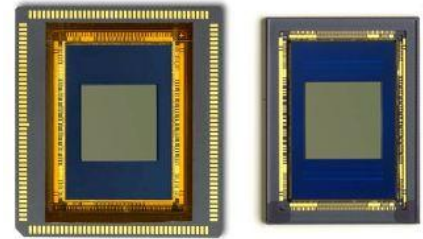


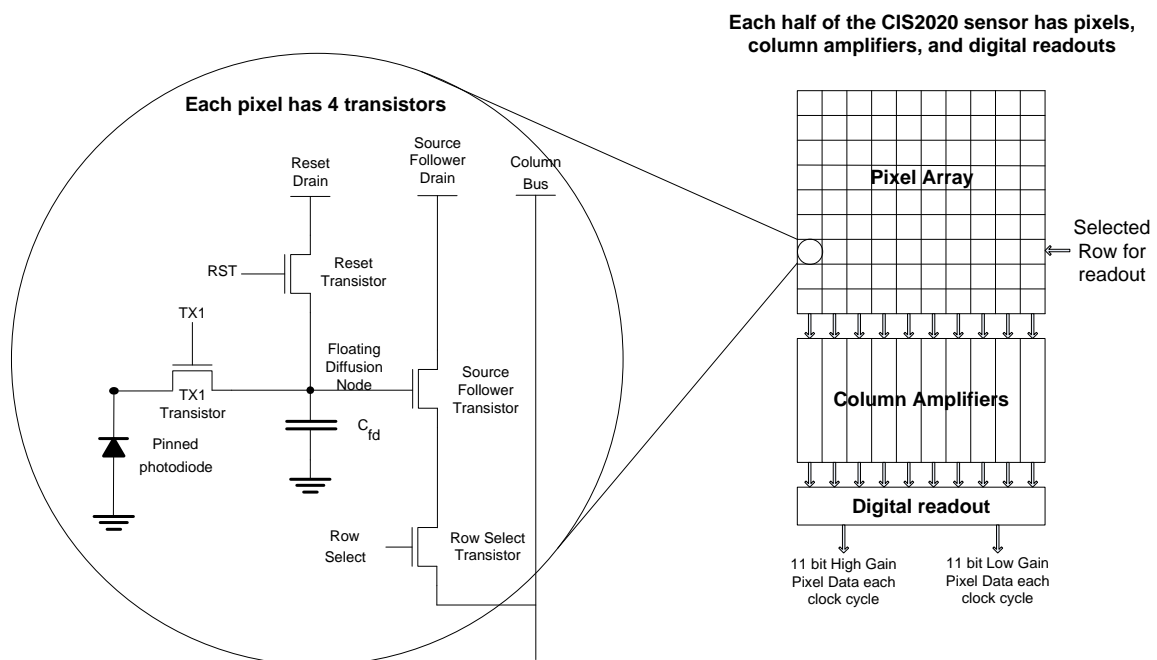
Fairchild Imaging CIS2020

4.2 Megapixel Ultra Low Noise sCMOS Image Sensor

The Fairchild Imaging CIS2020 is a large format, ultra low-noise CMOS image sensor intended for applications requiring high quality imaging under extremely low light conditions. The device features an array of 4 transistor (4T) pixels on a 6.5µm pitch with an active imaging area of 2048(H) x 2048(V) pixels. The CIS2020 delivers extreme low-light sensitivity with read noise of 1 electron RMS, Quantum Efficiency (QE) above 70% and very low dark current. The sensor has two ADC channels per column with one optimized for 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. The sensor is housed in a 168-pin CLCC package. These features, combined with 4.2 megapixel resolution and 100 fps imaging rates, make the CIS2020 an imaging device ideally suited for a variety of low light-level camera applications including: security/surveillance, industrial, prosumer videocam, and medical.

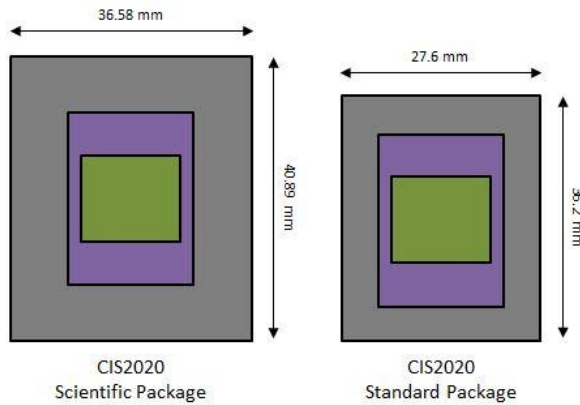


BLOCK DIAGRAM



FEATURES

- **Superior Low Light Image Quality**
- **> 90 dB Intra Scene Dynamic Range**
- **100 FPS at 4.2MP**

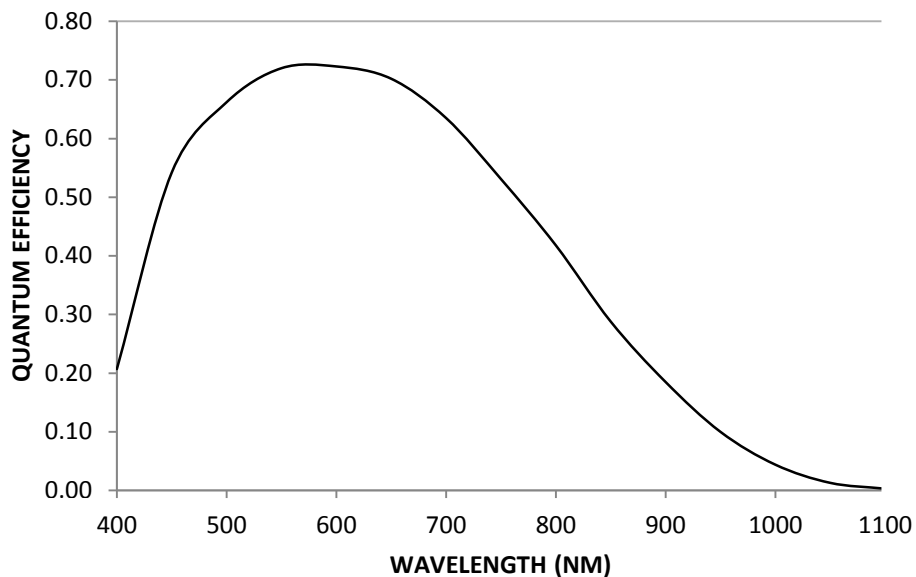


SPECIFICATIONS

Optical format	4/3"
Active array size	2048 (H) x 2048 (V)
Pixel size	6.5 μm x 6.5 μm
Active area	13.3 mm x 13.3 mm
Chroma	Monochrome
Shutter type	Rolling shutter
Maximum frame rate	100 fps
ADC resolution	22 bits (2 x 11-bit)
Read noise ¹	1 e ⁻ RMS
Dynamic range	> 90 dB
Peak QE	> 70%
Full well capacity	> 30,000 e ⁻
Dark current ²	< 35 e ⁻ /pixel/sec
Power consumption	< 1.5W 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	168-pin CLCC

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

QUANTUM EFFICIENCY



FOR MORE INFORMATION, CONTACT:

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This product is designed, manufactured, and distributed utilizing the ISO 9001:2008 Business Management System.

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