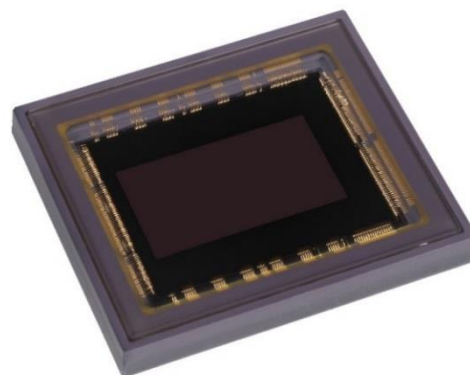


LTN4323

4/3" 10MP BSI sCMOS 3.0
4K-120fps Monochrome Sensor



Fairchild Imaging's new BSI sCMOS 3.0 sensors define the next horizon in professional imaging.

The BSI sCMOS 3.0 LTN4323 is a high performance sensor with market leading 0.7e⁻ RMS read noise. Outstanding low light performance is achieved through combining extremely low noise with the high quantum efficiency BSI process. The LTN4323 delivers the performance demanded by today's imaging professionals for scientific, machine vision, and industrial applications.

The LTN4323 has 4344 x 2368 pixel resolution and employs new BSI sCMOS 3.0 pixel engineering to realize extremely low noise, enhance MTF, boost NIR-QE, and reduce dark current. The increased MTF is achieved through reduced pixel to pixel cross-talk that dramatically improves sharpness. Compared to typical FSI sensors, an innovative BSI process enhancement delivers a broad spectrum NIR-QE with >2x sensitivity. Dark current at 30C is <2e⁻/sec enabling compact camera designs without the need for TE cooling.

Fairchild Imaging's proven dual gain amplifier architecture results in 16 bits per pixel to encompass the full dynamic range. Low gain and high gain signal paths provide analog to digital conversions at multiple gain factors on a pixel by pixel basis. This process optimizes both dynamic range and low light noise.

This sensor supports conventional rolling shutter, as well as global shutter, and global reset operating modes. Global reset mode is perfect for machine vision applications with controlled lighting, while global shutter enables all pixels to start and stop integration at the same time.

The LTN4323 consumes only 1.8 watts at 120 fps, which is ideal for non-TE cooled applications. However, the sensor is housed in a CLGA package which can accommodate a TE cooler for critical high performance applications.

Key features and benefits

10.3MP (4344 x 2368)

4/3" Optical Format

0.7e⁻ RMS Read Noise

87dB Dynamic Range

BSI Enhanced NIR QE Process

Extremely Low Dark Current

120fps Frame Rate

High Pixel MTF

Applications

Scientific

Machine Vision

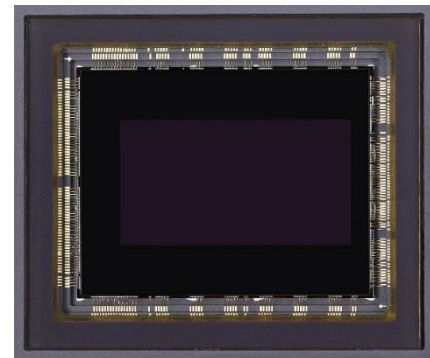
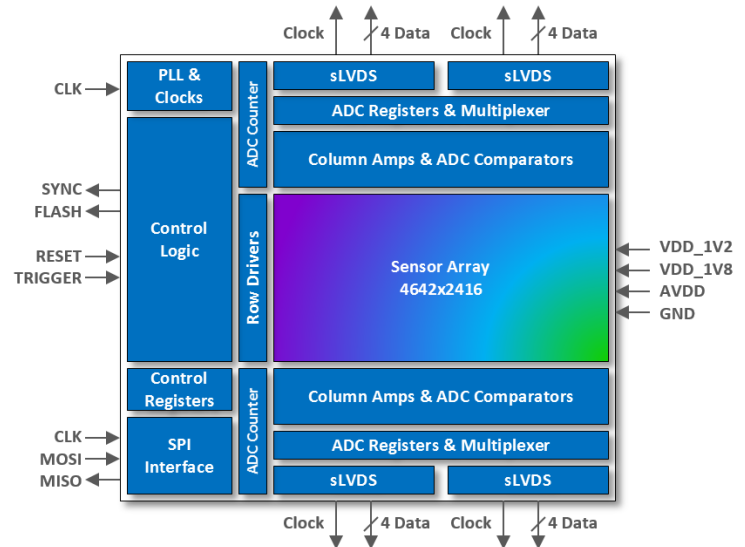
Medical

Industrial

Ideal for capturing images in extreme low-light conditions

Preliminary Specifications

Sensor	
Optical Format	4/3"
Configurations	Monochrome
Active Array	4344 x 2368 (10.3MP)
Active Area	20.0 mm x 10.9 mm
Active Diagonal	22.8 mm
Frame Rates	120 fps @ Full Frame 240 fps @ 1080p (ROI)
ADC Resolution	12 bits @ LG/ HG
Programmable Gain	LG: 1x HG: 8x, 16x, 32x
Pixel	
Pixel Size	4.6 x 4.6 μm
Shutter Types	Rolling, Global, and Global Reset
Read Noise	0.7 e- RMS
Dynamic Range	87 dB
Dark Current	2 e-/sec @ 30° C
Non-linearity	< 1%
Interface	
Temperature Sensor	Analog Output
Output Data Interface @ 1.2 Gbps	10 sub-LVDS @ 60 fps 20 sub-LVDS @ 120 fps
Data Type	12 bit RAW 16 bit LG/HG Merged
Control Interface	SPI 20 MHz
Operating	
Power	1.8W @ 120 fps
Operating Temp	-30° to + 70° C
Power Supply	2.5V, 1.8V, 1.2V
Packaging	
Package	256 Pin CLGA 31.1 x 36.6 mm
Coverglass	Double Sided-AR Coated



Fairchild Imaging
1841 Zanker Rd., Ste. 50
San Jose, CA 95112 USA
T: 1-650-479-5749
E: cams.sales@baesystems.com

EXPORT-CONTROLLED DATA. This document contains technical information whose export is governed by the U.S. Export Administration Regulations (EAR). This information is classified as EAR99, No License Required except to the following Arm Embargoed Countries: Cuba, Iran, Syria, N. Korea.



© 2019 BAE Systems Imaging Solutions reserves the right to make changes to its products and/or their specifications at any time without notice.