# ANALOG<br/>DEVICES14-Bit CCD Signal Processor with Precision<br/>Timing™ Generator

## **Data Sheet**

AD9970

#### FEATURES

1.8 V analog and digital core supply voltage
Serial data link with reduced range LVDS outputs
Correlated double sampler (CDS) with -3 dB, 0 dB, +3 dB, and +6 dB gain
6 dB to 42 dB, 10-bit variable gain amplifier (VGA)
14-bit, 65 MHz ADC
Black level clamp with variable level control
Complete on-chip timing generator
Precision Timing core with 240 ps resolution at 65 MHz
On-chip, 3 V horizontal and RG drivers
5 mm × 5 mm, 32-lead LFCSP\_VQ

#### APPLICATIONS

Professional HDTV camcorders Professional/high end digital cameras Broadcast cameras Industrial high speed cameras High speed data acquisition systems

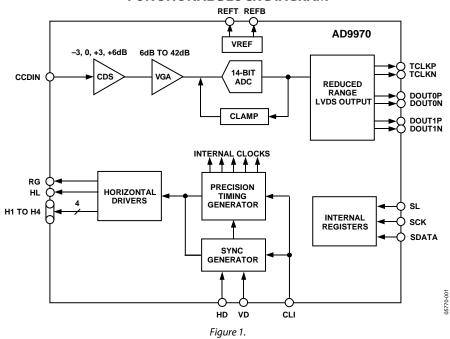
#### **GENERAL DESCRIPTION**

The AD9970 is a highly integrated CCD signal processor for high speed digital video camera applications. Specified at pixel rates of up to 65 MHz, the AD9970 consists of a complete analog front end with analog-to-digital conversion combined with a programmable timing driver. The *Precision Timing* core allows adjustment of high speed clocks with 240 ps resolution at 65 MHz operation. The AD9970 also contains a reduced range LVDS interface for data outputs.

The analog front end includes black level clamping, CDS, VGA, and a 65 MSPS, 14-bit ADC. The timing driver provides the high speed CCD clock drivers for RG, HL, and H1 to H4. Operation is programmed using a 3-wire serial interface.

Packaged in a space-saving 5 mm  $\times$  5 mm, 32-lead LFCSP\_VQ, the AD9970 is specified over an operating temperature range of  $-25^{\circ}$ C to  $+85^{\circ}$ C.

For more information about the AD9970, contact Analog Devices via email at afe.ccd@analog.com.



### FUNCTIONAL BLOCK DIAGRAM

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# AD9970

# NOTES

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