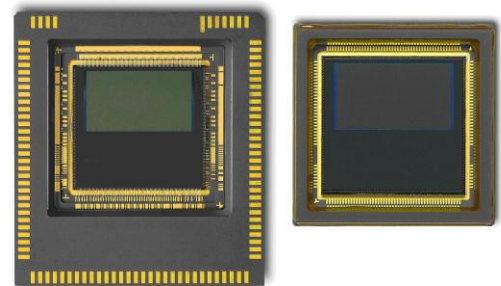


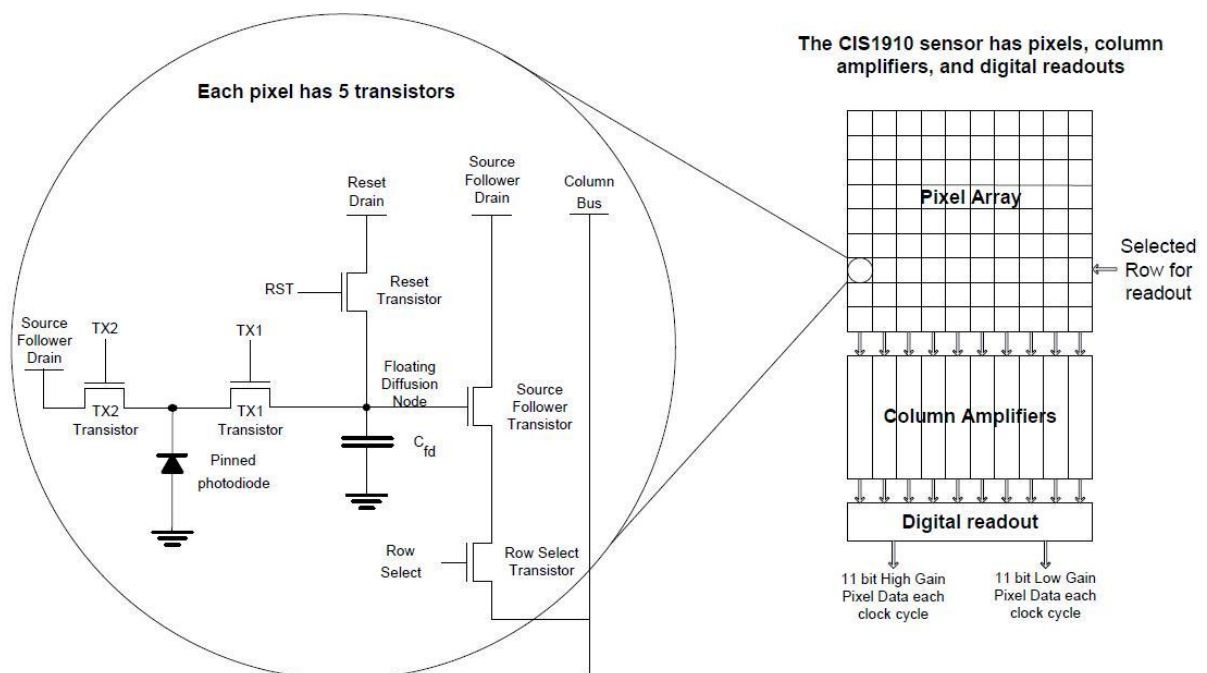
# Fairchild Imaging CIS1910

## HD (1920 X 1080) Ultra Low Noise sCMOS Image Sensor

The Fairchild Imaging CIS1910 is a large format HD resolution, ultra low-noise CMOS image sensor intended for applications requiring high quality imaging under extremely low light levels. The device features an array of 5T pixels on a 6.5 $\mu$ m pitch with an active imaging area of 1920(H) x 1080(V) pixels. The CIS1910 delivers extreme low-light sensitivity with read noise approaching one electron (rms), Quantum Efficiency (QE) above 55% and very low dark current. The sensor supports both Rolling and Global Shutter readout modes. The sensor has two ADC channels per row with one optimized for very low light levels and the other optimized for high light levels, enabling high dynamic range data collection in a single image. The sensor supports user-programmable row start/stop control for region of interest (ROI) readout mode. The sensor is housed in a 105-pin ceramic LGA package or a 101-pin LCC package. These features, combined with 100 fps readout, make the CIS1910 an ideal imaging device for a variety of low-light-level camera applications, including: security/surveillance, industrial, prosumer videocams, and medical.

