MT9T112

3-Megapixel 1/4-Inch SOC Digital Image Sensor Die

Brighter, More Colorful Images

Industry-Leading Performance

Third-generation 1.75µm pixel technology results in industry-leading sensitivity and color balance.

Enhanced Image Management

Scalado[®] SpeedTags[™]−combined with integrated realtime JPEG encoder, JFIF nodes−provide robust image management.

Image Stabilization Support

The motion-adaptive exposure feature eliminates the blurry effects of jittery hands or camera shake.

Sophisticated On-Board Image Processing

The on-chip image flow processor (IFP) performs a host of image correcting and enhancing functions, without the need for additional parts.

Super-Sensitive, Low-Noise Images

The SOC's flat-field adaptive noise reduction improves clarity in all lighting conditions, clearly delivering excellent images.

Applications

- Cell phones
- PC cameras
- PDAs



How to Buy

Visit Aptina.com to find qualified distributors or to request access to NDA data sheets and other technical documents.



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Features

- Third-generation 1.75µm pixel technology
- Motion-adaptive exposure mode
- 3Mp resolution, 2048H x 1536V array format
- Integrated real-time JPEG encoder, JFIF nodes
- On-chip automatic features (such as AWB, AE, and flicker)
- Scalado SpeedTags in JPEG format
- 15 fps at full resolution
- Flexible support for external auto focus, optical zoom, and mechanical shutter
- On-chip phase-lock loop (PLL)
- On-chip, 10-bit analog-to-digital converter (ADC)
- Two-wire serial interface providing access to registers and microcontroller memory
- 10-bit parallel and serial MIPI interfaces
- One-time programmable (OTP) memory

Specifications

Imaging Array

- Optical Format: 1/4-inch (4:3)
- Active Array: 2048(H) x 1536(V) (QXGA)
- Imaging Area: 3.62mm(H) x 2.73mm(V): 4.52mm diagonal (4:3 aspect ratio)

Speed/Output

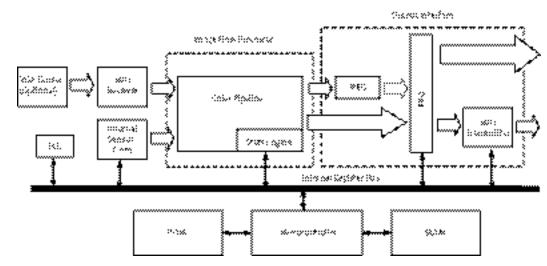
- Frame Rate: 15 fps @ full resolution (JPEG), 30 fps in preview mode
- Data Rate: 96 MHz
- Master Clock: 6–54 MHz
- Data Format: 10-bit parallel and serial MIPI

Sensitivity

- Pixel Size: 1.75µm
- Dynamic Range: >66dB (preliminary)
- Responsitivity: 0.55 V/lux-sec (preliminary) **Power**
- Supply: Digital: 1.7-1.95V
 - I/O: 1.7–3.1V
 - Analog: 2.5–3.1V
- Consumption: 355mW (@ 30 fps preview mode)

Temperature Range

- Operating: -30°C to +70°C (at junction)
- Package: Bare die (in wafer form)



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SOC Block Diagram