VC5700/VC6700

UXGA Resolution Digital Video CMOS Image Sensor

DATA BRIEF

FEATURES

- 1600 x 1200 resolution (2 megapixel)
- 1/2 inch format lens compatible
- 3V3 supply
- I2C control
- On board 10 bit ADC
- On board audio pre-amplifier
- SLEEP mode (RESET pin Hi)
- On board 1.8V voltage regulator allows system implementation with single 3.3V power supply

Video formats

The primary video output format of the VC700 is:

- 1612 x 1208 raw bayer video @ 20fps

User programmable line and frame format capability allows other formats, for example:

- Window of interest SVGA mode - 800 x 600 image size (40fps)
- SubSampled FFOV SVGA mode (40fps)

Digital Interface

The main features of the digital interface to the sensor are:

- 48 MHz input clock
- 10-wire output video data bus
- 3 sync. pins (pixel clock, line sync and frame sync).
- A 2-wire I2C interface for controlling the operation of the sensor

Image processing

The sensor includes capability to perform:

- Dark calibration
- FPN correction
- Defect correction

APPLICATIONS

- Digital Still Cameras
- Barcode Reading

TECHNICAL SPECIFICATIONS

Image size	1612 x 1208 (Raw Bayer) 1600 x 1200 (After color proc. in coprocessor)
Pixel size	4μm x 4μm
Array size	6.48mm x 4.864mm
Exposure range (controlled externally)	2.5μs to 50ms (@20fps) (longer with slower frame rates)
Max Frame rate (UXGA format)	20fps
Clock frequency	48MHz (single-ended)
Output format	10 bit parallel
Output data rate	48MHz (UXGA) 24MHz (SVGA)
Analogue gain	0-24 dB
Signal/Noise ratio	41dB
Supply voltage	3.3V nominal (3.15V to 3.6V)

Supply current (20fps UXGA)		Digital	Analog
	Active	50mA	20mA
	Sleep	< 150uA (no clk)	

Operating temperature	0°C - 40°C
Package type	48CLCC

PART NUMBERING

Table 1. Order Codes

Part Number	Description
VC5700V048	Monochrome sensor
VC6700V048	Bayer colorised sensor

REVISION HISTORY

Table 2. Revision History

Date	Revision	Description of Changes
October 2004	1	First Issue