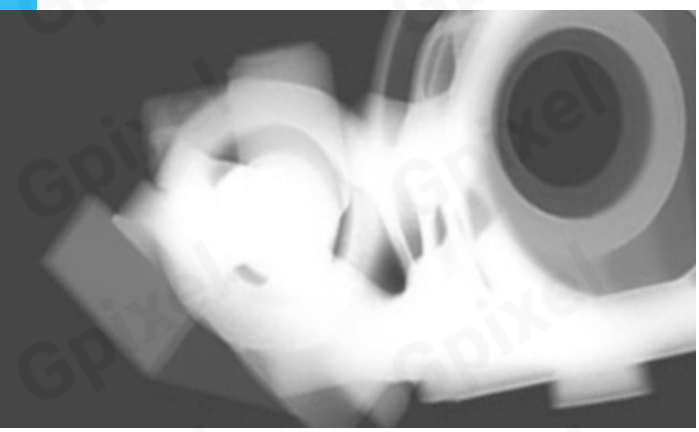
GSENSE2020BSI Product Flyer



4MP SCIENTIFIC BSI CMOS IMAGE SENSOR

Designed with the state-of-art backside illuminated scientific CMOS technology, GSENSE2020BSI is a 4 Megapixel sensor with 6.5μm pixel size, featuring 95% quantum efficiency and a readout noise of less than 1.2e^- with correlated multi-sampling (CMS). Ideal for bio-imaging, life science, astronomy and scientific imaging, GSENSE2020BSI also provides a solution for industrial inspection requiring superior UV sensitivity thanks to its high frame rate and global reset rolling shutter. GSENSE2020BSI-PS is processed with PulSar technology which achieves allows for direct detection down to VUV, EUV and soft X ray range.

GSENSE2020BSI is pin-compatible with GSENSE2020 and GSENSE2011, allowing easy hardware integration with minimized development effort and fast time-to-market.

Key Features

- 6.5μm Square Pixels
- Quantum efficiency of 95% @ 560nm
- Max. frame rate up to 43fps @HDR mode
- Readout noise <1.2 e^- @2-CMS
- Sensitivity: 1.1 x 108 e^-/((W/m2)·s) @ 550nm
- PulSar technology

Applications

- Bio-imaging and life science
- Astronomy and scientific imaging
- UV Industrial inspection
- Corona detection
- Semiconductor inspection
- High-end security and surveillance

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Sensor Specifications

Resolution	2048 x 2048	Optical format	1.2 “
Pixel size	6.5μm × 6.5μm	Photo-sensitive area	13.3mm × 13.3mm
Shutter type	Rolling shutter/global reset	Quantum efficiency	95%@560nm 60%@800nm
Full well capacity	55ke⁻	Pixel clock rate	600MHz
Dark noise	1.6e⁻	Dark current	0.7e⁻/p/s @ -30℃
Dynamic range	90.5dB	Frame rate	43fps@12bit 74fps@11bit
Output interface	8 pairs of LVDS @12-bit 16 pairs of LVDS @ 11-bit	Max. Data rate	4.8Gbps @ 12bit 9.6Gbps @ 11bit
Chroma	Mono	Power consumption	<1.2W
Supply voltage	3.5V for analog 2.0V for digital	Package	153 pins μPGA 26.1mmx29.5mm

Ordering Information

Sensor Part No.

GSENSE2020BSI-ABM-NUN-AR1 Standard BSI process, Grade 1	GSENSE2020BSI-APM-NUN-AR1 PulSar Technology, Grade 1

EVK Part No.

EVA-2020B-RC11 (11bit) / EVA-2020B-RC12 (12bit)
USB interface, 3 stacked PCB boards

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