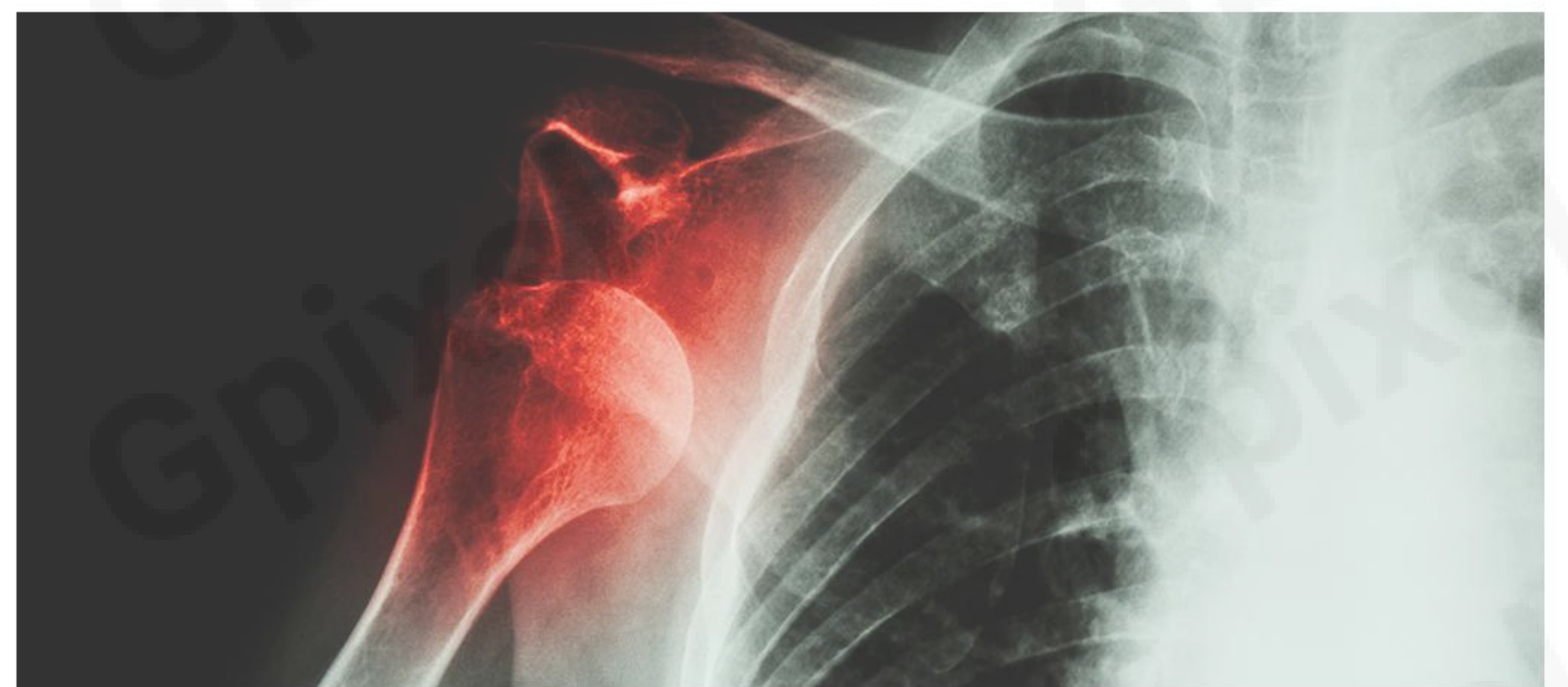




GSENSE9016BSI

16.7 MP BSI sCMOS Image Sensor

GSENSE9016BSI is a backside-illuminated scientific CMOS image sensor with a resolution of 4096×4096 (16.7 MP), an optical format of 3.3 inches, and a pixel size of $9 \mu\text{m} \times 9 \mu\text{m}$, featuring a rolling shutter architecture. Fabricated using a backside illumination process, it delivers a peak quantum efficiency of 95%. In dual-gain HDR mode, the sensor supports a maximum frame rate of 26 fps, read noise of 0.7 e^- , and a dynamic range of 104 dB. At a chip temperature of -30°C , the dark current is as low as $0.04 \text{ e}^-/\text{s/p}$, offering a new solution for applications such as astronomical observation and life science. The **GSENSE9016BSI** shares mechanical package compatibility with the GSENSE4040BSI, enabling seamless integration into existing camera platforms.



