

MT9V033



WVGA  
1/3-inch  
SOC Image Sensor  
48-pin CLCC or Die

## Capture Important Details in High-Contrast Scenes, Day or Night, Inside or Outside

1

### Wide Dynamic Range

Extended knee points provide greater control and excellent output in high-contrast lighting conditions.

2

### Accurate Fast-Motion Capture

The fine shutter control (via sub-row integration) of our TrueSNAP™ global shutter enables fast-moving object capture without image tearing.

3

### Excellent Day/Night Performance

Excellent spectral response between 450nm and 1050nm enables high performance day or night.

4

### Context Switching for Simultaneous Applications

An additional register bank provides the ability to run two different imaging applications simultaneously from a single sensor.

5

### High Performance Throughput

The sensor is capable of capturing 60 fps at full resolution.

## Applications

- 802.11 wireless network cameras
- Power line modem cameras
- IP cameras
- uPNP AV
- WiFi, UWB cameras
- Small office monitoring
- Traffic cameras



## 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

- Wide dynamic range
- Real-time exposure context-switching; dual register
- TrueSNAP™ global shutter with simultaneous integrate and readout
- Monochrome and RGB Bayer color filters
- Enhanced near-IR performance
- Programmable to any window size (QVGA, CIF, QCIF, etc.)
- Progressive or interlaced readout modes
- 2x2 and 4x4 binning at full resolution
- Simple two-wire serial interface
- Automatic and programmable functions: regionally weighted exposure, black level offset correction, horizontal blanking, vertical blanking, lighting control, windowing, left-right and top-bottom image reversal, regional gain, image decimation, manual or automatic high dynamic range

## Specifications

### Imaging Array

- Optical Format: 1/3-inch
- Active Array: 752(H) x 480(V)

### Speed/Output

- Imaging Area: 4.55mm(H) x 2.97mm(V)
- Frame Rate: 60 fps @ 752H x 480V; (higher frame rates at lower resolutions)
- Data Rate: 27 Mp/s
- Master Clock: 26 MHz
- Data Format: Parallel/LVDS (serial); selectable 10 to 8 bits

### Sensitivity

- Pixel Size: 6μm x 6μm
- Dynamic Range: 80dB to ~120dB
- Responsivity: 4.8 V/lux-sec (550nm)
- Minimum Detectable Light: sub-0.1 lux (mono), 5 lux (color)

### Power

- Supply: 3.0–3.6V (3.3V nominal)
- Consumption: <160mW @ 60 fps; <120μW standby

### Temperature Range

- Operating: –30°C to +70°C
- Storage: –40°C to +85°C

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

## Block Diagram

