

MT9N001



9-Megapixel
1/2.35-inch
CMOS Image Sensor
48-pin iLCC or Die

High-Resolution, High-Quality Image Capture and HD Video

1 Stunning DSC Image Quality

Produced on Micron's most advanced pixel technology, this high-resolution, compact sensor is perfect for DSC designs.

2 Optimized Optical Format

The ability to operate as either a 1/2.35-inch, 9-megapixel sensor or a 1/2.5-inch, 8-megapixel sensor provides design flexibility.

3 High-Speed DSC Performance

The 9 fps image capture at full resolution and HD video recording (720p at 30 fps) enable advanced features and data throughput that can't be matched by CCDs.

4 Low Power Consumption

The low-power advantages of CMOS technology extend the battery life of DSCs/DVCs.

5 Image Stabilization Support

Additional active pixel area supports high-quality image stabilization, eliminating the effects of jittery hands or camera shake.

Applications

- Digital still cameras
- Digital video recorders



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® CMOS imaging technology, together with our most advanced pixel
- Operates in two formats for design flexibility: 1/2.35-inch, 9-megapixel or 1/2.5-inch, 8-megapixel
- High-speed output for advanced DSC functionality
- Superior low-light performance
- Automatic black level calibration
- Support for external mechanical shutter
- Support for external LED or xenon flash
- High frame rate preview mode with arbitrary down-size scaling from maximum resolution
- Programmable controls: gain, horizontal and vertical blanking, auto black level offset correction, frame size/rate, exposure, left-right and top-bottom image reversal, window size, and panning
- Parallel data interface
- On-die phase-locked loop (PLL) oscillator
- Bayer pattern down-size scaler
- Integrated position-based color and lens shading correction
- One-time programmable (OTP) memory

Specifications

Imaging Array

- Optical Format: 1/2.3-inch
- Active Array: 3488(H) x 2616(V)
- Imaging Area: 6.104mm(H) x 4.578mm(V) x 7.63mm (diagonal)

Speed/Output

- Frame Rate: 9 fps (parallel) at full resolution; 30 fps @ 720p
- Data Rate: 96 Mp/s at 96 MHz
- Master Clock: 48 MHz
- Data Format: Parallel

Sensitivity

- Pixel Size: 1.75µm x 1.75µm
- Dynamic Range: 63.6dB
- Responsivity: 0.44 V/lux-sec (550nm)

Power

- Supply: Digital: 1.7–1.9V
I/O: 2.6–3.1V (1.8V nominal)
Analog: 2.4–3.1V (2.8V nominal)
- Consumption: 485mW @ full resolution; 50µW standby

Temperature Range

- Operating: –30°C to +70°C

Package: 48-pin iLCC or die

Block Diagram

