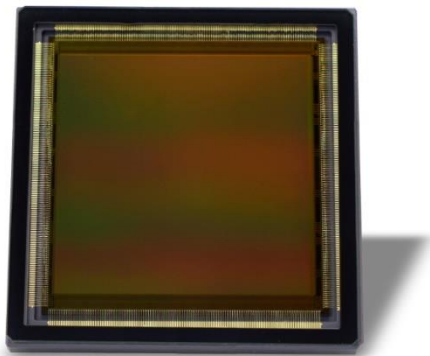


16.8 Megapixels CMOS Image Sensor – GSENSE4040



Features:

- Dark noise $3.7e^-$
- Dynamic range > 86dB
- 2x2 charge binning HDR

Applications:

- Medical application
- Scientific application
- Astronomy application

SENSOR DESCRIPTION

GSENSE4040 is a 16.8Mega pixel resolution CMOS image sensor. Featured with five transistor (5T) HDR pixel design on a $9\mu\text{m}$ pitch, the sensor has a readout noise of $3.7e^-$ in rolling shutter mode. GSENSE4040's maximum frame rate is 24fps in HDR mode and 96fps in 2x2 binning HDR mode. These features make GSENSE4040 an ideal image sensor for various applications. It is offered in 2 versions. One is assembled with un-removable glass lid with micro-lens. Another is with removable glass lid without micro-lens.

Resolution	4096×4096	Full well charge	>74ke ⁻
Pixel size	9μm×9μm	Max. SNR	>48dB
Photosensitive area	36.864mm×36.864mm	Dark current	12.2e ⁻ /p/s @ 25°C
Shutter type	Rolling Shutter	Output interface	18 pairs LVDS
Sensitivity	1.8x10 ⁸ e ⁻ /((W/m ²)s) @ 600nm	Quantum Efficiency	74% @ 600nm
Temporal noise	3.7e ⁻	Dynamic range	>86 dB @ 1x1 HDR
Max frame rate	24fps@1x1 HDR 96fps@2x2 HDR	Chroma	Mono
ADC	12bit	Package	140 pins PGA
Supply voltage	3.3V / 1.8V	Power consumption	1.3W

