

Datasheet for LCD Controller

Functional Description:

The LCD Controller module interfaces with Sitronix ST7066U graphics controller, which is functionally equivalent to Samsung S6A0069X, Hitachi HD44780 and SMOS SED1278 devices.

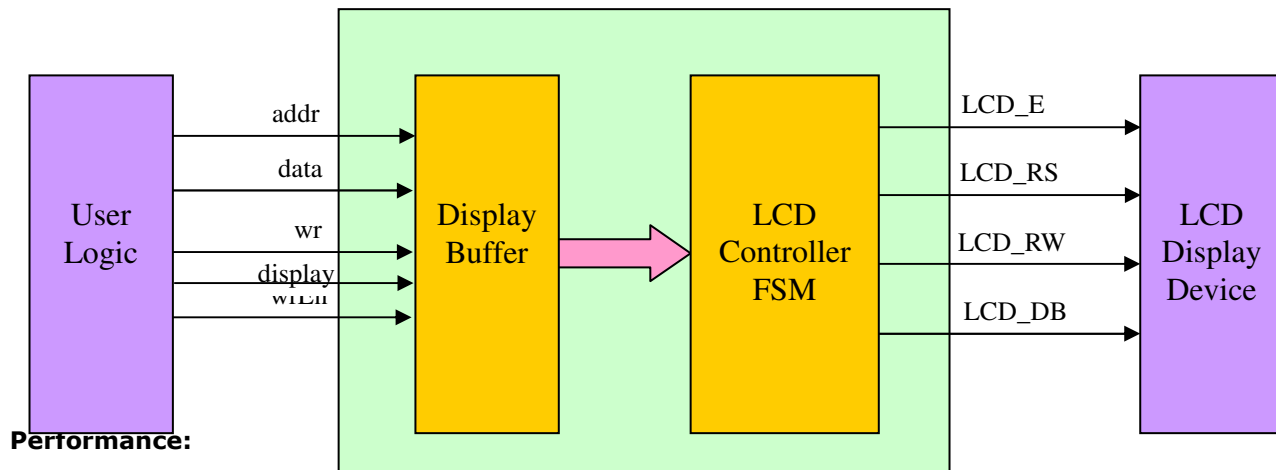
Using LCD Controller, variety of information using standard ASCII character or custom characters can be displayed on the LCD screen. The voltage levels of I/O signals are configured to meet the voltage levels recognized by LCD Display.

Features:

- Character size : 5 x 8 and 5 x 11 dot matrix
- 16 x 2 line Display, can support larger

- display size
- 8-bit interface with LCD Display
 - Display ASCII or Custom character
 - Wide range of functions:
 - Display clear
 - Cursor home
 - Display on/off
 - Cursor on/off
 - Character blink
 - Cursor shift
 - Display shift to rotate
 - Compatible with S6A0069X, Hitachi HD44780 and SMOS SED1278 devices
 - Power on reset logic for LCD display initialization

Block Diagram:



Performance:

Device	Slice Count	Frequency
Spartan-3A (xc3s700a-4fg484)	110	131 MHz
Virtex-4 (xc4vlx25-ff668)	107	200 MHz

Verification:

The LCD controller module has been verified with following approaches:

- Exhaustive Functional/Timing simulation
- Prototyped on Xilinx Spartan-3A development board

Deliverables:

- Verilog RTL source code
- Test benches
- Synthesis and Simulation scripts
- Detailed user documentation, including RTL source code documentation