ASX350AT

VGA, 1/5" SOC with 3.75 µm Pixel
Aptina DR-PIX™ technology
Dynamic Overlays
iBGA 7.0mm x 7.0mm Package

Automotive
System-On-Chip (SOC) Imager

Excellent Low-Light Performance

Enhanced pixel performance offers the driver greater visibility under minimal light conditions

Dynamic Overlays

Two overlays provide colored graphics in the display to visually aid the driver when backing up

Aptina DR-Pix™ Technology

Increased sensitivity and low noise from Aptina's dynamic response pixel technology

Digital Zoom and Pan

Allows customization of the image to suit vehicle body designs

Automotive Qualified

AEC-Q100 Grade 2: Operating Temperature range -40°C to +105°C

Applications

Automotive Viewing Applications:

- Rear View
- Surround View
- Blind Spot Detection

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.

Aptina™

IMAGING

Features

- System-On-Chip (SOC) provides integrated camera system
- Dynamic Response Pixel Technology DR-Pix™ for increased sensitivity and low read noise allows increased flexibility for imaging of challenging scenes
- 2x upscaling zoom and pan control
- ±40 additional columns and ±36 additional rows to compensate for lens alignment tolerances
- Overlay generator for dynamic bitmap overlay
- Integrated video encoder for NTSC/PAL with overlay capability and 10-bit I-DAC
- On-chip image flow processor performs sophisticated processing, such as color recovery and correction, sharpening, gamma, lens shading correction, on-the-fly defect correction, auto white balancing, and auto exposure
- 10-bit, on-chip analog-to-digital converter (ADC)
- Internal master clock generated by on-chip phase-locked loop (PLL)
- Two-wire serial programming interface
- Interface to low-cost EEPROM and Flash through SPI bus for settings and overlay storage
- Comprehensive tool support for overlay generation and lens correction setup
- Temperature Sensor allows for control and protection of the camera system in excessive temperature conditions
- AEC-Q100 Qualified with operating temperature -40°C to +105°C

Specifications

Imaging Array
- Optical Format: 1/5-inch
- Active Array: 640 (H) x 480 (V)

Speed/Output
- Frame Rate: Up to 60 fps
- Data Rate: 27 MB/s
- Digital Data Formats: Raw Bayer 8-bit, 10-bit, CCIR656, 565RGB, 555RGB, 444RGB

Pixel
- Pixel Size: 3.7μm x 3.75μm
- Dynamic Range: 82.2dB
- Responsivity: 6.67 V/lux-s (HCG); 2.44 V/lux-s (LCG)/lux-s at 550nm

Gain
- Analog: 0.5–16x

Supply Voltage
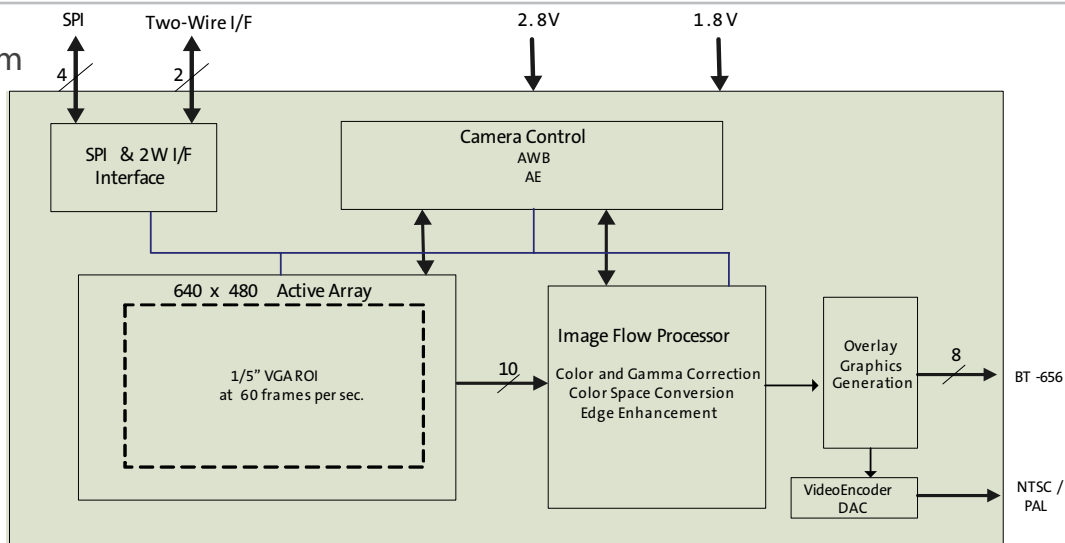- Analog: 2.8V +-5%
- Core: 1.8V +-5%
- I/O: 2.8/1.8V +-5%

Temperature Range
- Operating: -40°C to +105°C
- Functional: -40°C to +85°C
- Storage: -50°C to +150°C

Package
- iBGA, 7.0mm x 7.0mm

Block Diagram

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