

ST7735S Interface Description



AI Overview

The ST7735S supports SPI and parallel interfaces, allowing flexible communication with microcontrollers for driving 262K-color TFT LCDs.

Overview The ST7735S is a single-chip TFT LCD controller/driver designed for 128x160 or 132x162 pixel displays with 18-bit color depth. It integrates source and gate drivers, on-chip display RAM, and power supply circuits, enabling a compact display system with minimal external components. The chip can interface directly with microcontrollers via Serial Peripheral Interface (SPI) or parallel interfaces (8-bit, 9-bit, 16-bit, or 18-bit) depending on the application.

Communication Interfaces

- 1. SPI Interface (Serial Communication)** The ST7735S supports standard SPI, which is commonly used in microcontroller projects for simplicity and fewer pins. Typical SPI pins include:
 - SCL/SCK: Serial clock input
 - SDA/MOSI: Serial data input
 - CS: Chip select, active low
 - DC (Data/Command): Selects between command or data mode
 - RESET: Hardware reset inputSPI allows the microcontroller to send commands and pixel data serially, reducing wiring complexity.
- 2. Parallel Interface (8/9/16/18-bit)** For higher-speed applications, the ST7735S can use a parallel interface. Parallel pins include:
 - DB0-DB7/DB0-DB17: Data bus lines depending on bit width
 - WR: Write strobe
 - RD: Read strobe
 - CS: Chip select
 - DC: Data/Command selection
 - RESET: Hardware resetParallel mode allows faster data transfer compared to SPI, suitable for high-refresh applications.

Control Signals

- RESET: Resets the display controller to default state.
- CS (Chip Select): Enables communication with the microcontroller.
- DC (Data/Command): Determines whether the transmitted byte is a command or display data.
- WR/RD: Used in parallel mode to latch data into the display RAM or read from it.

Display Data RAM The ST7735S contains on-chip display RAM of 132 x 162 x 18 bits. Data can be written or read without an external operation clock, minimizing power consumption. Commands allow setting the column and row address window, after w...

Article Content

ST7735 LCD Pinout Guide Understanding Connections

ST7735 LCD Pinout Guide In the world of electronics and microcontrollers, one of the most essential components is the interface between the device and its user.

ST7735S pdf, ST7735S Description, ST7735S Datasheet, ST7735S

Part #: ST7735S. Description: 132RGB x 162dot 262K Color with Frame Memory Single-Chip TFT Controller/Driver. File Size: 2577.05 Kbytes. Manufacturer: Sitronix Technology Co., Ltd..

ST7735 Arduino TFT: Wiring, Graphics & SD Card Images

By combining text, shapes, and colors, you can easily design a clean and informative user interface for your Arduino projects. In the next section, we'll take it a step further, learning how to

Sitronix ST7735S Controller Datasheet

The ST7735S is a single-chip controller/driver for 262K-color, graphic type TFT-LCD. It consists of 396. source line and 162 gate line driving circuits. This chip is capable of connecting directly to an

ST7735S TFT Controller Datasheet | PDF

It provides detailed information on the chip's features, pin layout, electrical characteristics, timing diagrams, and data transfer protocols for different interface

How to Use TFT LCD Display ST7735S: Examples,

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Sitronix ST7735S Controller Datasheet

8.2 Parallel Interface Characteristics: 18, 16, 9 or 8-bit Bus (6800 Series MCU Interface) Figure 5 Parallel Interface Timing Characteristics (6800-Series MCU Interface)

1.8" inch TFT LCD Display module ST7735S 128x160

The 1.8" inch TFT LCD Display module ST7735S 128x160 is a high-performance, vibrant true-color graphic breakout screen engineered for complex visual interfaces and embedded hardware tracking.

ST7735S_V1.1_20111121

The MCU can use one of following interfaces: 11-lines with 8-data parallel interface, 12-lines with 9-data parallel interface, 19-line with 16-data parallel interface or 21-lines with 18-data parallel interface.

Interfacing Arduino with ST7735 TFT Display

Interface Arduino with ST7735 TFT display, print texts, numbers and draw shapes. Circuit diagram, Arduino code, Proteus simulation & videos.

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ST7735S Datasheet (PDF)

Part #: ST7735S. Download. File Size: 2MbKbytes. Page: 201 Pages. Description: 132RGB x 162dot 262K Color with Frame Memory Single-Chip TFT

ST7735S TFT Controller Datasheet | PDF

ST7735S TFT Controller Datasheet This document is a datasheet for the ST7735S TFT LCD controller chip from Sitronix Technology Corp. It provides detailed

1.8inch LCD display Module, 128x160 pixels, SPI interface

Overview This is a general LCD display Module, 1.8inch diagonal, 128x160 pixels, with embedded controller, communicating via SPI interface. Features SPI

1.8inch LCD Module User Manual 1.8inch LCD Module USER

D supports 12-bit, 16-bit and 18-bit per pixel input format . They correspond to RGB444, RGB565 and RGB666 color formats. This LCD uses 4-wired SPI communication interface, which can save a lot of

ST7735S TFT Controller Datasheet | PDF

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ST7735S Datasheet (PDF)

Description: 132RGB x 162dot 262K Color with Frame Memory Single-Chip TFT Controller/Driver. Manufacturer: Sitronix Technology Co., Ltd..

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Library for the ST7735S display driver

Library for the ST7735S display driver Demonstration Architecture This library is an abstraction. To use it, you need to implement functions that will handle

How to Use st7735: Examples, Pinouts, and Specs

Learn how to use the st7735 with detailed documentation, including pinouts, usage guides, and example projects. Perfect for students, hobbyists, and developers

`display-tft-st7735s/api_reference.md` at master

Display 0.96 Inch TFT LCD (ST7735S) API Reference Guide General Description Basic set of API for interacting with the TFT display. This library provides functions for supporting a 0.96 inch TFT LCD

How to Use ST7735: Examples, Pinouts, and Specs

The ST7735 is a low-power, full-color LCD driver designed for small displays in embedded systems. It supports a variety of display resolutions and provides a

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