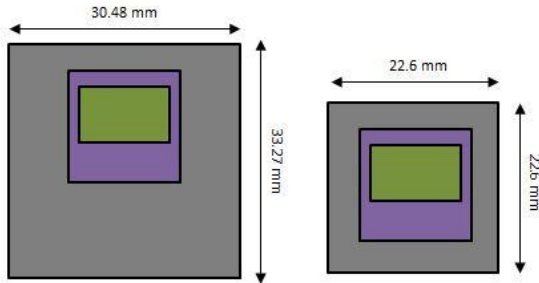


### BLOCK DIAGRAM



## FEATURES

- Superior Low Light Image Quality
- > 88 dB Intra Scene Dynamic Range
- 100 FPS at Full HD 1080P
- Rolling and Global Shutter

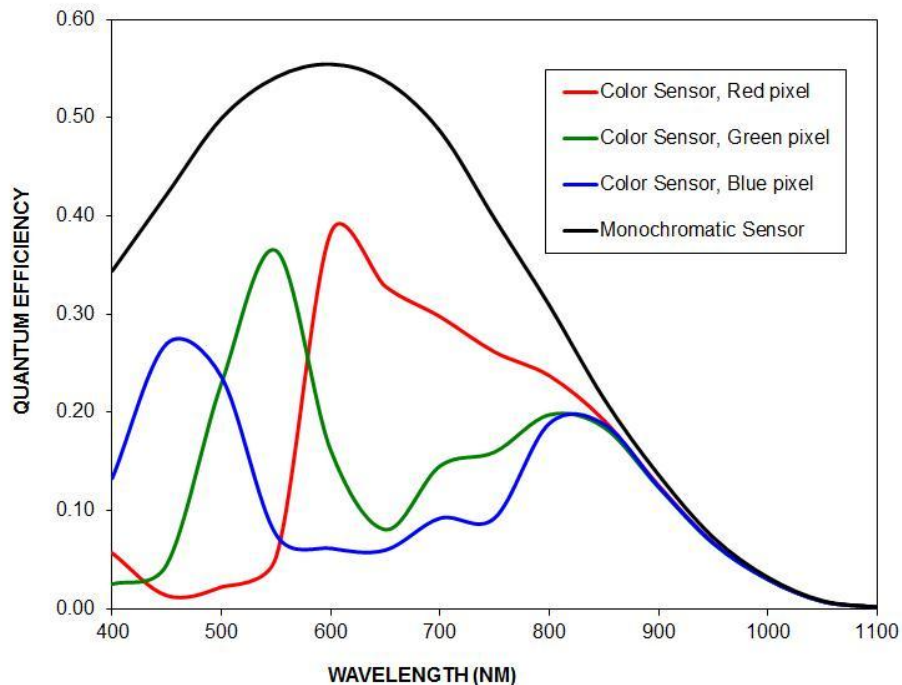


## SPECIFICATIONS

Optical format	1"
Active array size	1920 (H) x 1080 (V)
Pixel size	6.5 $\mu\text{m}$ x 6.5 $\mu\text{m}$
Active area	12.5 mm x 7.0 mm
Chroma	RGB or monochrome
Shutter type	Rolling shutter, Global Shutter
Maximum frame rate	100 fps (RS), 50 fps (GS)
ADC resolution	22 bits (2 x 11-bit)
Read noise <sup>1</sup>	< 1.2 e- RMS (Rolling Shutter)
Dynamic range	> 88 dB
Peak QE	> 55%
Full well capacity	> 30,000 e-
Dark current <sup>2</sup>	< 25 e-/pixel/sec
Power consumption	< 0.8W at 100 fps
I/O interface	Digital: 1.8V LVCMOS and 1.8V HSTL
Supply voltages	-0.4V, 1.8V, 3.0V, 3.3V
Operating temp	-40 to +55 °C
Package type	105-pin CLGA (Standard package) 101-pin CLCC (Scientific package)

<sup>1</sup>Median value, high gain output (30x), <sup>2</sup>At 20°C

## QUANTUM EFFICIENCY



## FOR MORE INFORMATION, CONTACT:

Fairchild Imaging  
1841 Zanker Road, Suite 50  
San Jose, CA 95112 USA  
Telephone 1-650-479-5749  
www.fairchildimaging.com

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