



## 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	41 dB		
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

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