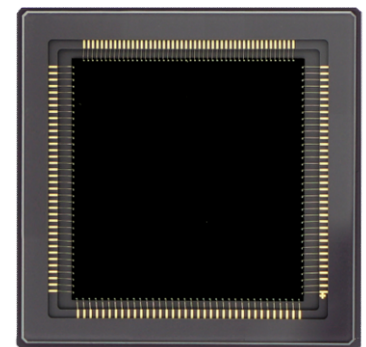


# GSENSE400BSI Product Flyer



## 4MP SCIENTIFIC BSI CMOS IMAGE SENSOR

The GSENSE400BSI sensor is a 4 Megapixels resolution BSI CMOS image sensor with 11 $\mu$ m pixel size. As the first backside illuminated scientific CMOS image sensor in the world, GSENSE400BSI features low readout noise of 1.6e-, high dynamic range of 94dB, and low dark current of 0.27e-/s/pix at deep cooling of -40°C. With special ARC, the sensor provides peak of 95% @ 570nm. This image sensor has two operation modes, STD mode in 48 fps or HDR mode which is optimized for high dynamic range (HDR) applications with half frame rate. In HDR mode, the sensor achieves a linear dynamic range of 94dB. These features make GSENSE400BSI ideal for high-end scientific imaging, corona detection, astronomy, spectroscopic, and forensic imaging applications.



### Key Features

- 11  $\mu$ m Rolling Shutter pixel
- High sensitivity of  $3.25 \times 10^8 \text{e-}/((\text{W}/\text{m}^2)\cdot\text{s})$  @560nm
- Extremely low temporal noise of 1.6e-
- Dark current of less than 0.27e-/s/pix at -40°C
- Applications from UV-C to NIR wavelength range

### Applications

- Biometry and Medical
- High-end Industrial Applications
- Security and Surveillance
- Scientific Applications
- VUV, EUV and soft X-ray detection

## Sensor Specifications

Resolution	2048 x 2048	Optical format	2.0 "
Pixel size	11 $\mu$ m × 11 $\mu$ m	Photo-sensitive area	22.5mm × 22.5mm
Shutter type	Rolling shutter	Quantum efficiency	95%@ 570nm
Full well capacity	91 ke-	Pixel clock rate	25MHz
Dark noise	1.6 e-	Dark current	0.27e <sup>-</sup> /p/s @-40°C
Dynamic range	94dB (HDR mode)	Frame rate	24fps @ HDR mode 48fps @ STD mode
Output interface	8 pairs of LVDS	Sensitivity(560nm)	3.25 x 10 <sup>8</sup> e <sup>-</sup> /((W/m <sup>2</sup> )·s)
ADC	12bit	Max. Data rate	2.4Gbps
Chroma	Mono	Power consumption	< 650mW
Supply voltage	3.3V for analog 1.8V for digital	Package	115 pins PGA 36.5mmx36.5mm

## Ordering Information

### Sensor Part No.

GSENSE400BSI-BBM-NPN-AR1 Removable D263T glass lid without AR coating, Grade 1	GSENSE400BSI-BBM-NPN-AR2 Removable D263T glass lid without AR coating, Grade 2
GSENSE400BSI-BPM-NPN-AR1 Removable D263T glass lid without AR coating, Grade 1, PulSar Variant.	GSENSE400BSI-BPM-NPN-AR2 Removable D263T glass lid without AR coating, Grade 2, PulSar Variant.

### EVK Part No.

EVA-400B-RT12 (HDR) / EVA-400B-ST12 (STD)  
cameralink, single stacked PCB boards

## Contact

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