Dual-Channel, 14-Bit, CCD Signal Processor with Precision Timing™ Core

AD9972

FEATURES OF EACH CHANNEL

1.8 V analog and digital core supply voltage
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, 40 MHz analog-to-digital converter (ADC)
Black level clamp with variable level control
Complete on-chip timing generator
Precision Timing core with 400 ps resolution @ 40 MHz
On-chip 3 V horizontal and RG drivers
100-lead, 9 mm × 9 mm, 0.8 mm pitch, CSP_BGA package
Internal LDO regulator circuitry

APPLICATIONS

Professional HDTV camcorders
Professional/high end digital cameras
Broadcast cameras
Industrial high speed cameras

GENERAL DESCRIPTION

The AD9972 is a highly integrated, dual-channel CCD signal processor for high speed digital video camera applications. Each channel is specified at pixel rates of up to 40 MHz. The AD9972 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 approximately 400 ps resolution at 40 MHz operation.

Each analog front end includes black level clamping, CDS, VGA, and a 40 MSPS, 14-bit ADC. The timing driver provides the high speed CCD clock drivers for the RG_A, RG_B, H1_A to H4_A, and H1_B to H4_B outputs. A 3-wire serial interface is used to program each channel of the AD9972.

Available in a space-saving, 9 mm × 9 mm, CSP_BGA package, the AD9972 is specified over an operating temperature range of −25°C to +85°C.

For more information on the AD9772, contact Analog Devices, Inc. at: afe.ccd@analog.com.