

The 35MMFHDXSCA CMOS sensor delivers high-sensitivity, low-noise imaging performance, even in exceptionally low-light environments. The sensor's pixels and readout circuitry employ new technologies that reduce noise, which tends to increase as pixel size increases. High sensitivity and increased well depth have been achieved through a larger pixel size of 19µm x 19µm (square) with proprietary device design technologies.

### Wide Angle of View

With a full readout resolution of 2160x1280, as compared to the 1920x1080 imaging area of full HD, this CMOS sensor enables use in applications requiring large image capture areas such as astronomy. This added resolution also provides an option for a 6:4 aspect ratio (1920x1280) needed in surveillance applications and an option for a 1:1 aspect ratio (1280x1280) needed in industrial applications.



Operation Mode	Resolution	Max Frame Rate
All Pixels	2160x1280	98
1080p	1920x1080	115
360p	640x360	300

### Readout Position and Frame Rate Control

The readout start position can be specified to allow flexibility in both frame rate and resolution depending on the application and required performance level. Moreover, when a high frame rate is not required, vertical blanking can reduce power consumption.

### Low Dark Current

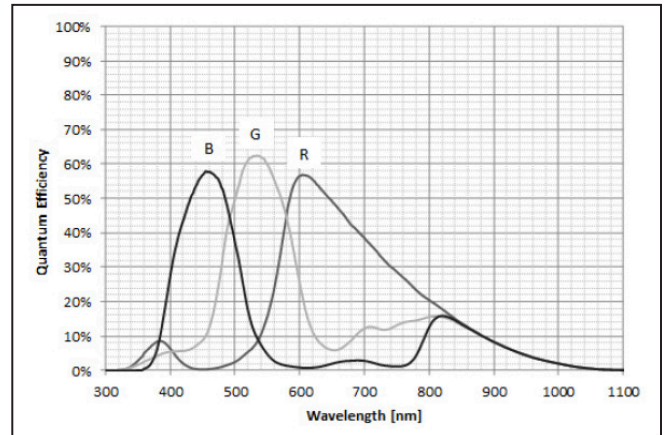
Canon has incorporated technology within this sensor to reduce dark current during long exposure times. This enables clean imaging over long exposures where only the faintest of light is present.



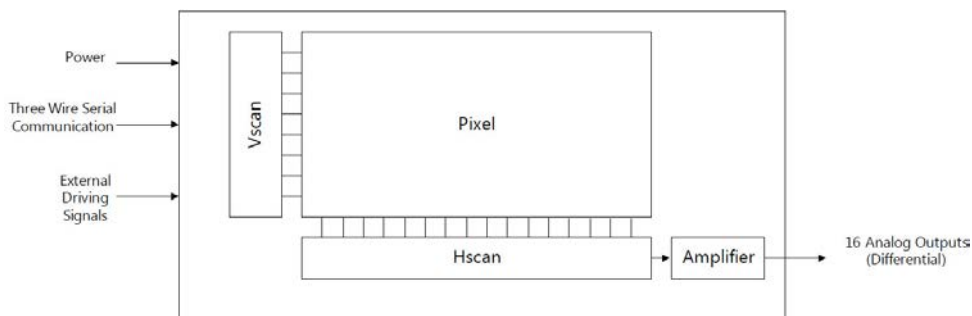
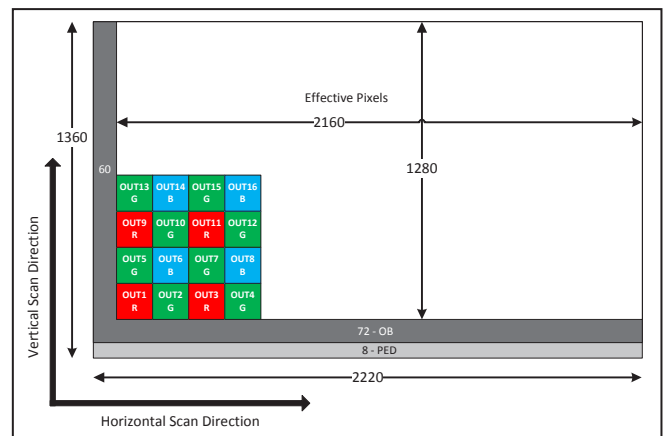
### Specifications

Part Number	35MMFHDXSCA
Filter Type	RGB
Sensitivity (Green)	1,100,000 e-/lx/sec @gainx1
Sensor Size	41.04mm x 24.32mm
Number of Effective Pixels	2160h x 1280v
Pixel Size	19 $\mu$ m x 19 $\mu$ m
Quantum Efficiency (Green, 525nm)	62%
Scan Type	Progressive Scan
Shutter	Rolling Shutter
Maximum Frame Rate (All Pixels)	98 fps
Register Control Type	Three Wire Serial Communication
Package Type	180 pin ceramic PGA
Saturation	61,000e @gain x1
Conversion Gain	5.6 $\mu$ V/e @gain x1
Dark Random Noise (Room Temp)	2.2e rms @gain x16
Dark Current (-20° C)	0.003 e/sec
Dark Current (Room Temp)	60 e/sec
Drive Frequency	16 ch x 21 MHz (Recommended)
Readout	Simultaneous reading of vertical 4 lines
Output Format	16 Channel Analog Outputs (Differential)
Column Amplifier Gains	x1, x2, x4, x8, x16
Power Consumption	1.7W Typ. (@ all pixels readout at 60 fps)
Power Supply Voltage	5.0 V, 3.3 V
Package Size (External Electrodes Not Included)	60.9mm x 44.6mm x 3.57mm

### Quantum Efficiency Plot



### Pixel Arrangement



### Applications

- Astronomy
- Surveillance
- Security
- Industrial
- Machine Vision
- Underwater
- Medical

For more information or to contact us:

canon-cmos-sensors.com • 855-79-CANON • sensor\_info@cusa.canon.com