

# OV9620/OV9120 DATASHEET

## Description

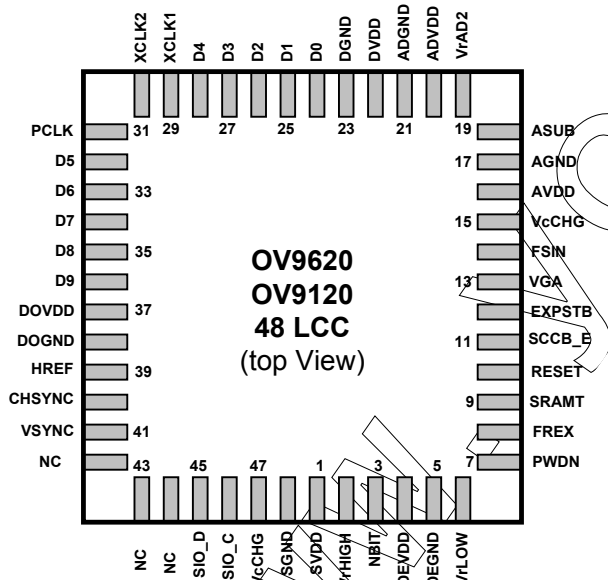
The OV9620 (color) and OV9120 (black and white) are high-performance 1.3 mega-pixel CameraChips for digital still image and video camera products.

Both devices incorporate a 1280x1024(SXGA) image array and an on-chip 10-bit A/D converter capable of operating at up to 15 frames per second (FPS) with full resolution. 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 allow the engineer a great deal of freedom in product design.

## Features

- Optical Black Level Calibration
- Video or Snapshot Operations
- Programmable/Auto Exposure and Gain Control
- Programmable/Auto White Balance Control
- Horizontal & Vertical Sub-sampling (4:2 & 4:2)
- Programmable Image Windowing
- 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 Mode

Figure 1. OV9620/OV9120 Pin Diagram



## Applications

- Digital Still Camera
- PC Camera/Dual Mode
- Video Conference
- Machine Vision
- Security Cameras
- Biometrics

## Key Specifications

Array Element(SXGA) (VGA)	1280x1024 640x480
Pixel Size	5.2µm x 5.2µm
Image Area	6.66mm x 5.32mm
Lens Size	1/2"
Output	10-bit Digital RGB Raw Data
Max Frames/Sec (SXGA) (VGA)	15FPS 30 FPS
Electronics Exposure (SXGA) (VGA)	Up to 1050:1 Up to 500:1
Scan Mode	Progressive
Gamma Correction	N/A
Sensitivity	1V/Lux-sec (B/W)
S/N Ratio	54 dB
FPN	< 0.03% V <sub>PP</sub>
Dark Current	28mV/s
Dynamic Range	60 dB (due to ADC limitations)
Power Supply	3.3VDC and 2.5VDC (+/- 5%)
Power Requirements	< 50mA Active < 10µA Standby
Package	48 pin LCC

## Ordering Information

Product	Package	Description
OV9620	48 LCC 0.560 in <sup>2</sup>	COLOR, SXGA, VGA, Digital, SCCB interface
OV9120	48 LCC 0.560 in <sup>2</sup>	B/W, SXGA, VGA, Digital, SCCB interface