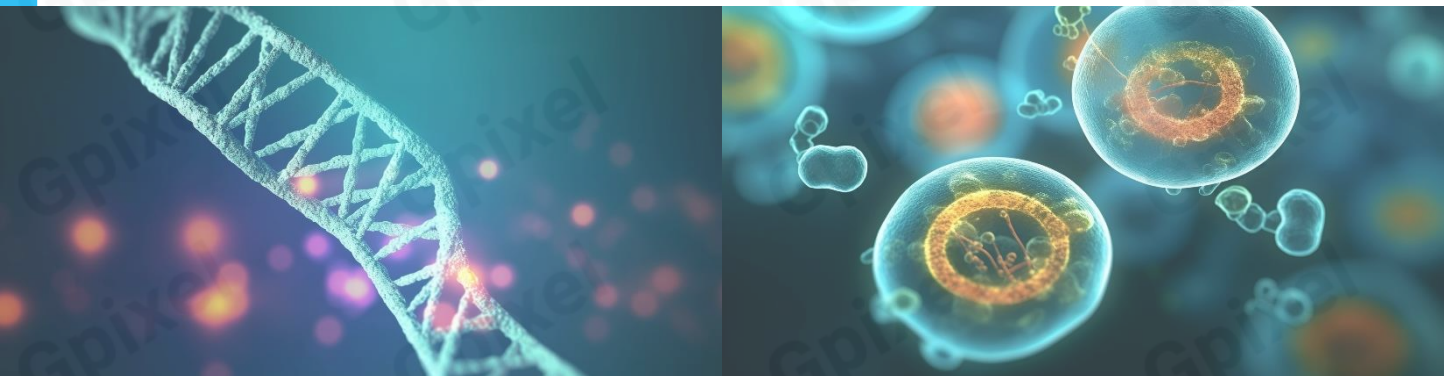


GSENSE6510BSI



10.2MP Rolling Shutter CMOS Image Sensor

GSENSE6510BSI is a 3200 x 3200 (10.2 MP) resolution image sensor with industry-standard $6.5 \mu\text{m} \times 6.5 \mu\text{m}$ pixel and large 29.4 mm diagonal for increased throughput in microscopy applications compared to 19 mm sCMOS devices. With a peak QE of 95% and read noise of 0.7 e⁻ median, the sensor achieves exceptional signal-to-noise in extreme low light applications.

The sensor offers five imaging modes. In 12-bit mode, the sensor delivers 62.3 dB of dynamic range with a read noise floor of 1.3 e⁻ at 88 fps. In 11-bit HDR mode, the sensor uses dual-gain readout to achieve 78.8 dB of dynamic range with a read noise of 1.8 e⁻ at the same 83 fps. Additionally, the sensor offers two high-speed modes, an 8-bit mode reaching 500 fps and an 11-bit mode reaching 166fps. A 12-bit low noise mode achieves 0.7 e⁻ read noise.

With its combination of large field of view and high frame rate, the GSENSE6510BSI can take advantage of the trend toward larger FOV microscopes to capture more data per frame, and output that data at up to 69.12 Gbps to maximize throughput.



Key Features

- BSI
- High sensitivity
- Low noise
- Dual Gain HDR
- High frame rate

Applications

- Microscopy
- Scientific and laboratory imaging

Sensor Specifications

Resolution	3200 (H) x 3200 (V)	Optical format	1.9 "
Pixel size	6.5 μm x 6.5 μm	photosensitive area	20.8 mm x 20.8 mm
Shutter type	Rolling Shutter	Quantum efficiency	96.6% @ 610 nm
Full well capacity	21 ke ⁻	Temporal noise	0.7 e ⁻ @ 12 bit 16x CMS
Dark Current	0.2 e ⁻ /s/p @ -10°C	Dynamic Range	78.8 dB (11 bit HDR)
Max Frame rate	500 fps @ 8 bit	Output format	72 ch LVDS
Max. Data rate	69.12 Gbps @ 8 bit	Channel multiplexing	72/24/12
Chroma	Mono	Power consumption	<5 W @ 8 bit <2.7 W @ 12 bit
Supply voltage	3.6 V (analog) 2 V (digital)	Package	284 pins LGA (44.4 mm x 34.2 mm)

Ordering Information

Sensor Part No.	Description	Grade
GSENSE6510BSI-BBM-NLN-AR1	BSI image sensor Removable D 263 [®] T eco glass lid without AR coating on both sides.	Grade 1

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