

FEATURES

Support for CCD and CMOS image sensors

4 AFE channels

1.8 V analog and digital core supply voltage

Serial data output with reduced range LVDS outputs

Differential analog inputs

CDS or SHA configuration (CDS bypass) with

–3 dB, 0 dB, +3 dB, and +6 dB gain

6 dB to 42 dB, 10-bit variable gain amplifier (VGA)

14-bit, 72 MHz analog-to-digital converter (ADC)

Black level clamp with variable level control

Precision Timing core with 220 ps resolution at 72 MHz

APPLICATIONS

Digital video cameras

Digital still cameras

Medical Imaging

High speed industrial cameras

GENERAL DESCRIPTION

The ADDI7004 is a highly integrated, quad-channel, HD image signal processor for high speed imaging applications. Each channel is specified at pixel rates of up to 72 MHz and consists of a complete analog front end (AFE) with ADC conversion. The *Precision Timing* core allows adjustment of the correlated double sampler (CDS) and sample-and-hold amplifier (SHA) clocks with 220 ps resolution at 72 MHz operation. The ADDI7004 also contains a reduced range low voltage differential signaling (LVDS) interface for the dual-channel data outputs.

Each analog front end includes black level clamping, a CDS/SHA, a VGA, and a 72 MHz, 14-bit analog-to-digital converter (ADC). Operation is programmed using a 3-wire serial interface.

Packaged in a space-saving, 6 mm × 6 mm, 76-ball BGA, the ADDI7004 is specified over an operating temperature range of –40°C to +85°C.

FUNCTIONAL BLOCK DIAGRAM

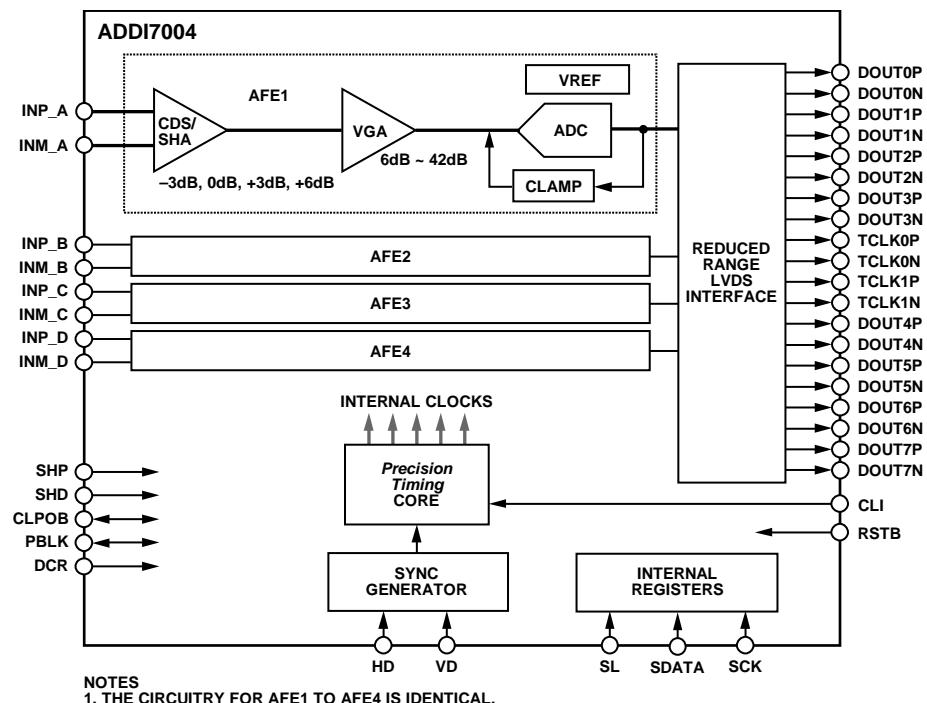


Figure 1.

For more information on the ADDI7004, email Analog Devices, Inc., at afe.ccd@analog.com.

Rev. SpE

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