

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 @ 72 MHz

APPLICATIONS

Digital video cameras

Digital still cameras

Medical Imaging

High speed industrial cameras

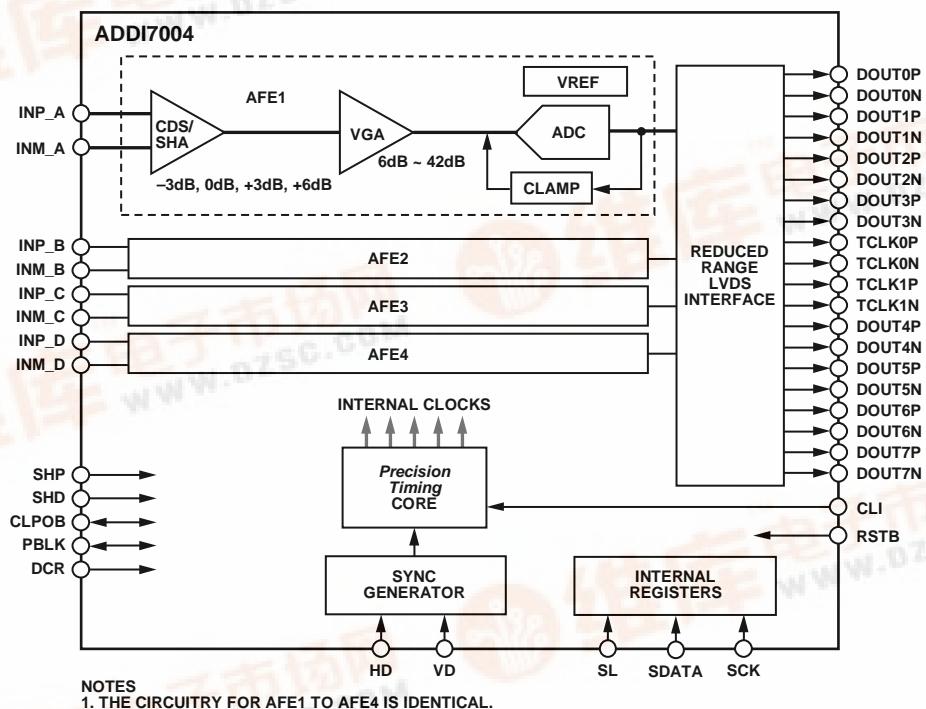
GENERAL DESCRIPTION

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 -25°C to +85°C.

FUNCTIONAL BLOCK DIAGRAM



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Figure 1.

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

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ADDI7004

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