

MT9P031



5-Megapixel  
1/2.5-Inch  
Image Sensor  
48-Pin iLCC or Die

## Deliver Crystal-Clear Images for Wide FOV and Electronic Pan/Tilt/Zoom Cameras

### 1 Excellent Image Quality

Capture brilliant, high-resolution color images, rivaling CCD image quality.

### 2 Superb Low-Light Performance

Binning enables a pixel-combo mode that significantly improves sensitivity for superb low-light performance.

### 3 HD Video Capable

HD video capability—720p at up to 60 fps—enhances the viewing experience of HD cameras.

### 4 Inherently Low Power Consumption

This sensor's very low power consumption is ideal for power-over-Ethernet cameras.

### 5 Feature-Rich Design

High-speed readout and viewfinder modes eliminate shot-to-shot delay and video-to-still lag.

## Applications

- High-resolution security cameras
- Electronic pan/tilt/zoom cameras
- Wide field of view cameras
- Power-over-Ethernet cameras
- HD security cameras (720p)



## How to Buy

Production and sample quantities of Aptina products may be ordered through qualified distributors. See our Web site for details. You may also request access to NDA data sheets and other technical documentation by visiting our Web site.

## Features

- DigitalClarity® imaging technology
- Low-power, progressive scan image sensor
- 5-megapixel resolution (2592H x 1944V)
- 1/2.5-inch optical format
- On-chip, 12-bit analog-to-digital converter (ADC)
- 12 fps at full resolution
- Up to 60 fps at 720p resolution
- Viewfinder and snapshot modes
- Programmable gain and exposure
- Two-wire serial interface
- Global reset
- Binning for enhanced viewing experience
- Phase-lock loop (PLL) for versatile clock-in scheme and sensitivity

## Specifications

### Imaging Array

- Optical Format: 1/2.5-inch
- Active Array: 2592(H) x 1944(V)
- Imaging Area: 5.70mm(H) x 4.28mm(V)

### Speed/Output

- Frame Rate: 15 fps at full resolution  
30 fps at 1080p resolution (1920H x 1080V)  
Up to 60 fps at 720p resolution

- Data Rate: 96 Mp/s
- Master Clock: 96 MHz
- Data Format: 12-bit parallel

### Sensitivity

- Pixel Size: 2.2µm x 2.2µm
- Dynamic Range: 70.1dB (full resolution)  
76dB (2 x 2 binning)
- Responsivity: 1.4 V/lux-sec (550nm)

### Power

- Supply: Analog: 2.6–3.1V (2.8V nominal)  
Digital: 1.7–1.9V (1.8V nominal)  
I/O: 1.8–3.1V
- Consumption: <260mW

### Temperature Range

- Operating: –30°C to +70°C

**Package:** 48-pin iLCC or Die

## Block Diagram

