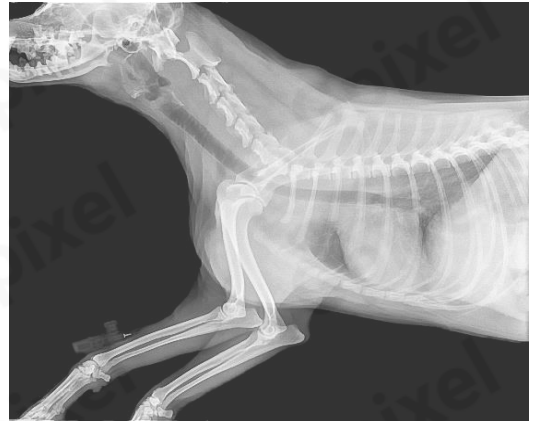


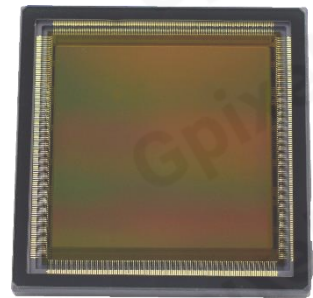
GSENSE4040 Product Flyer



16.8MP SCIENTIFIC CMOS IMAGE SENSOR

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 2×2 binning HDR mode. These features make **GSENSE4040** an ideal image sensor for various applications.

GSENSE4040 is offered in 2 versions. One is assembled with un-removable glass lid with micro-lens, ideal for medical imaging and astronomy applications. Another is with removable glass lid without micro-lens, which is ideal for X-ray imaging, charged particle detection.



Key Features

- $9\mu\text{m}$ Square Pixels
- Dark noise $3.7e^-$
- Dynamic range $> 86\text{dB}$
- Support 2×2 charge binning at HDR mode
- Power consumption : $< 1.4\text{W}$
- On-chip PLL

Applications

- Medical imaging
- Astronomy imaging
- Scientific applications

Sensor Specifications

Resolution	4096 x 4096	Photo-sensitive area	36.864mm × 36.864mm
Pixel size	9 μ m × 9 μ m	Operation temperature	-40°C~50°C
Shutter type	Rolling shutter	Quantum efficiency	74%@ 600nm
Full well capacity	>74 ke-	Pixel clock rate	50MHz
Dark noise	3.7e-	Dark current	12.2e-/p/s @ 25°C
Dynamic range	>86 dB @ 1x1 HDR	Frame rate	24fps@1x1 HDR 96fps@2x2 HDR
Data Output interface	18 pairs of LVDS	Max. Data rate	10.8Gb/s
Chroma	Mono	Power consumption	1.35W
Supply voltage	3.3V for analog 1.8V for digital	Package	140 pins PGA 51.5mmx53mm

Ordering Information

Sensor Part No.

GSENSE4040-CVM-NPN-AR1
Mono, no micro-lens, Removable glass, Grade 1

GSENSE4040-CVM-NPT-BB1
Mono, with microlens, Sealed glass, Grade 1

GSENSE4040-CVM-NPN-AR2
Mono, no micro-lens, Removable glass, Grade 2

GSENSE4040-CVM-NPT-BB2
Mono, with microlens, Sealed glass, Grade 2

GSENSE4040-CVM-NPN-ARE
Mono, no micro-lens, Removable glass, ES

GSENSE4040-CVM-NPT-BBE
Mono, with microlens, Sealed glass, ES

EVK Part No.

EVA-4040F-RT12, cameralink, single stacked PCB boards

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