 50 kHz, 100 kHz, or 400 kHz
    - SPI: Configurable between 46.9 kHz and 3 MHz
  - SPI Master and SPI Slave
  - Watchdog and Sleep Timers
  - Internal Voltage Reference
  - Integrated Supervisory Circuit



**Document History Page**

Document Title: CY8CTST100 TrueTouch™ Single-Touch Touchscreen Controller				
Document Number: 001-46930				
Revision	ECN	Orig. of Change	Submission Date	Description of Change
**	2518134	DSO/AESA	06/18/08	New data sheet
*A	2523303	DSO/PYRS	06/30/08	Updated supported screen sizes to 4.7" and below

**Sales, Solutions, and Legal Information**

**Worldwide Sales and Design Support**

Cypress maintains a worldwide network of offices, solution centers, manufacturer’s representatives, and distributors. To find the office closest to you, visit us at [cypress.com/sales](http://cypress.com/sales).

**Products**

- PSoC [psoc.cypress.com](http://psoc.cypress.com)
- Clocks & Buffers [clocks.cypress.com](http://clocks.cypress.com)
- Wireless [wireless.cypress.com](http://wireless.cypress.com)
- Memories [memory.cypress.com](http://memory.cypress.com)
- Image Sensors [image.cypress.com](http://image.cypress.com)

**PSoC Solutions**

- General [psoc.cypress.com/solutions](http://psoc.cypress.com/solutions)
- Low Power/Low Voltage [psoc.cypress.com/low-power](http://psoc.cypress.com/low-power)
- Precision Analog [psoc.cypress.com/precision-analog](http://psoc.cypress.com/precision-analog)
- LCD Drive [psoc.cypress.com/lcd-drive](http://psoc.cypress.com/lcd-drive)
- CAN 2.0b [psoc.cypress.com/can](http://psoc.cypress.com/can)
- USB [psoc.cypress.com/usb](http://psoc.cypress.com/usb)

© Cypress Semiconductor Corporation, 2008. The information contained herein is subject to change without notice. Cypress Semiconductor Corporation assumes no responsibility for the use of any circuitry other than circuitry embodied in a Cypress product. Nor does it convey or imply any license under patent or other rights. Cypress products are not warranted nor intended to be used for medical, life support, life saving, critical control or safety applications, unless pursuant to an express written agreement with Cypress. Furthermore, Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress products in life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

Any Source Code (software and/or firmware) is owned by Cypress Semiconductor Corporation (Cypress) and is protected by and subject to worldwide patent protection (United States and foreign), United States copyright laws and international treaty provisions. Cypress hereby grants to licensee a personal, non-exclusive, non-transferable license to copy, use, modify, create derivative works of, and compile the Cypress Source Code and derivative works for the sole purpose of creating custom software and or firmware in support of licensee product to be used only in conjunction with a Cypress integrated circuit as specified in the applicable agreement. Any reproduction, modification, translation, compilation, or representation of this Source Code except as specified above is prohibited without the express written permission of Cypress.

Disclaimer: CYPRESS MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Cypress reserves the right to make changes without further notice to the materials described herein. Cypress does not assume any liability arising out of the application or use of any product or circuit described herein. Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress’ product in a life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

Use may be limited by and subject to the applicable Cypress software license agreement.