


3570


Monochrome CMOS Imaging Sensor for HD Broadcast Video

2/3-inch, 2.5 Mpixel (1920 x 1080) at 72p

Key Features

- 1920x1080 at standard 2/3-inch Optical Format
- Maximum Format 2112(H) x 1188(V)
- 14b Signal Processing
- 12b Output with >11b Dynamic Range at 90MHz
- 97-pin μ PGA Ceramic Package
- Anti-reflection coating and black border glass lid
- Progressive Readout with Electronic Rolling Shutter
- Light-Sensing Area Roughly Die-Centered
- Patented Low-Noise, High-Speed Video Architecture
- Programmable Gain at 0.006, 3 & 6 dB resolution
- 1x12b or 2x12b Video Bus; 5V Tolerant
- Programmable Operation via 3-wire serial interface
 - 1080p72 (90MHz x 2)
 - 1080p60 (75MHz x 2)
 - 1080i60 (75MHz)
 - 720p120/144 (1/2-inch optical format)
 - Variable Electronic Shutter
 - Synchronizable to External Shutter/Flash
 - Synchronizable to External Frame and/or Line Synchronization Clocks
 - Horizontal Shading Compensation
 - 10-bit mode operation with 10-bit output boosts sensitivity
 - Vertical Line-Mixing (2-->1) Mode (Progressive and Interlaced)
 - Video Gain from -24 to 72 dB
 - Windowing with 1 Column and 1 Row Resolution
- Supports various video timing protocols including SMPTE 274M and 296M
- iSoC Power Consumption <600 mW at 74.25 MHz Video Rate

ProCamHD is 12-bit imaging System-on-Chip (iSoC) technology delivering HDTV resolution and beyond at the highest video rates, lowest power, and lowest random noise currently available.

Highest Resolution for Broadcast-Quality HD Video

The ProCamHD 3570 caters to the Professional and Prosumer HD industry with 12-14 bit resolution instead of trailing CCD imaging with 9-10 bit resolution at best. The ProCamHD 3570 image sensors will deliver on performance even with the challenges of adverse illumination and fast motion. With our highly functionally integrated single chip imaging solutions and unprecedented light sensitivity, we can help your video products produce motion images with enhanced vibrant colors and clarity.

Multiple Formats for Flexibility

The ProCamHD 3570 is the world's first video sensor to support progressive imaging of 2.1M pixels at a frame rate of up to 72Hz. In addition to highest level HDTV at 1080p60, the sensor supports 1080p72, 1080i144, 1080i60, 720p120, and convenient resolution doubling of NTSC, PAL, and CCIR-601 standards. The unique architecture of the ProCamHD 3570 simultaneously facilitates high video rate and fill factor at low noise. iSoC integration includes programmable state machine, 14-bit analog and digital signal processing, low-power 12-bit digitization, gain amps, and clock and bias generators.

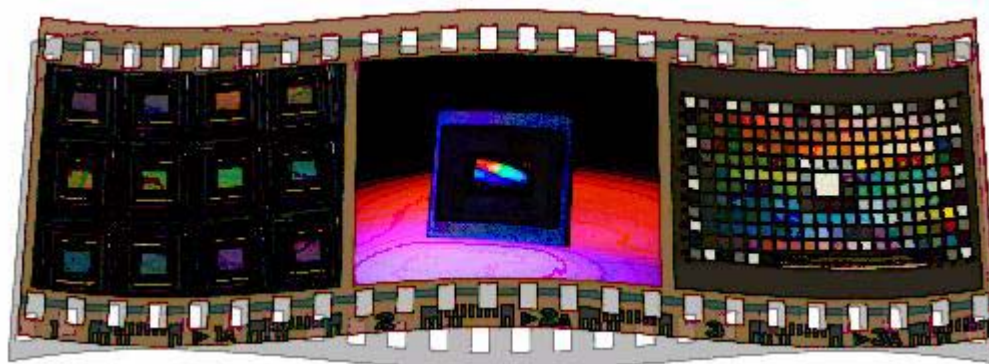

ProCamHD 3570

| Specifications | |
|-------------------------------|------|
| Pixel Size | |
| Dark Current (60°C) | |
| Pixel Dynamic Range | |
| Sensitivity ^a | |
| Minimum Low Light (60p) | |
| SNR (2000 lux, f4, 200%, 60p) | |
| Color Filter | Mono |

a. Green channel, 3200K with CM500S IR Filter

| Examples of Available Formats | | | |
|--------------------------------|----------------|------------|------------|
| Format | Optical Format | Resolution | Frame Rate |
| 1080p72 2112 (H) x 1188 (V) | 2/3-inch | 2.5 Mpixel | 72 fps |
| 1080p60 | 2/3-inch | | 60 fps |
| 1080i60 | 2/3-inch | | 60 fps |
| 720p120 | 1/2-inch | | 120 |

| Specifications | |
|--|---------------------------------|
| Shutter Mode | Electronic Rolling Shutter |
| ADC Resolution | |
| Data Rate | |
| Power Consumption | <600 mW at 74.25 MHz Video Rate |
| Analog Supply | 3.0 to 3.6 V 3.3 V typical |
| Digital Core Supply | 1.65 to 2.0 V 1.8 V typical |
| Digital Input/Output Interface | 3.0 to 3.6 V 3.3 V typical |
| Packaging | 97-pin μ PGA Package |
| Operating Temperature Range (Measured at Junction) | -40 to +60°C |



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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