Features

- 1/7" CIF Digital Camera Module with Built-in Lens
- Turnkey Solution with CMOS Color Image Sensor and On-chip Image Processing
- High Performance:
  – Ultra Compact Size
  – Very Low Power Consumption
  – High Sensitivity
  – Low Fixed Pattern Noise
  – High Dynamic Range
  – Up to 60 fps at Full Resolution
- Easy to Operate:
  – Single Master Clock Operation (Integrated PLL)
  – On-chip Timing Generator
  – Two-wire Interface (TWI)
  – Single 2.5V Power Supply
- Built-in Functions:
  – On-chip 10-bit A/D Converter
  – Automatic Dark Calibration
  – Power Management Unit
  – Automatic Flicker Detection and Correction
  – Digital Zoom, Region of Interest (Programmable)
  – Decimation: CIF (352L × 288H)/QCIF (176L × 144H) and Lower Resolution
- Built-in Image Processing:
  – Lens Vignetting Correction (Programmable)
  – Defective Pixel Correction
  – Color Interpolation, Color Correction (Programmable)
  – Gamma Correction (Programmable)
  – RGB to YCrCb Transformation
  – Edge Enhancement (Programmable)
  – Anti-aliasing Filter
  – 8-bit 4:2:2 YCrCb Output Format
  – White Balance (Auto/Manual Control Selectable)
  – Exposure Control (Auto/Manual Control Selectable)

Main Specifications

- CMOS Sensor: 352 × 288 Active Pixel Array
- Pixel Size: 5.6 μm × 5.6 μm
- Optical Format: 1/7"
- Frame Rate: Up to 60 fps
- Power Consumption at 15 fps: 38 mW (10 pF)
- Dynamic Range: 55 dB
- Sensitivity: 25 Scene Lux at 15 fps
- Output Format: YCrCb 4:2:2, RGB Bayer
- Color Filter: Bayer RGB with Micro Lens
- Input Frequency: [3-80] MHz
- Field of View: 55° (H), 46° (V), 69° (D)
- F-number: 2.4
- Focal Lens: 1.85 mm
- Module Size: 8.5 mm (L) × 8.5 mm (W) × 5.2 mm (H)
- Package: Flexible Connector on Printed Circuit Board

ATMEL®

Eye-On-Si™ Ultra-compact CMOS Digital Camera Module

AT76C450BC-MY02BT

Preliminary Summary

eye on si

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Description

The AT76C450BC-MY02BT CMOS camera module is a turnkey system ideal for mobile phones and PDA applications. This complete image solution provides CIF standard image formats and highly integrated electronics with on-chip image processing that provide high quality images. It is integrated on an ultra thin module and has a very low power consumption.

The Eye-On-Si is easy to integrate into any application, and operates with a single power supply within a frequency range of 3 to 80 MHz thanks to its on-chip PLL circuitry.

The easy-to-monitor on-chip functions and image processing are programmable through a Two Wire Interface (TWI).

The system also includes advanced image processing functionalities such as automatic white balance, auto-exposure control, color correction, gamma correction, edge enhancement, and an anti-aliasing filter, all of which contribute to high quality images.

Applications

- Motion or still picture applications for video, mobile phones and PDAs
- Toys
- Eye iris recognition
- Security cameras
- Low-end digital cameras

![Atmel logo]

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