
110 MSPS/140 MSPS Analog Flat Panel Interface

GENERAL DESCRIPTION

The CS9883 is a complete 8-bit 140 Msps monolithic analog interface optimized for capturing RGB graphics signals from personal computers and workstations. Its 140 Msps encode rate capability and full-power analog bandwidth of 350MHz supports display resolutions of up to 1280x1024 (SXGA) at 85Hz with sufficient input bandwidth to accurately acquire and digitize each pixel.

To minimize system cost and power dissipation, the CS9883 includes an internal +1.25V reference, PLL to generate a pixel clock from HSYNC, and programmable gain, offset and clamp circuits. The users provide only a +3.3V power supply, analog input, and HSYNC and COAST signals.

The CS9883 is on-chip PLL generates a pixel clock from the HSYNC and COAST inputs. Pixel clock output frequencies range from 20MHz to 140MHz. PLL clock jitter is typically 500ps p-p. When the COAST signal is presented, the PLL maintains its output frequency in the absence of HSYNC. A 32-step sampling phase adjustment is provided. Data, HSYNC and data clock output phase relationships are always maintained. The CS9883 also offers full sync processing for composite sync and sync-on-green applications.

A clamp signal is generated internally or may be provided by the user through the CLAMP input pin. This device is fully programmable via two-wire serial port.

Fabricated in an advanced CMOS process, the CS9883 is provided in a space-saving 80-lead LQFP surface mount plastic package and is specified over a 0°C to +70°C temperature range.

FEATURES

- 140 Msps maximum conversion rate.
- 350MHz analog bandwidth.
- 0.5V to 1.0V analog input range.
- 500ps p-p PLL clock jitter.
- Power-Down Mode.
- 3.3V power supply.
- Midscale clamping.
- Sync detect for "Hot Plugging".
- Full sync processing.
- Low power: 1W typical at 140MHz.
- Internal PLL generates CLOCK from HSYNC.
- Serial port interface.
- Fully Programmable.
- 4:2:2 output format mode.

APPLICATIONS

- RGB graphics processing
- LCD monitors and projectors.
- Plasma display panels.
- Scan converters.

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BLOCK DIAGRAM

