

MT9V136



VGA  
1/4-Inch  
SOC Image Sensor  
48-Pin CLCC or Die

## High Performance, All-In-One Image Sensor Solution

1

### Very Low BOM Cost

Integrates sophisticated image processing and encoding functions on-chip, including NTSC- and PAL-formatted outputs.

2

### Versatile Usage

With analog and digital output formats, video can be simultaneously viewed on a standard TV screen as well as streaming 60 fps progressive scan digital output.

3

### Manufacturing Friendly

Extra pixels compensate for lens alignment tolerances.

4

### Best-In-Class, Low-Light Performance

Adaptive light gain design significantly improves sensitivity for superb low-light performance.

5

### On-Screen Display (OSD) Support

Built-in OSD function eliminates the need for an external overlay generator chip.

## Applications

- Analog security cameras
- Network cameras
- CCTV cameras
- SOHO monitoring
- Consumer video applications



## 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.



# MT9V136

## Features

- Embedded NTSC/PAL encoder
- Best-in-class, low-light performance
- DigitalClarity® imaging technology
- System on a chip (SOC)—completely integrated camera system
- Ultralow power, low-cost progressive scan
- On-chip image flow processor performs processing such as color recovery/correction, sharpening, gamma, lens shading correction, on-the-fly defect correction, auto white balance, and auto exposure
- Programmable functions: 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
- Progressive scan or interlace, parallel data formats
- Two-wire serial programming interface
- SPI interface

## Specifications

### Imaging Array

- Optical Format: 1/4-inch
- Active Array: 680(H) x 512(V)
- Imaging Area: 3.54mm(H) x 2.69mm(V)

### Speed/Output

- Frame Rate: 30 fps NTSC/25 fps PAL;  
60 fps digital at full resolution
- Data Rate: 27 Mb/s
- Master Clock: 27 MHz
- Data Format: NTSC/PAL/digital progressive scan

### Sensitivity

- Pixel Size: 5.6µm x 5.6µm
- Pixel Dynamic Range: 82dB
- Responsivity: 11.5 V/lux-sec (550nm)

### Power

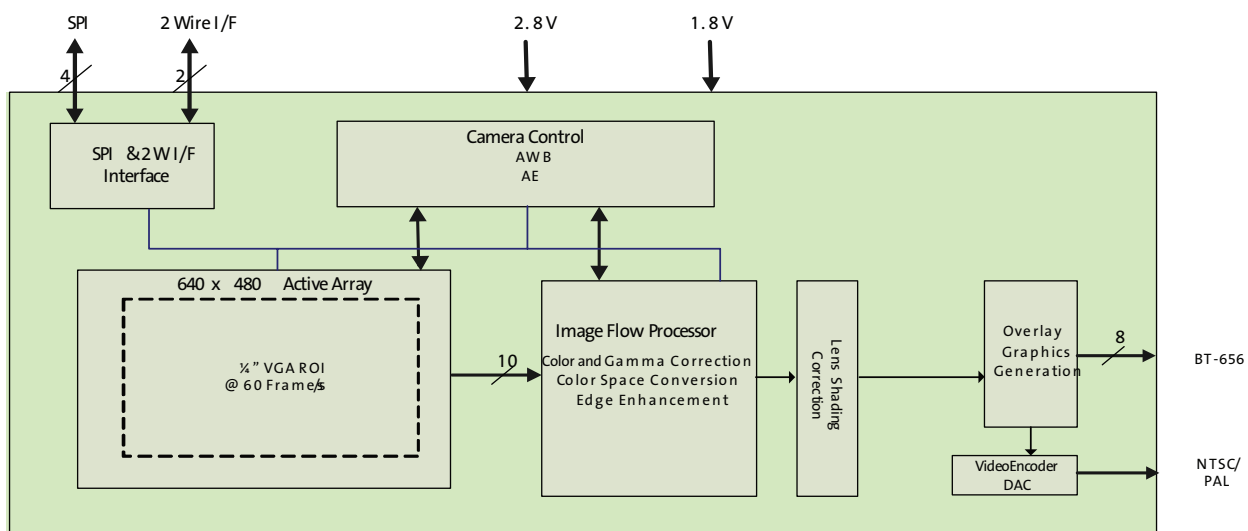
- Supply: I/O digital 2.8V ±5%  
Core: 1.8V ±5%  
Analog: 2.8V ±5%
- Consumption: 300mW

### Temperature Range

- Operating: -30°C to +85°C
- Storage: -40°C to +125°C

Package: 48-pin CLCC or die

## Block Diagram



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