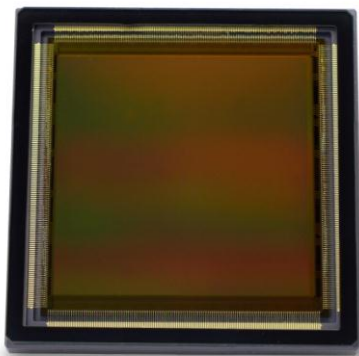


16.8 Megapixels CMOS Image Sensor – GSENSE4040



Features :

- Dark noise $3.7e^-$
- Dynamic range > 86dB
- Support 2x2 charge binning and 2x4 voltage binning

Applications:

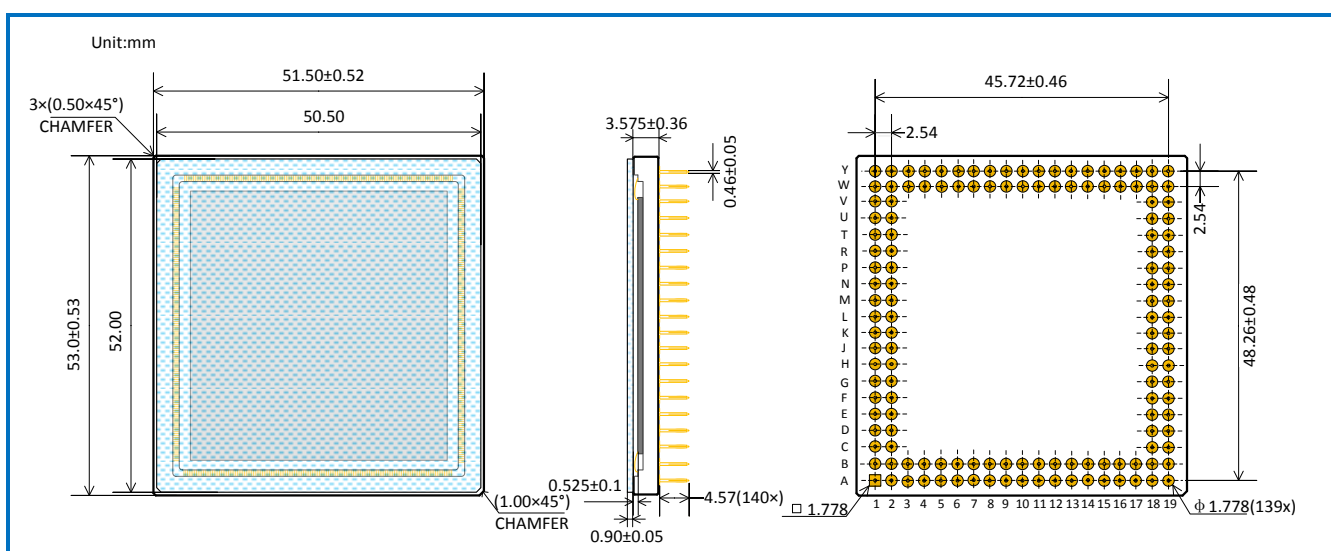
- Medical applications
- Scientific applications
- Astronomy applications

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 (with full resolution) is 24fps in 1x1 HDR mode, and 96fps in 2x2 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 GSENSE4040. These features make GSENSE4040 an ideal image sensor for various applications.

DESIGN SPECIFICATIONS

Resolution	4096×4096	Full well charge	$>74ke^-$
Pixel size	$9\mu\text{m}\times 9\mu\text{m}$	Max. SNR	$>48\text{dB}$
Photosensitive area	$36.864\text{mm}\times 36.864\text{mm}$	Dark current	$12.2e^-/\text{p/s}$ @ 25°C
Shutter type	Rolling Shutter	Output interface	18 pairs LVDS
Temporal noise	$3.7e^-$	Quantum Efficiency	74% @ 600nm
Max frame rate	96fps @ 2x2 HDR	Dynamic range	$>86\text{ dB}$ @ 1x1 HDR
ADC	12bit	Operating temperature	$-20^\circ\text{C} \sim +50^\circ\text{C}$
Supply voltage	3.3V / 1.8V	Chroma	Mono
Power consumption	$<1.4\text{W}$	Package	140 pins PGA



Please address all product inquiries to GPIXEL Inc.

Addr: No.588 Yingkou Road, Changchun, China • Tel: 0431-86176682 • Email: info@gpixelinc.com