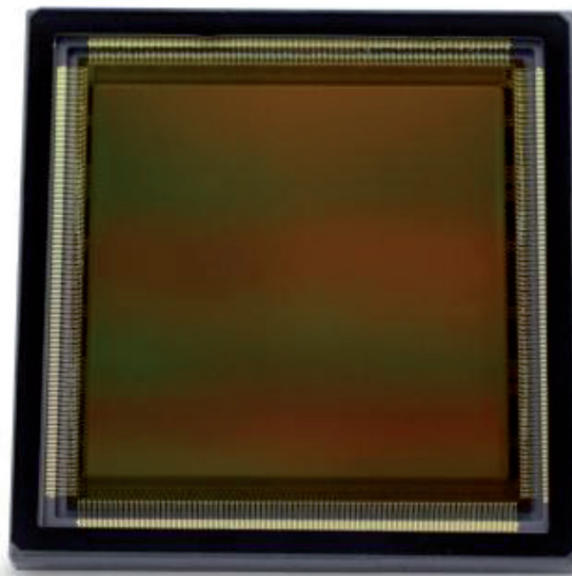

Sci-CMOS 4040 16.8 Megapixels CMOS Image Sensor

Preliminary Short Form Datasheet



Applications:

Medical Applications
Scientific Applications

Sensor descriptions:

Sci-CMOS 4040 is a 16.8 Mega pixel resolution CMOS image sensor. Featured with five transistor (5T) HDR pixel design on a 9 μm pitch, the sensor has a readout noise of 3.5 e^- in rolling shutter mode. Sci-CMOS 4040's maximum frame rate (will full resolution) is 48 fps in STD mode, and 24 fps in HDR mode. It also supports 2 x 2 charge binning mode in which x 4 frame rate is achieved. Besides, it is also possible to realize 2 x 4 voltage binning (based on 2 x 2 charge binning mode, achieving x 8 frame rate) in Sci-CMOS 4040. These features make Sci-CMOS 4040 an ideal image sensor for various applications.

Design Specifications:			
Resolution	4096 × 4096	Full well charge	40 ke ⁻
Pixel size	9 μm × 9 μm	Max. SNR	46 dB
Photosensitive area	36.864 mm × 36.864 mm	Dark current	< 30 e ⁻ /p/s @ 25 °C
Shutter type	Rolling Shutter	Input clock rate	50 MHz
Sensitivity	1.51 × 10 ⁸ e ⁻ / ((W / m ²) · s)	Output interface	18 pairs LVDS
Temporal noise	3.5 e ⁻	Quantum Efficiency	> 65 % @ 550 nm - 600 nm
Max frame rate	48 fps @ Rolling shutter STD 24 fps @ Rolling shutter HDR	Dynamic range	> 68 dB @ STD mode > 80 dB @ HDR mode
ADC	12 bit	Operating temperature	-30 °C ~ + 55 °C
Supply voltage	3.3 V / 1.8 V	Chroma	Mono
Power consumption	< 2.0 W	Package	140 pins PGA

Package:

