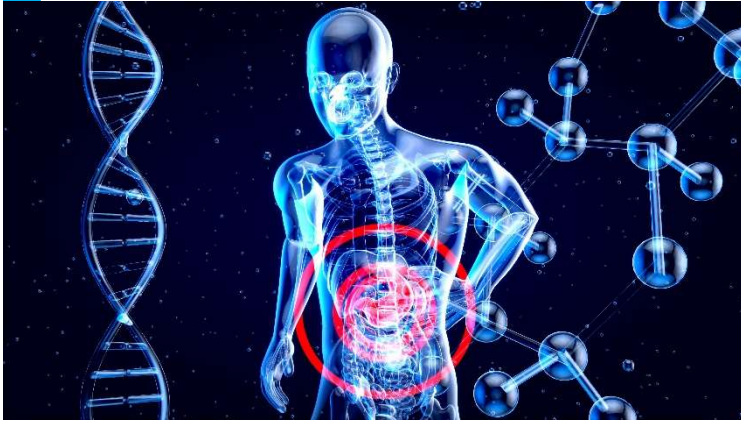# GSENSE6060BSI Product Flyer

37.7MP SCIENTIFIC BSI CMOS IMAGE SENSOR

Designed with a large imaging area for demanding astronomical and scientific applications, the BSI compatible GSENSE6060 extends Gpixel's family of scientific CMOS image sensor further for professional applications.

With its top and bottom readouts, the sensor maximum frame rate is 26fps with 12bit ADC, allowing scientists to observe with the never-achieved temporal resolution. The on-chip 14bit ADC combing with a correlated multisampling (CMS) technique unprecedentedly extends the sensor intra-scene dynamic range to 16 bit. The two readout chains also provide the possibility for HDR combination up to 90dB. The Aluminum Nitride package provides 10x thermal conductivity than traditional Alumina packages as well as excellent flatness both at room and deep-cooled temperatures.

Key Features

- Large format sensor with frame rate up to 26fps
- HDR combination up to 90dB
- 56 columns of Electrical Black pixel (EB)
- 95% Peak QE
- 50 LVDS output pairs
- On-chip 12/14-bit column-parallel ADC
- 77dB from a single image at a single gain

Applications

- Medical Imaging
- Astronomy imaging
- High-end Scientific Imaging
- X-ray Imaging

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Sensor Specifications

Resolution	6144 x 6144	Photo-sensitive area	61.44mm × 61.44mm
Pixel size	10μm × 10μm	Operation temperature	-55℃~60℃
Shutter type	Rolling shutter	Quantum efficiency	95%@ 580nm
Full well capacity	14bit STD: 68ke⁻ @HG 12bit STD:94ke⁻ @LG 12bit HDR:95ke⁻	Dynamic range	14bit STD: 77dB @HG 12bit STD:73dB @LG 12bit HDR:90dB
Dark noise	14bit STD: 2.3e⁻ @HG 12bit STD:2.7e⁻ @HG 12bit HDR:3e⁻	Frame rate	14bit STD: 8fps 12bit STD: 26fps 12bit HDR:11fps
Pixel clock rate	35MHz @ 12-bit 30MHz @ 14-bit	Dark current	0.019e-/s/pix @ -53℃
Data Output interface	50 pairs of LVDS	Max. Data rate	21Gbps @12-bit
Chroma	Mono	Power consumption	4.6W
Supply voltage	6.5V for analog 1.85V for digital	Package	250-pin PGA 74mmx99mm

Ordering Information

Sensor Part No.

GSENSE6060BSI-ABM-NPN-AR0 Mono, microlens, removable glass, Grade 0	GSENSE6060BSI-ABM-NPN-AR1 Mono, microlens, removable glass, Grade 1
GSENSE6060BSI-ABM-NPN-AR2 Mono, microlens, removable glass, Grade 2	GSENSE6060BSI-ABM-NPN-ARE Mono, microlens, removable glass, Grade E

EVK Part No.

EVA-6060B-RT12 @12BIT HDR
EVA-6060B-ST12 @12BIT STD
EVA-6060B-ST14 @14BIT STD
Cameralink, single stacked PCB boards

Contact

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