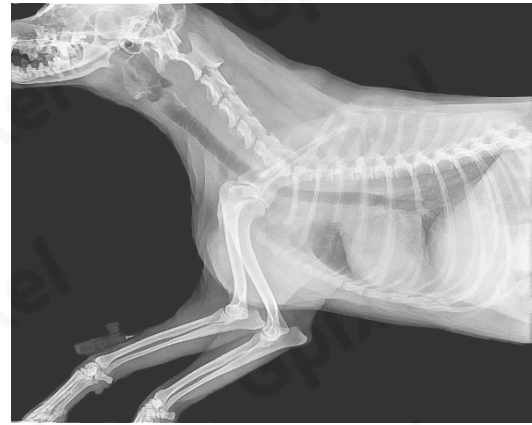


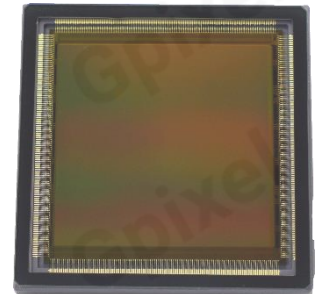
# GSENSE4040 Product Flyer



## 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 2x2 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 86dB
- Support 2x2 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 $\mu$ m × 9 $\mu$ m	Operation temperature	-40°C~50°C
Shutter type	Rolling shutter	Quantum efficiency	73.9% @ 600nm
Full well capacity	74.2 ke-	Pixel clock rate	50M Hz
Dark noise	3.7 e-	Dark current	12.2 e-/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	10.8 Gbps
Chroma	Mono	Power consumption	<1.4 W
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**, camera link, single stacked PCB boards

## Contact Gpixel HQ

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