

OV3630 Color CMOS QXGA (3.2 MPixel) CAMERACHIP™ with OmniPixel2™ Technology

General Description

The OV3630 (color) CAMERACHIP™ is a high performance 3.2 mega-pixel CMOS image sensors for digital still image and video/still camera products.

The device incorporates a 2048 x 1536 (QXGA) image array and an on-chip 10-bit A/D converter capable of operating at up to 15 frames per second (fps) in full resolution mode. Proprietary sensor technology utilizes advanced algorithms to cancel Fixed Pattern Noise (FPN), eliminate smearing, and drastically reduce blooming. The control registers allow for flexible control of timing, polarity, and CameraChip operation, which, in turn, allows the engineer a great deal of freedom in product design.



Note: The OV3630 uses a lead-free package.

Features

- Optical black level calibration
- Line optical black level output capability
- Video or snapshot operations
- Programmable/Auto Exposure and Gain Control
- Programmable/Auto White Balance Control
- Horizontal and vertical sub-sampling (4:2 and 4:2)
- High frame rate output for auto focus mode
- Programmable image windowing
- Zooming and panning functions
- Variable frame rate control
- On-chip R/G/B Channel and Luminance Average Counter
- Internal/External frame synchronization
- SCCB slave interface
- Power-on reset and power-down modes

Ordering Information

Product	Package
OV03630-VL5A (Color, Lead-free)	36-pin CSP2

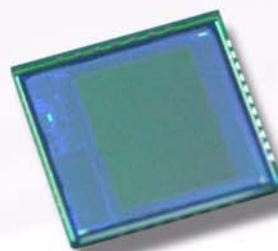
Applications

- Cellular phones
- Digital still cameras
- PC camera/dual mode
- Video conference equipment
- Machine vision
- Security cameras
- Biometrics

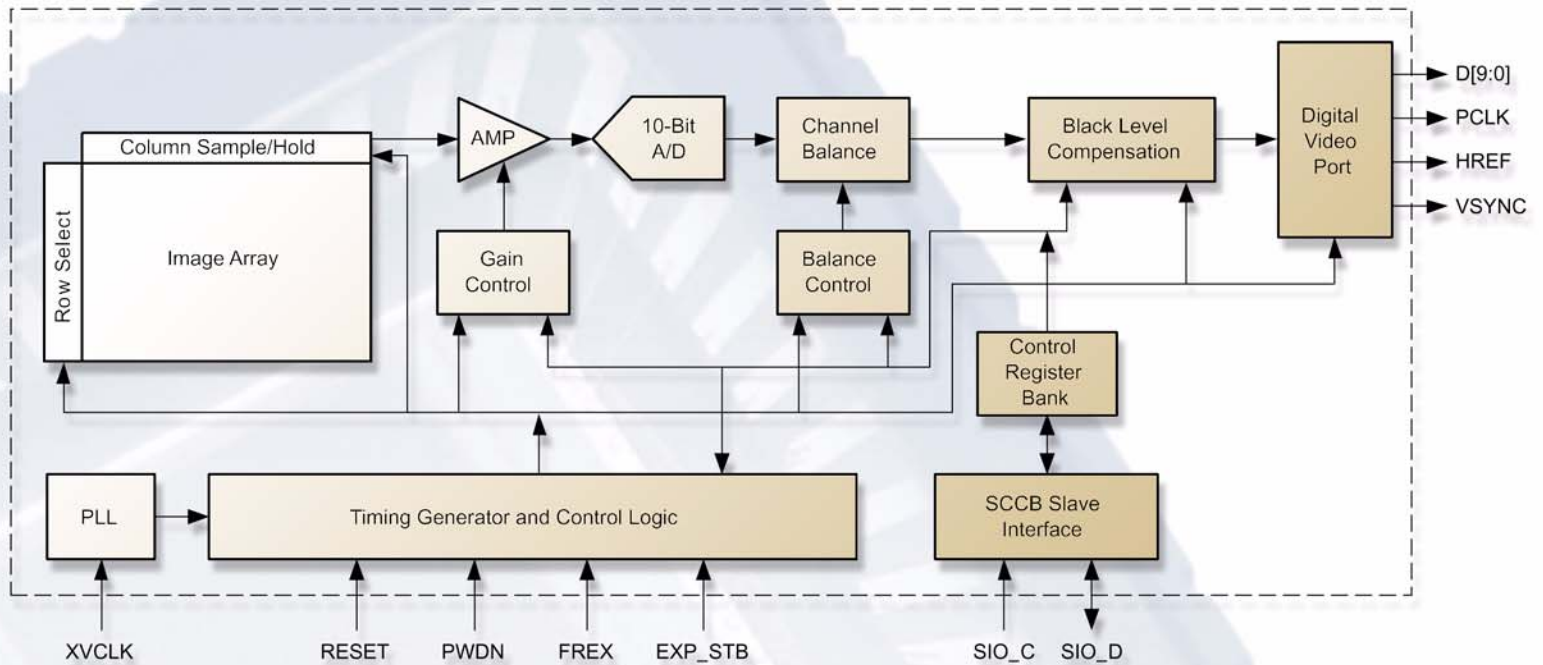
Key Specifications

Array Size	QXGA	2048 x 1536
	XGA	1024 x 768
	HF	1024 x 192
Power Supply	Analog	2.8VDC \pm 5%
	Core	1.8VDC \pm 5%
	I/O	1.7V ~ 3.3V
Power Requirements	Active	< 110 mW ^a
	Standby	< 10 μ A
Electronics Exposure	QXGA	Up to 1567:1
	XGA	Up to 799:1
	HF	Up to 223:1
Output Format		10-bit digital RGB Raw data
Lens Size		1/3.2"
Chief Ray Angle (CRA)		TBD
Maximum Image Transfer Rate	QXGA	15 fps
	XGA	30 fps
	HF	90 fps
Sensitivity		TBD
S/N Ratio		TBD
Dynamic Range		TBD
Scan Mode		Progressive
Pixel Size		2.2 μ m x 2.2 μ m
Dark Current		TBD
Fixed Pattern Noise		TBD
Image Area		4.54 mm x 3.41 mm
Package Dimensions		6085 μ m X 6315 μ m

- a. @ 15 fps, QXGA, without I/O power consumption - needs to be verified



Functional Block Diagram



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