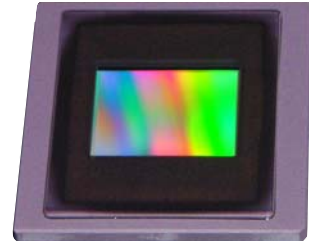




2460/2462



HD 720/60p imaging System-on-Chip Sensor

1/2.8-inch, 4:3 SXGAp48, 1.3 Mpixel
1/3-inch, 16:9 720p60, 1 Mpixel

Key Features

- 1/2.8" SXGA (1280 x 1024) and 1/3" HD (1280 x 720) Resolution
- Patented Tapered Reset Pixel Noise Suppression
- Patented 12-bit High-Speed Video Architecture
- 12-bit Output with >11-bit Dynamic Range at 75MHz
- High Efficiency Microlens and RGB Color Filters
- Programmable Operation via 3-Wire Serial Interface
- Progressive & Interlaced Scanning up to 60 Hz
- Vertical Line-Mixing Including 3→2, 2→1, 3→1 and 4→1 Modes
- Horizontal Pixel-Binning Including 3→2, 2→1, 3→1 and 4→1 Modes
- Enhanced Sensitivity Using Pixel Binning and Line Mixing
 - ES480p (853 x 480, 640 x 480, 512 x 480, or 480 x 480) and ES256p (320 x 240)
- Video Gain from -24 to 72 dB
- Programmable Digital Gain at 0.006, 3 and 6 dB Resolution
- Variable Electronic Shutter
 - Synchronizable to External Shutter/Flash
 - Synchronizable to External Frame and/or Line Synchronization Clocks
- Sub-Sampling Modes Optionally Provide 1.5, 2, 3, or 4X Lower Monochrome Resolution
- Windowing with Horizontal and Vertical Resolutions of 16 Columns by 8 Rows
- On-Chip Column Fixed Pattern Noise Correction
- On-Chip Real-Time Correction of Time-Varying, Line-Dependent Noise

ProCamHD™ is 12-bit imaging System-on-Chip (iSoC) technology that offers the highest imaging resolution at the highest video rate, lowest power, and lowest random noise currently available.

Patented Taper Reset Pixel Noise Suppression Technology from AltaSens

As first in the industry, ProCamHD 2460/2462 uses a groundbreaking patented Taper Reset Pixel Noise Suppression technology to increase performance beyond conventional pixel reset operations, surpassing CCD sensitivity of similar pixel size.

Multiple HDTV Formats

The ProCamHD 2460/2462 specifically supports progressive HDTV at 60Hz frame rate (720/60p) and provides extended sensitivity video for NTSC, PAL, and CCIR-601 via on-chip line-mixing and/or pixel-binning.

Digital Integration On-Chip

iSoC integration includes programmable state machine, analog and digital signal processing, 12-bit digitization, gain amplification, and clock and bias generators. ProCamHD 246x sensors also generate SXGA video greater than 45 Hz. Sophisticated iSOC algorithms support on-chip correction of column fixed pattern noise, on-chip real-time correction of line-dependent noise, and continuous black-level compensation.

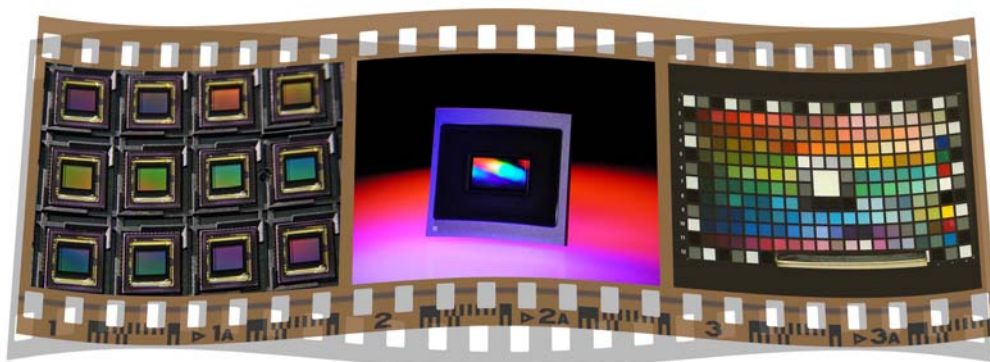
Monochrome and Full-Color Versions

The ProCamHD 2460 provides monochrome imaging, while the ProCamHD 2462 delivers output in full color.

Pixel Array Characteristics		
Parameter	2460	2462
Pixel Size	3.9 μm	3.9 μm
Dark Current ($T_A = 25^\circ\text{C}$) (e/p/s)	< 1000	< 1000
Pixel Dynamic Range	63 dB	63 dB
Green Sensitivity (e/lux/sec)	37,000	45,000
Minimum Low Light (60p)	<5 lux	<5 lux
SNR (2000 lux, f5.6, 200%, 60p)	47 dB	47 dB
Color Filter	Mono	RGB

Sensor Characteristics	
Shutter Mode	Rolling
ADC Resolution	12 bits
Data Rate	75 MHz maximum
Power Consumption	< 350 mW
Analog Supply	3.2 V to 3.5 V, 3.3 V typical
Digital Core Supply	1.65 V to 2 V, 1.8 V typical
Digital I/O Interface	1.65 V to 2 V, 1.8 V typical
Packaging	48 CLCC
Operating Temperature Range	-20 to 60°C

Examples of Available Formats			
Format	Optical Format	Resolution	Frame Rate
SXGA: 1280 (H) x 1024 (V)	1/2.8-inch	1.3 Mpixel	48 fps
HDTV: 1280 (H) x 720 (V)	1/3-inch	1 Mpixel	60 fps



ProCamHD iSoC sensor features and specifications are subject to change without notice.

ProCamHD iSoCs, like other integrated circuits, are susceptible to damage by electrostatic discharge (ESD), which may damage or degrade a sensor's overall performance.

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