CCD TOF Signal Processor with Programmable Timing and V-Driver

Data Sheet **ADDI9036**

FEATURES

12-bit, 45 MHz ADC
CDS with variable gain
0 dB to 36 dB, 10-bit VGA
Black level clamp with variable level control
***Precision Timing* core with 174 ps resolution**
Integrated, 7-channel H-driver and RG clock drivers
7-channel LD driver
Integrated 16-channel V-driver
Complete on-chip ISA timing generator
I²C serial interface
MIPI CSI-2 transmit interface with support for 1 or 2 data lanes
On-chip driver for external crystal
8 GPOs
6 mm × 6 mm, 117-ball WLCSP package with 0.5 mm pitch

APPLICATIONS

TOF CCD cameras

GENERAL DESCRIPTION

The ADDI9036 is a complete, 45 MHz, front-end solution for charge coupled device (CCD) time of flight (TOF) imaging applications. The ADDI9036 includes an analog front end (AFE), a programmable instruction set architecture (ISA) timing generator (ISATG), a 7-channel laser diode (LD) driver, a 7-channel H-driver, and a 16-channel vertical driver (V-driver). The *Precision Timing*® core allows adjustment of the CCD horizontal clocks and LD outputs with approximately 174 ps resolution at 45 MHz operation.

The AFE includes black level clamping, a correlated double sampler (CDS), a variable gain amplifier (VGA), and a 12-bit analog-to-digital converter (ADC). The AFE data is output through the MIPI® CSI-2 transmit interface.

The internal registers can be programmed by an I²C serial interface.

The ADDI9036 is packaged in a 6 mm × 6 mm, 117-ball WLCSP and is specified over an operating temperature range of −20°C to +85°C.

FUNCTIONAL BLOCK DIAGRAM

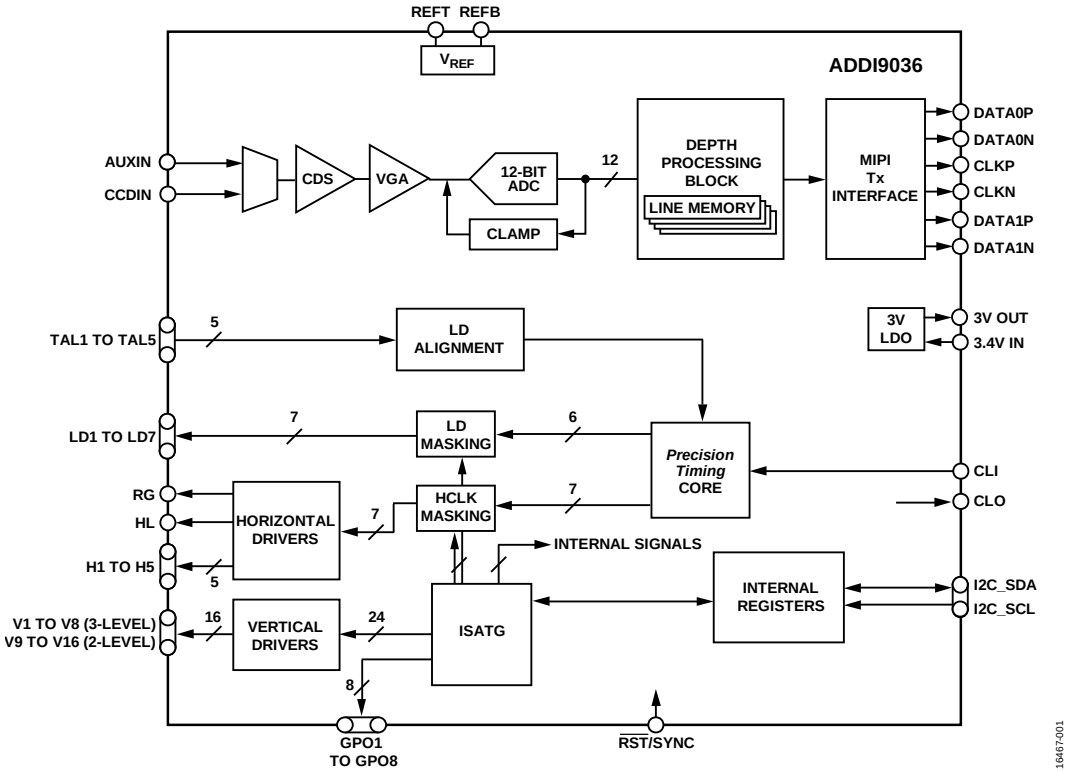

Figure 1.

For more information about the ADDI9036, contact Analog Devices, Inc., at afe.ccd@analog.com.

Rev. Sp0 **Document Feedback**

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NOTES

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