

GSENSE6060 Product Flyer



37.7MP SCIENTIFIC 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 more than 44fps with 12bit ADC, allowing scientists to observe with the never-achieved temporal resolution. The on-chip 14bit ADC combining 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 44fps
- HDR combination up to 89dB
- 56 columns of Electrical Black pixel (EB)
- 72% Peak QE
- 50 LVDS output pairs
- On-chip 12/14-bit column-parallel ADC

Applications

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

Sensor Specifications

Resolution	6144 x 6144	Photo-sensitive area	61.44mm × 61.44mm
Pixel size	10 μ m × 10 μ m	Operation temperature	-55°C~80°C
Shutter type	Rolling shutter	Quantum efficiency	71.6%@ 550nm
Full well capacity	14bit STD: 72ke ⁻ @HG	Dynamic range	14bit STD: 75dB @HG
	12bit STD: 133ke ⁻ @LG		12bit STD: 72dB @LG
Dark noise	12bit HDR: 128ke ⁻	Frame rate	12bit HDR: 89dB
	14bit STD: 4.2e ⁻ @HG		14bit STD: 14fps
Pixel clock rate	12bit STD: 4.1e ⁻ @LG	Dark current	12bit STD: 44fps
	12bit HDR: 4.6e ⁻		12bit HDR: 19fps
Data Output interface	52.5MHz @ 12-bit 45MHz @ 14-bit	Max. Data rate	0.01e ⁻ /s/pix @ -70°C
Chroma	50 pairs of LVDS	Power consumption	31.5Gbps @12-bit
Supply voltage	Mono	Package	5.42W
	6.5V for analog 1.85V for digital		250-pin PGA 74mmx99mm

Ordering Information

Sensor Part No.

GSENSE6060-AVM-NPT-AR0
Mono, microlens, removable glass, Grade 0

GSENSE6060-AVM-NPT-AR1
Mono, microlens, removable glass, Grade 1

GSENSE6060-AVM-NPT-AR2
Mono, microlens, removable glass, Grade 2

GSENSE6060-AVM-NPT-ARE
Mono, microlens, removable glass, Grade E

EVK Part No.

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

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