OV5610 Color CMOS QSXGA (5.17 MPixel) CAMERACHIP™ with OmniPixel® Technology

General Description

The OV5610 (color) CAMERACHIP™ is a high performance 5.17 mega-pixel CAMERACHIPS for digital still image and video camera products.

This device incorporates a 2592 x 1944 image array and an on-chip 10-bit A/D converter capable of operating at up to 4 frames per second (fps) in full resolution. Proprietary sensor technology utilizes advanced algorithms to cancel Fixed Pattern Noise (FPN), eliminate smearing, and drastically reduce blooming and dark current. 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 OV5610 is available in a lead-free package.

Features

- Optical black level calibration
- 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 mode
- Programmable image windowing/zooming/panning
- Variable frame rate control
- On-chip R/G/B Channel and Luminance Average Counter
- Internal/External frame synchronization
- Serial bus interface
- Power-on reset and power-down modes

Applications

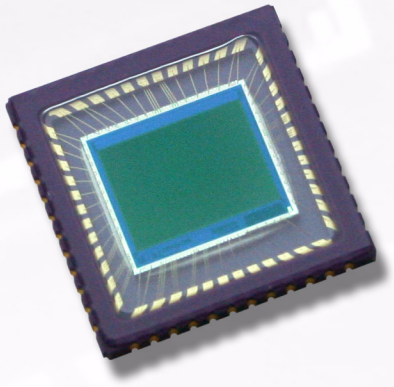
- Digital still cameras
- PC camera/dual mode
- Video conference
- Machine vision
- Security cameras
- Biometrics

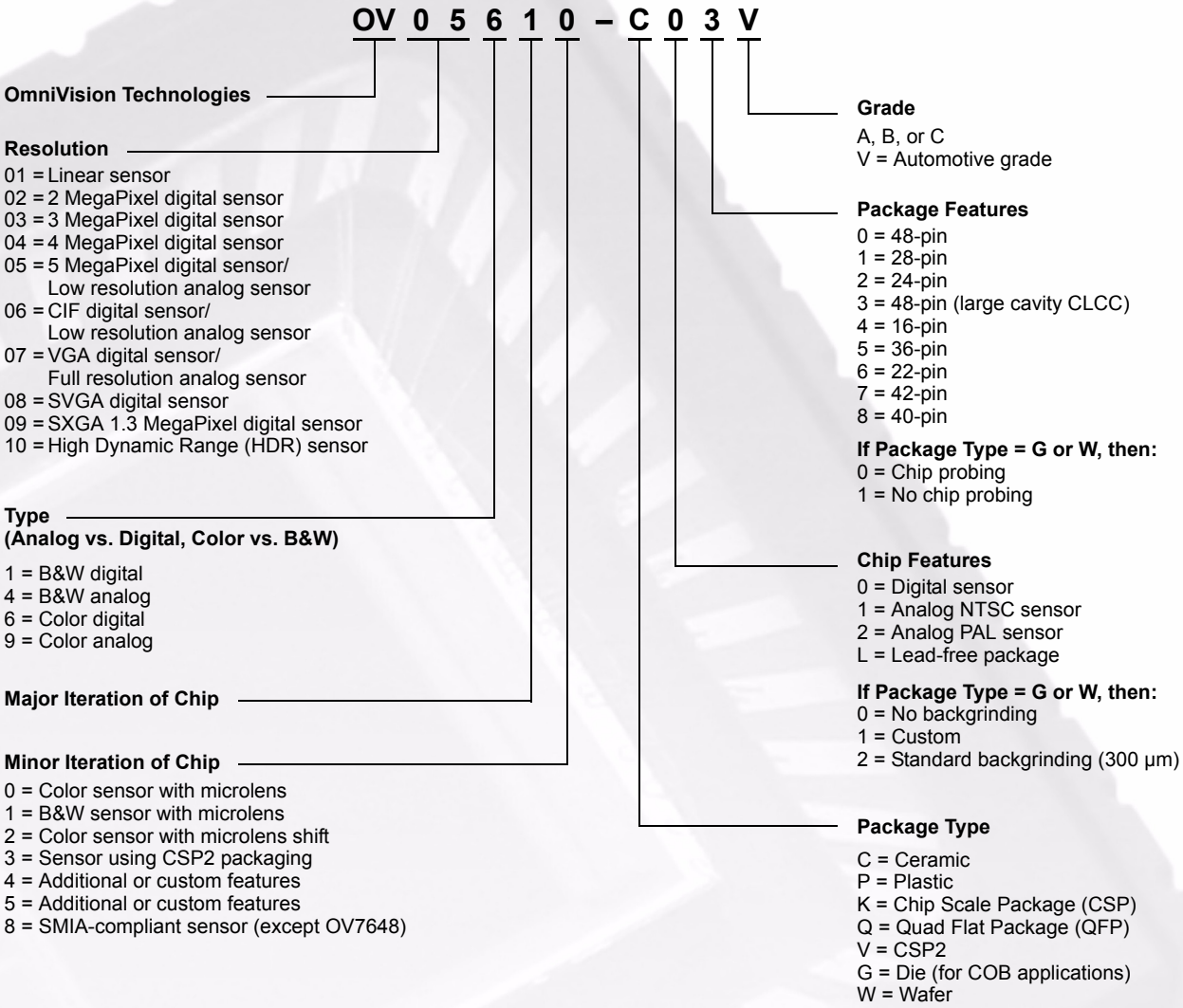
Ordering Information

Product	Package
OV05610-C03A (Color)	CLCC-48

Key Specifications

Array Size	**QSXGA**	2592 x 1944
	SXGA	1280 x 960
	VGA	640 x 480; 1280 x 480
	HF	320 x 200; 1280 x 200
Power Supply		3.3VDC / 1.8VDC (± 5%)
Power Requirements	**Active**	40 mA
	Standby	10 µA
Electronics Exposure	**QSXGA**	Up to 1998:1
	SXGA	Up to 978:1
	VGA	Up to 488:1
	HF	Up to 208:1
Output Format		10-bit digital RGB Raw data
Lens Size		1/1.8"
Lens Chief Ray Angle		15°
Max Image Transfer Rate	**QSXGA**	4 fps
	SXGA	15 fps
	VGA	30 fps
	HF	70 fps
Sensitivity		1.2 V/Lux-sec
S/N Ratio		42 dB
Dynamic Range		60 dB (due to ADC limitations)
Scan Mode		Progressive
Pixel Size		2.775 µm x 2.775 µm
Dark Current		10 mV/sec at 60°
Fixed Pattern Noise		0.05% of $V_{PEAK-TO-PEAK}$
Image Area		7.33 mm x 5.44 mm
Package Dimensions		14.22 mm x 14.22 mm





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