

## Features

- DigitalClarity® CMOS imaging technology
- Simple two-wire serial interface
- Auto black level calibration
- Support for external mechanical shutter
- Support for external LED or xenon flash
- High frame rate preview mode with arbitrary downsize scaling from maximum resolution
- Programmable controls: 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
- Data interfaces: parallel or four-lane serial high-speed pixel interface (HiSPi™) differential signalling (sub-LVDS)
- On-die phase-lock loop (PLL) oscillator
- Bayer pattern downsize scaler
- Integrated position-based color and lens shading correction
- One-time programmable (OTP) memory for storing module information

## Specifications

### Imaging Array

- Optical Format: 1/2.3-inch
- Active Array: 3856(H) x 2764(V) (entire sensor)  
3664(H) x 2748(V) (4:3 still mode)  
3840(H) x 2160(V) (16:9 video mode)
- Imaging Area: 6.119mm(H) x 4.589mm(V)

### Speed/Output

- Frame Rate: 15 fps (HiSPi serial I/F)  
7.5 fps (parallel I/F)
- Data Rate: 2.8 Gb/s (HiSPi serial I/F)  
80 Mp/s (parallel I/F)
- Master Clock: 6–48 MHz
- Data Format: 12-bit RAW

### Sensitivity

- Pixel Size: 1.67μm x 1.67μm
- Dynamic Range: 65.2dB
- Responsivity: 0.31 V/lux-sec (550nm)

### Power

- Supply: Analog: 2.4–3.1V (2.8V nominal)  
Digital: 1.7–1.9V (1.8V nominal)  
I/O: 1.7–1.9V (1.8V nominal) or  
2.4–3.1V (2.8V nominal)  
HiSPi Tx: 0.4–0.8V (0.4V or 0.8V nominal)
- Consumption: 638mW @ full resolution

### Optics

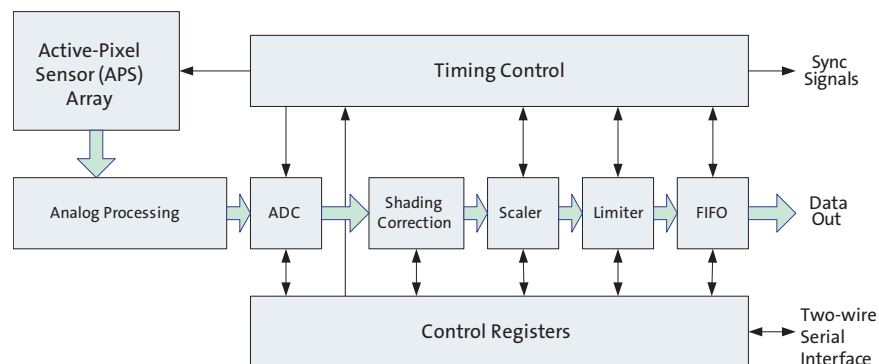
- CRA: 0 degree

### Temperature Range

- Operating: –30°C to +70°C

**Package:** 10mm x 10mm 48-pin iLCC

## Block Diagram



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