C2390

HD 1080p 60fps BSI H^2Q–PIX™ CMOS Digital Image Sensor

Features

- 3.0 µm BSI H^2Q-PIX™ 1080p 10-bit raw
- High sensitivity, super low noise @128X gain and low dark current
- Low power consumption
- Embedded temperature sensor
- High-quality 1080p 60fps and 1080p HDR 30fps
- 1/2.7" optical format
- On chip 128X gain, night mode 256X gain
- MIPI CSI2 1080p 60fps (2-lane), 30fps (1-lane)
- DVP 1080p 30fps
- Two-wire serial programmable interface
- Dedicated I^2C ID pin select
- Multiple camera frame sync
- 4 KB one-time programmable memory (OTP)
- Programmable ISP & Image quality controls

Applications

- Security and Surveillance
- HD Sports and Action Cameras
- Automotive / Vehicle DVR
- Mobile Device
- PC Camera

Drive For The Best Vision

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1/2.7" 1080p 60fps BSI H²Q–PIX™ CMOS Digital Image Sensor

General Description:

The C2390 camera chip is sophisticatedly integrated with a 1080p BSI H²Q-PIX™ CMOS image sensor of 1/2.7-inch optical format and an on-chip ISP (image signal processor) that features auto black level calibration, lens shading correction, bad pixel correction, automatic and manual exposure control and auto white balance.

The C2390 has a MIPI CSI2 compliance serial interface of up to 2 data lanes and a 10-bit digital video port (DVP) interface. It consists of a 1936 x 1096 active pixel sensor (APS) array that's capable of operating at 1080p 60 frames per second (FPS) and 1080p HDR 30 frames per second. In addition to featuring superior low-light sensitivity and low dark current performance, a better and clear image is achieved through significant reduction of fixed pattern noise through an on-chip 10-bit ADC, programmable gain adjustment (PGA) and correlated double sampling (CDS). The C2390 also includes 4 KB (4096 bit) one-time programmable (OTP) memory.

All ISP functions and sensor operations can be controlled and accessed by host via a 2-wire serial bus interface. The C2390 camera chip is suitable for security and surveillance applications as well as low profile camera module packaging which is available in RW (bare die) packaging.

Controls:

Automatic Controls:

- Automatic Black Level Correction(ABLC)
- Automatic Exposure and Gain Control (AEC/AGC)
- Automatic White Balance (AWB)

Image Quality Controls:

- Bad Pixel Correction
- Lens shading correction

Programmable Controls:

- 2-exposure HDR mode with native resolution
- Frame rate and frame size
- Binning Mode
- Column and row sub-sampling
- Mirror, flip, windowing and cropping
- Multiple camera frame sync
- Dedicated I²C ID pin select
- 4 KB one-time programmable memory (OTP)

Output formats and Interfaces:

- 10-bit raw MIPI CSI-2 1-lane or 2-lane
- 10-bit raw DVP

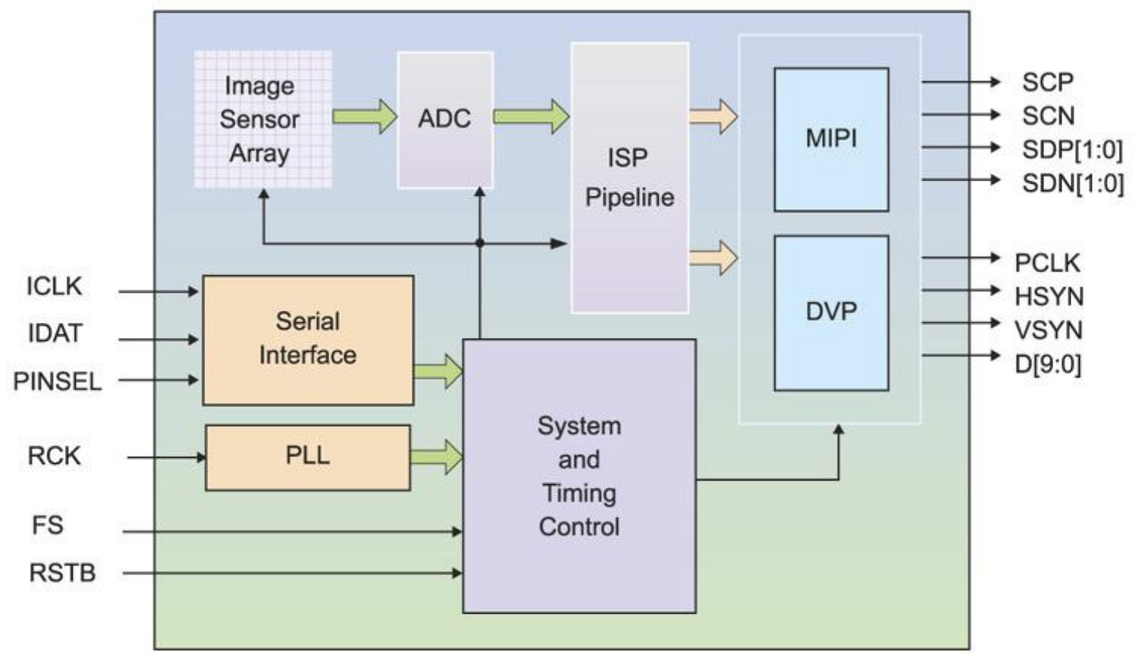
Other controls:

- Register group access capability

Key Specifications:

Optical Format		1/2.7-inch
Active Pixel Array(1080P)		1936 x 1096
Pixel Size		3.0 µm x 3.0 µm
Color Filter Array		RGB Bayer pattern
Chief Ray Angle		9° Linear
Shutter Type		Electronic rolling shutter
Maximum Frame Rate		1080p: 60fps 1080p HDR: 30fps
Power Supply	**Analog (AVDD)**	3.2-3.6V(3.3V nominal)
	I/O	1.7-AVDD
Power Consumption	**Active**	TBD
	Standby	TBD
Output Formats		10-bit RAW
Operating Temperature		-20°C to 70°C
Storage Temperature		-40°C to 95°C
Die Dimensions(µm)		6532 x 5397

Functional Block:



Ordering Information:

Part Number	Description
C2390-C	CSP
C2390-L	LCC
C2390-R	RW
C2390-W	Wafer

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