

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

Data Sheet

ADD19020

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 \times 7 mm CSP_BGA, the ADD19020 is specified over an operating temperature range of -25° C to $+85^{\circ}$ C.



FUNCTIONAL BLOCK DIAGRAM

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

Rev. SpD Document Feedback Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A. Tel: 781.329.4700 ©2012–2015 Analog Devices, Inc. All rights reserved. Technical Support www.analog.com

ADD19020

NOTES

Rev. SpD | Page 2 of 2

www.analog.com

©2012–2015 Analog Devices, Inc. All rights reserved. Trademarks and registered trademarks are the property of their respective owners. D10643F-0-6/15(SpD)