THE DATASHEET OF

S1D13517F00A100-90

S1D13517

S1D13517 SVGA External SDRAM LCD Controller

The S1D13517 is a SVGA color LCD graphics controller which uses an external SDRAM display buffer. The S1D13517 supports an 8/16-bit indirect host interface while providing high performance bandwidth to external SDRAM, allowing for fast screen updates.

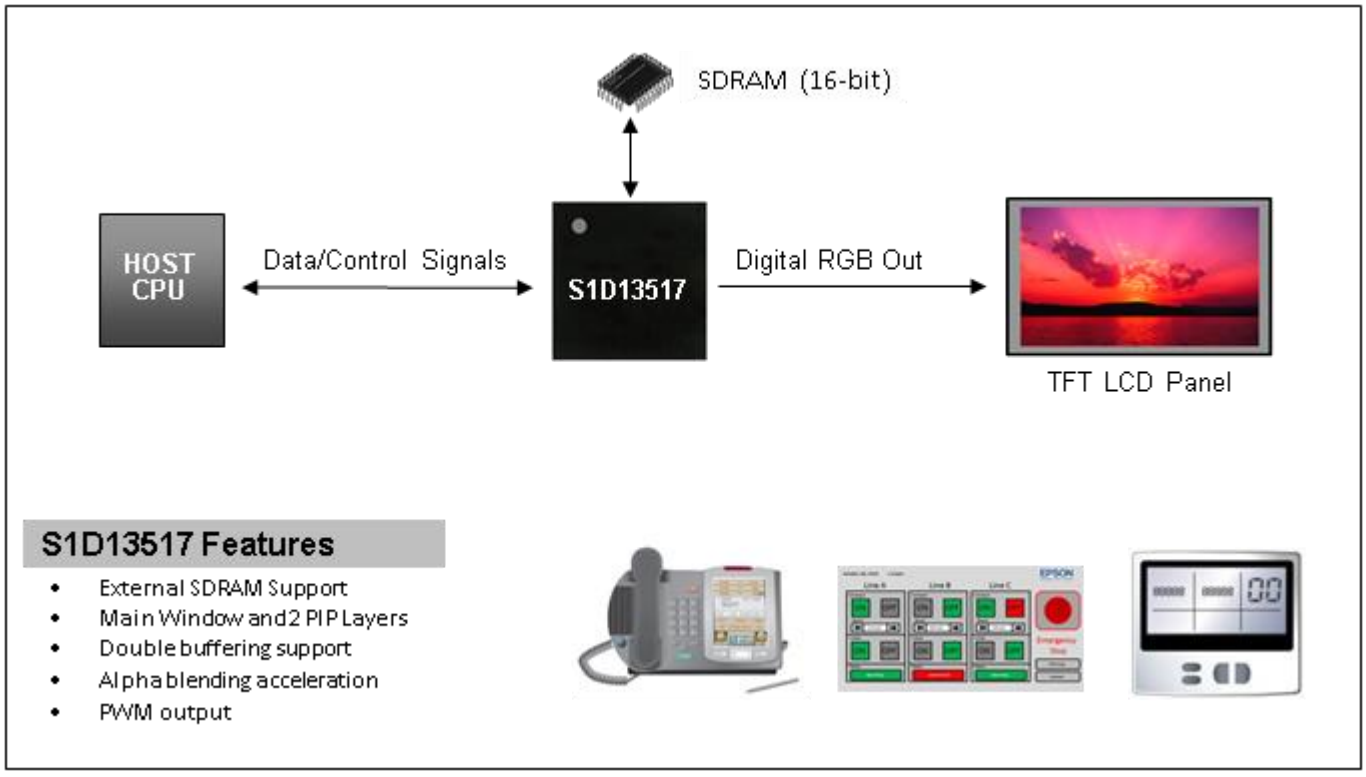
The S1D13517 supports displays up to 960x540 (QHD) @ 24 bpp or 800x600 (SVGA)@24bpp, controlling a main window and up to two picture-in-picture windows. Additionally, the S1D13517 incorporates a 2D graphics engine with alpha blending capability. It uses a double-buffer architecture to prevent any visual tearing during streaming video screen updates.

Targeted for SVGA designs, the S1D13517 combines a rich feature set with impartiality to CPU type or operating system which makes it an ideal solution for a wide variety of applications.

FEATURES

- Easy to use and easy to connect
- External 16 MB, 64 MB or 128 MB SDRAM
- High performance SDRAM controller
- 8/16-bit asynchronous indirect parallel interface (used for display or register data)
- Input data formats: RGB 8:8:8, RGB 5:6:5
- Supports TFT panels
- RGB interface: 18/24-bit
- Supports resolutions up to 960x540 or 800x600
- Software power save mode
- Main display window with two picture-in-picture windows
- 180° hardware rotation and mirror of display image
- Double-buffer available to prevent image tearing during streaming input
- PWM output for LCD backlight control
- Internal programmable PLL
- SS (spread spectrum) clock available
- General purpose output pins

SYSTEM BLOCK DIAGRAM



S1D13517

EPSON
EXCEED YOUR VISION

DESCRIPTION

Display Memory

- External 16M-bit, 64M-bit or 128M-bit SDRAM memory support
  - Maximum 90MHz SDRAM clock
  - 16-bit bus width
  - Maximum 16-Buffer separation available

Host Interface

- 8/16-bit asynchronous parallel interface (used for display or register data)
  - Indirect addressing Intel80 interface
  - Burst and rectangular write available for memory

Input Data Format

- RGB 8:8:8, RGB 5:6:5

Display Support

- Supports TFT panels
  - 18/24-bit RGB interface
- Supports resolution up to 960x560 (QHD)
  - HVGA, VGA, WVGA, SVGA

Power

- COREVDD 2.5 volts, PLLVDD 2.5 volts, and IOVDD 3.3 volts

Display Features

- 24 bpp color depth
- Display window
- Two picture-in-picture windows
- 2D graphics engine (alpha blending, copy)
- 180° hardware rotation and mirror of display image
- Double-buffer available to prevent image tearing during streaming input
- Software multi-buffer available for simple animation
- TE (tearing effect) output

Clocks

- Internal programmable PLL (maximum 180MHz)
- Spread spectrum clock available for PCLK and SDCLK (note: frequency: 31MHz to 80MHz)
- LCD pixel clock (maximum PCLK = 45MHz)
- SDRAM clock (maximum SDCLK = 90MHz

Miscellaneous

- PWM output for LCD backlight control
- Software power save mode
- General purpose output pins are available (GPO[3:0])
- QFP15 128-pin package (16mm x 16mm x 1.7mm)

For more information on the S1D13517 and other Epson Display Controllers, visit the Epson Global website.

https://global.epson.com/products_and_drivers/semicon/products/display_controllers/

For Sales and Technical Support, contact the Epson representative for your region.

https://global.epson.com/products_and_drivers/semicon/information/support.html

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- View S1D13517F00A100-90 on WIN SOURCE
- Epson Electronics America Inc-Semiconductor Div Information

Optimize Your Supply Chain with WIN SOURCE Solutions

- Global Sourcing Solution
- Obsolete Management
- Cost Control Management
- Shortage Management
- Alternative Solution
- Excess Inventory Management