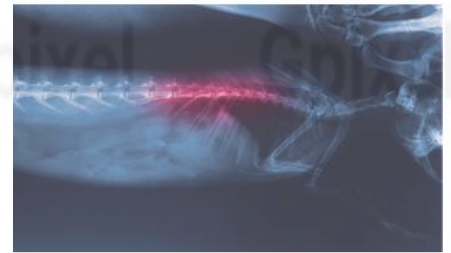


GSENSE Series

SCIENTIFIC CMOS IMAGE SENSORS

GSENSE is a world-leading scientific CMOS image sensor family, available in frontside (FSI) and backside illumination (BSI) options, with correlated multiple sampling for extreme low noise, dual gain HDR, and up to 95% quantum efficiency. Primary applications include 3D laser profiling, scientific imaging, medical imaging, spectroscopy, biometry and high-end surveillance.

GSENSE BSI products are available with optional PulSar (PS) technology, extending sensitivity into the deep UV and x-ray electromagnetic spectrum. In addition, the technology demonstrates excellent resistance to radiation damage in soft x-ray detection applications.



Product Family Features

- ✓ sCMOS
- ✓ FSI and BSI options
- ✓ HDR dual gain combination to 90 dB
- ✓ Low noise
- ✓ On-chip temperature sensor
- ✓ On-chip SPI sensor
- ✓ Electrical black pixels for offset correction
- ✓ Pixel micro lenses for high QE
- ✓ Removable glass versions

Applications

- ✓ Medical Imaging
- ✓ Scientific Imaging
- ✓ Spectroscopy
- ✓ Fluorescence imaging
- ✓ 3D laser profiling
- ✓ Astronomy

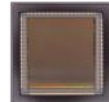
Gpixel Sensor Specifications



GSENSE2011
2.4MP



GSENSE2020
4.2MP



GSENSE400
4.2MP



GSENSE4040
16.8MP

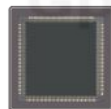


GSENSE6060
37.7MP

	GSENSE2011 2.4MP	GSENSE2020 4.2MP	GSENSE400 4.2MP	GSENSE4040 16.8MP	GSENSE6060 37.7MP
Pixel	6.5 μm GS+RS	6.5 μm GS+RS	11 μm RS	9 μm RS	10 μm RS
Opt. Format	1"	1.2"	2" APS-H	Med Format	M90
Resolution	2048 x 1152	2048 x 2048	2048 x 2048	4096 x 4096	6144 x 6144
FWC_{max}	45.0 ke ⁻	45.0 ke ⁻	91.2 ke ⁻	74.2 ke ⁻	128.0 ke ⁻
Noise_{min}	1.9 e ⁻	1.9 e ⁻	1.5 e ⁻	2.3 e ⁻	4.6 e ⁻
DR_{max}	87.5 dB	87.5 dB	96.0 dB	86.0 dB	88.9 dB
QE_{max}	72%	72%	60%	74%	71%
Frame Rate @ADC	81 @ 12HDR	45 @ 12HDR	48 @ 12 24 @ 12HDR	24 @ 12HDR	44 @ 12 19 @ 12HDR 14 @ 14
Power	<800 mW	<811 mW	<600 mW	<1300 mW	<4900 mW
SLVDS lanes	8 @ 600 MHz	8 @ 600 MHz	8 @ 300 MHz	16 @ 600 MHz	50 @ 420 MHz
Package	26x23 mm μ PGA	26x29 mm μ PGA	36x36 mm PGA	51x53 mm PGA	74x99 mm PGA
Availability	EVK & MP	EVK & MP	EVK & MP	EVK & MP	EVK & MP



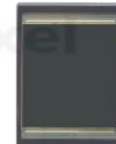
GSENSE2020BSI
4.2MP



GSENSE400BSI
4.2MP



GSENSE4040BSI
16.8MP



GSENSE6060BSI
37.7MP



GSENSE1081BSI
81.7MP

	GSENSE2020BSI 4.2MP	GSENSE400BSI 4.2MP	GSENSE4040BSI 16.8MP	GSENSE6060BSI 37.7MP	GSENSE1081BSI 81.7MP
Pixel	6.5 μm RS	11 μm RS	9 μm RS	10 μm RS	10 μm RS
Opt. Format	1.2"	2" APS-H	Med Format	M90	M130
Resolution	2048 x 2048	2048 x 2048	4096 x 4096	6144 x 6144	8900 x 9120
FWC_{max}	55.0 ke ⁻	91.2 ke ⁻	39.2 ke ⁻	102.0 ke ⁻	90.7 ke ⁻
Noise_{min}	1.6 e ⁻	1.5 e ⁻	1.6 e ⁻	3.0 e ⁻	5.4 e ⁻
DR_{max}	90.7 dB	96.0 dB	84.6 dB	90.6 dB	84.5 dB
QE_{max}	95%	95%	95%	95%	97%
Frame Rate @ADC	74 @ 11HDR 43 @ 12HDR	48 @ 12 24 @ 12HDR	24 @ 12HDR	26 @ 12 11 @ 12HDR 8 @ 14	0.34 @ 16bit 0.94 @ 15bit
Power	<1200 mW	<600 mW	<1300 mW	<4900 mW	<1400 mW
SLVDS lanes	16 @ 600 MHz	8 @ 300 MHz	16 @ 600 MHz	50 @ 420 MHz	4 @ 250 MHz
Package	26x29 mm μ PGA	36x36 mm PGA	51x53 mm PGA	74x99 mm PGA	92x99 mm SiC
Availability	EVK & MP	EVK & MP	EVK & MP	EVK & MP	ES only

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