60 MHz CCD Signal Processor with V-Driver and *Precision Timing* Generator

Data Sheet **ADDI9020**

FEATURES

1.8 V analog/digital core
Integrated 12-channel vertical driver (V-driver)
12-bit, 60 MHz analog-to-digital converter (ADC)
Complete on-chip timing generator
***Precision Timing* core with ~260 ps resolution**
Correlated double sampler (CDS) with variable gain
0 dB to 36 dB, 10-bit variable gain amplifier (VGA)
Black level clamp with variable level control
On-chip 3 V horizontal and reset gate (RG) drivers
2-phase and 4-phase H-clock modes
Electronic and mechanical shutter support
On-chip 1.8 V LDO
On-chip driver for external crystal
On-chip sync generator with external sync input

APPLICATIONS

High speed digital cameras

GENERAL DESCRIPTION

The ADDI9020 is a complete 60 MHz front-end solution for digital still cameras and other charge-coupled device (CCD) imaging applications. The ADDI9020 includes the analog front end (AFE), a fully programmable timing generator (TG), and a 12-channel V-driver. A *Precision Timing*® core allows adjustment of high speed clocks with approximately 260 ps resolution at 60 MHz operation.

The on-chip V-driver supports up to 12 channels for use with multifield CCDs.

The analog front end includes black level clamping, CDS, VGA, and a 12-bit ADC. The timing generator and V-driver provide all the necessary CCD clocks: RG, H-clocks, vertical clocks, sensor gate pulses, a substrate clock, and substrate bias control. The internal registers are programmed using a 3-wire serial interface.

Packaged in a 7 mm × 7 mm CSP_BGA, the ADDI9020 is specified over an operating temperature range of −25°C to +85°C.

FUNCTIONAL BLOCK DIAGRAM

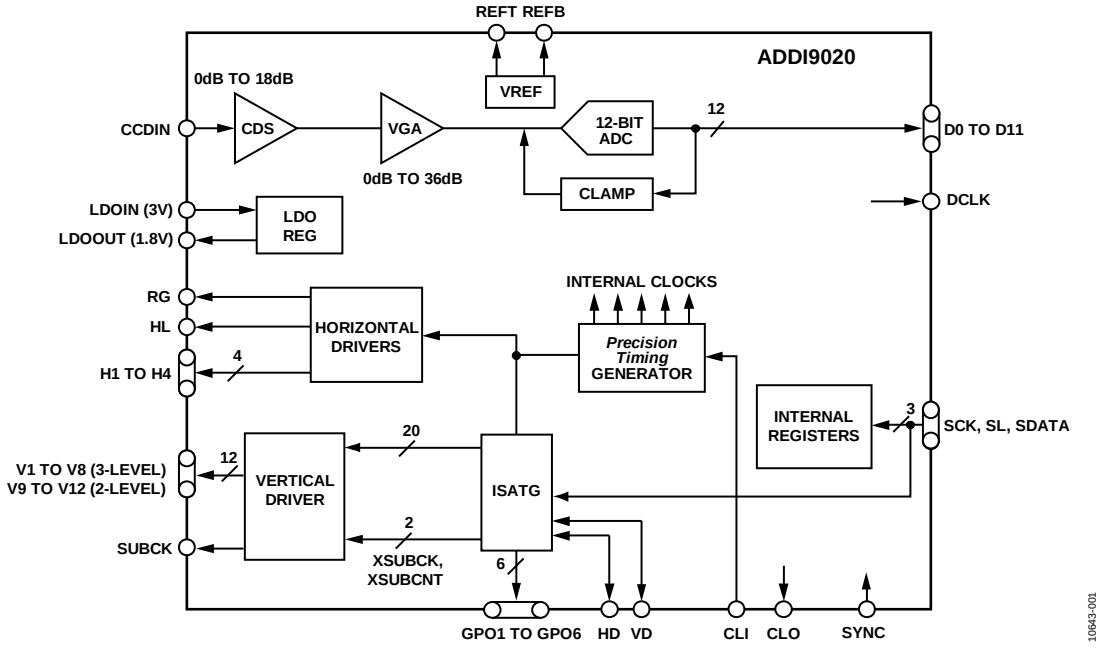

Figure 1.

For more information about the ADDI9020, contact Analog Devices, Inc. via email at: afe.ccd@analog.com

Rev. SpD **Document Feedback**

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NOTES

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