Quad-Channel, 16-Bit CCD Signal Processor with *Precision Timing* Core

Data Sheet

ADDI7015

FEATURES

4 independent AFE channels
1.8 V analog and digital core supply voltage
Complete on-chip ISATG timing generator with 16 XV outputs and 4 general-purpose outputs (GPO)
Differential analog inputs
CDS or SHA (CDS bypass) with 7 gain settings
0 dB to 36 dB, 10-bit variable gain amplifier (VGA)
16-bit, 65 MSPS analog-to-digital converter (ADC)
***Precision Timing* core with 240 ps resolution at 65 MHz**
8 programmable H-clock outputs
On-chip sync generator with external sync input
8 mm × 8 mm CSP_BGA package with 0.65 pitch

APPLICATIONS

Industrial cameras
Surveillance cameras
Medical imaging
Professional photography

GENERAL DESCRIPTION

The ADDI7015 is a highly integrated, quad-channel, CCD signal processor for high speed digital imaging applications. Each channel is specified at pixel rates of up to 65 MHz and consists of a complete analog front end (AFE) with analog-to-digital conversion. The *Precision Timing*® core allows adjustment of the correlated double sampler (CDS) and sample-and-hold amplifier (SHA) clocks with 240 ps resolution at 65 MHz operation. There are eight independent horizontal clock outputs to support a variety of CCD timing requirements. The ADDI7015 also features a programmable ISATG for vertical timing generation.

Each analog front end includes black level clamping, a CDS, a VGA, and a 65 MSPS, 16-bit analog-to-digital converter (ADC). Operation is programmed using a 4-wire serial interface.

Packaged in a space-saving, 8 mm × 8 mm, CSP_BGA, the ADDI7015 is specified over an operating temperature range of −25°C to +85°C.

FUNCTIONAL BLOCK DIAGRAM

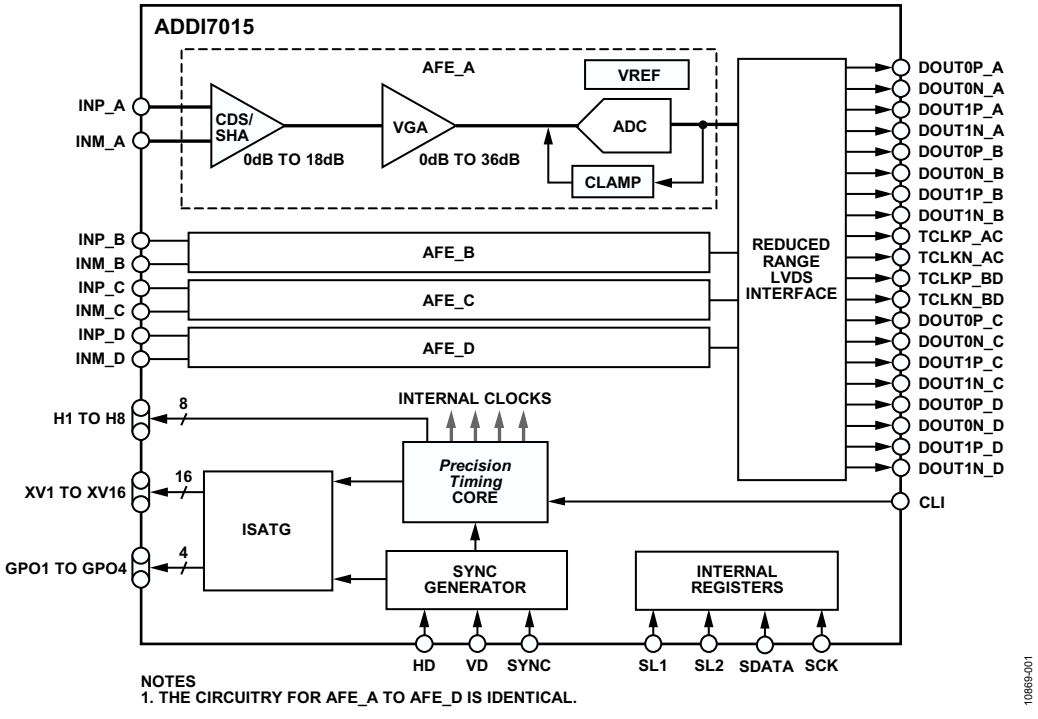

Figure 1.

For more information on the ADDI7015, email Analog Devices, Inc., at afe.ccd@analog.

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NOTES

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