Key Features and Benefits

- ▶ BSI
- ▶ Low Noise 0.7 e^-
- ▶ High Speed 44 fps
- ▶ Peak QE 95%
- ▶ 14/12 bit ADC

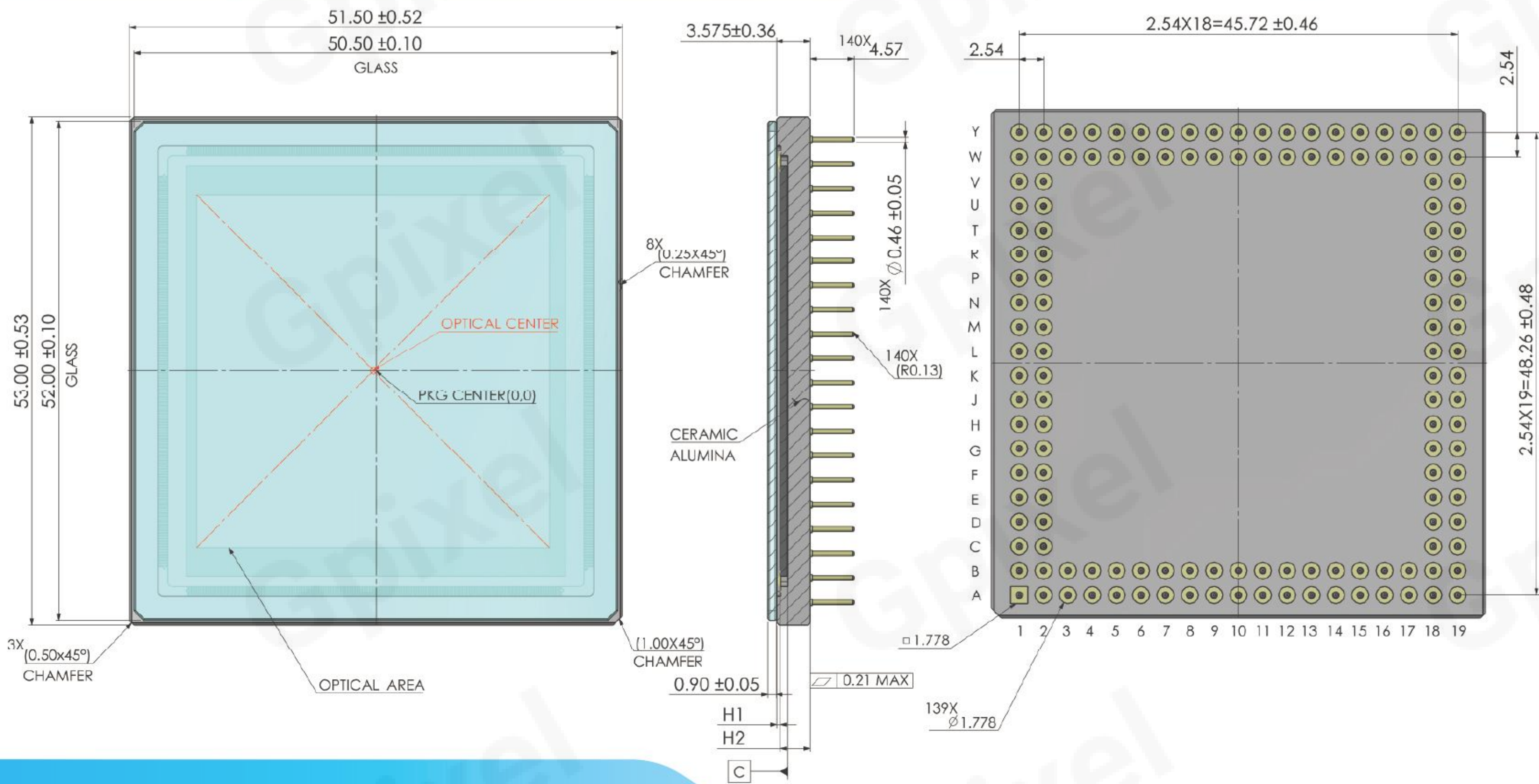
Application

- ▶ Life Sciences
- ▶ Astronomy
- ▶ X-Ray

Specifications

Nr of Active Pixels	4096 (H) × 4096 (V)	Optical Format	3.3"
Pixel Size	9 μm x 9 μm	Photosensitive Area	36.8 mm x 36.8 mm
Shutter Type	Rolling Shutter	Peak QE	95% (450 nm)
Full Well Capacity	118 ke ⁻	Temporal Noise	0.7 e ⁻
Dark Current	0.04 e ⁻ (-30°C)	Dynamic Range	104 dB (12 bit HDR)
Max Frame Rate	13 fps(14 bit STD) 26 fps(12 bit HDR) 44 fps(12 bit STD)	Output Format	18 x sub-LVDS
Max. Data Rate	0.96 Gbps	ADC	14/12 bit
Chroma	Mono	Power Consumption	< 2 W
Supply Voltage	3.3 V (Analog) 1.5 V (Digital) 1.8-3.3 V (IO)	Package	140 pins PGA (51.5 mm x 53.0 mm)

Package Drawing



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GP-PR261023 V1.0