Quad-Channel, HD Image Signal Processor with *Precision Timing* Core

Data Sheet **ADDI7004**

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

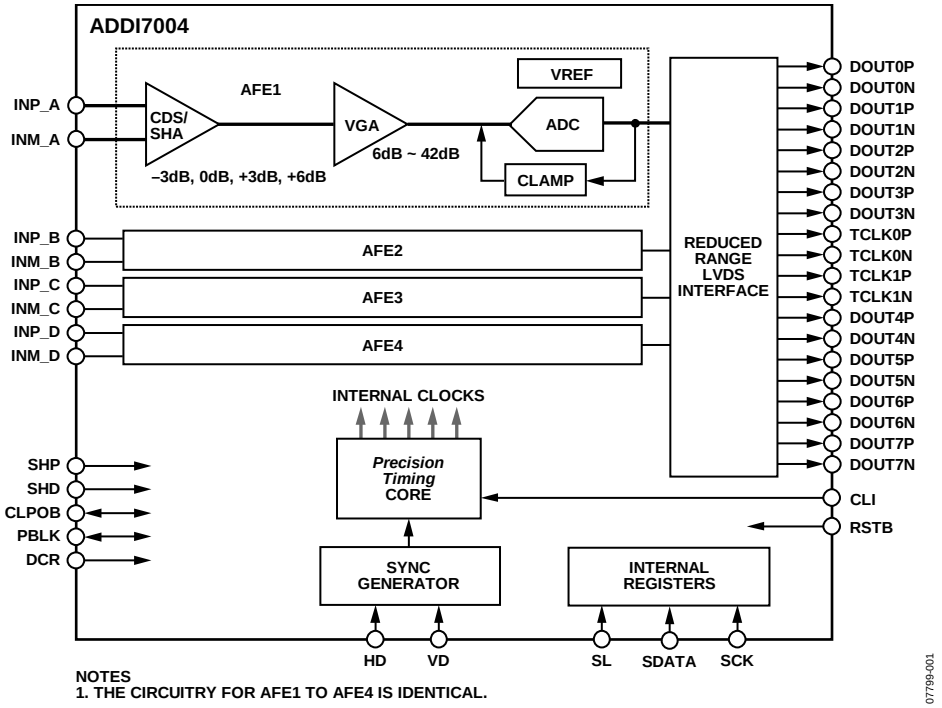

Figure 1.

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

Rev. SpE **Document Feedback**

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NOTES

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