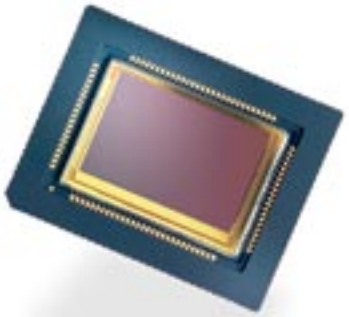
FOVEON®



Foveon X3® Pro 10M CMOS Direct Image Sensor

F7X3-C9110

Features

Foveon X3® technology

- A stack of three pixels captures superior color fidelity by measuring full color at every point in the captured image.
- Images have improved sharpness and immunity to sampling artifacts (moiré).
- Foveon X3 technology directly converts light of all colors into useful signal information at every point in the captured image—no light absorbing filters are used to block out light.

Variable Pixel Size (VPS) Capability

- Neighboring pixels can be grouped together on-chip to obtain the effect of a larger pixel.
- Enables flexible video capture at a variety of resolutions.
- Enables higher ISO mode at lower resolutions.
- Reduces noise by combining pixels.

Ultra Low Power

- Use of the most advanced CMOS process technology allows for ultra low power.
- Input voltages to the image sensor are less than 2.5V.
- Power consumption is less than 50 mW during readout, less than 10 mW in standby mode, and less than 100 µW in power down mode.

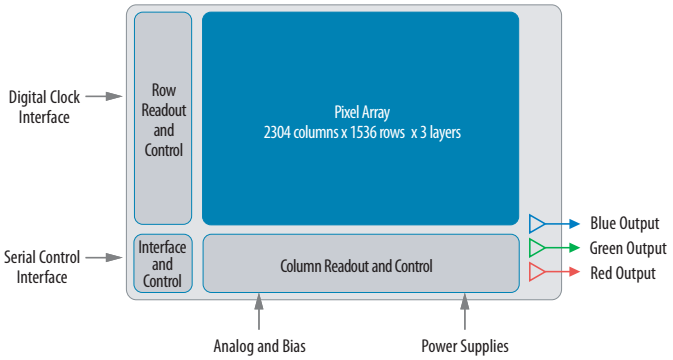
Low Noise

- The Foveon X3 direct image sensor offers extremely low-noise readout and high dynamic range.
- Proprietary readout circuits suppress fixed pattern noise artifacts commonly associated with CMOS image sensors.

Blooming Immunity

- The Foveon X3 direct image sensor is designed to resist the blooming that is characteristic of CCD image sensors.

The Foveon X3® Pro 10M is a 1.7 FLM (focal length multiplier)* high-resolution CMOS direct image sensor that incorporates breakthrough Foveon X3 technology. Newly enhanced, the latest version Pro 10M sensor achieves significantly longer exposure times, broader ISO selection, and improved dynamic range over its F7X3-B91 predecessor. Foveon X3 direct image sensors capture full-measured color images through a unique stacked pixel sensor design. By capturing full-measured color images, the need for indirect color interpolation and artifact-reducing blur filters is eliminated. As a result, the Foveon X3 Pro 10M delivers the highest effective resolution possible without color artifacts for the 1.7 FLM optical format. The Foveon X3 Pro 10M features the powerful VPS (Variable Pixel Size) capability. VPS provides the on-chip capability of grouping neighboring pixels together to form larger pixels that are optimal for high frame rate, reduced noise, or dual mode still/video applications. Other advanced features include: low fixed pattern noise and ultra-low power consumption.



Specifications

Effective Pixels	10.2 million pixels (3.4R, 3.4G, 3.4B) 2268 columns x 1512 rows x 3 layers	Total number of pixel sensors in image sensor
Pixel Pitch	9.12 µm	Center-to-center spacing of pixel locations
Optical Format	1.7 FLM* 20.7 mm x 13.8 mm	Active area
Aspect Ratio	3:2	
Frame Rate	4.4 fps for: • 2268 columns x 1512 rows x 3 layers 25 fps for: • 576 columns x 384 rows x 3 layers (VPS)	Maximum number of frames per second in the rolling shutter mode
Package	36 mm x 28 mm 100 pin CLCC with AR coated window	

*FLM with respect to a 35 mm lens

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