GSENSE400 Product Flyer

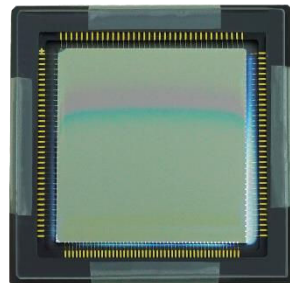## 4MP SCIENTIFIC CMOS IMAGE SENSOR

The GSENSE400 is a 4 Megapixels CMOS image sensor with 11um patented pinned photodiode pixels and electronic rolling shutter. Designed for scientific and high-end surveillance applications, GSENSE400 features low readout noise of 1.47 electrons, dynamic range of 96dB and sensitivity of 1.81×10^8 e-/((W/m2).s)@600nm.

GSENSE400 can be either operated in standard mode (STD) with 70dB intra-scene dynamic range, or in high dynamic range mode (HDR) with 96dB intra-scene dynamic range. GSENSE400 is capable of running up to 48fps in STD mode, or 24fps in HDR mode, and higher frame rates can be achieved in row-windowing mode.

Mounted in a 115-pin ceramic PGA package, the power consumption of less than 600mW can be easily dissipated. In addition, GSENSE400 has a dark current of less than 0.15e-/s/pix at minus 20°C, making it an ideal solution for the most demanding bio-imaging applications with long exposure time.

Key Features

- 11 um Rolling Shutter pixel
- High sensitivity of 1.81×10^8 e-/((W/m2).s)@600nm
- Extremely low temporal noise of 1.5e-
- Dark current of less than 0.15e-/s/pix @-20°C
- Bio-imaging applications with long exposure time.

Applications

- Biometry and Medical
- High-end Industrial Applications
- Security and Surveillance
- Scientific Applications

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Sensor Specifications

Resolution	2048 x 2048	Optical format	2.0 ''
Pixel size	11μm × 11μm	Photo-sensitive area	22.5mm × 22.5mm
Shutter type	Rolling shutter	Quantum efficiency	58%@ 600nm
Full well capacity	91 ke-	Pixel clock rate	20MHz ~ 30MHz
Dark noise	1.5 e-	Dark current	<0.15e-/p/s @ -20°C
Dynamic range	95dB (HDR mode)	Frame rate	24fps @ HDR mode 48fps @ STD mode
Output interface	8 pairs of LVDS	Sensitivity(600nm)	1.81×10^8e-/((W/m2)·s)
ADC	12bit	Max. Data rate	2.4Gbit/s
Chroma	Mono	Power consumption	< 600mW
Supply voltage	3.3V for analog 1.8V for digital	Package	115 pins PGA 36.5mmx36.5mm

Ordering Information

Sensor Part No.

GSENSE400-BVM-NPN-BB1 Mono, sealed D263T glass lid with AR coating, Grade 1	GSENSE400-BVM-NPN-BB2 Mono, sealed D263T glass lid with AR coating, Grade 2
GSENSE400-BVM-NPN-BR1 Mono, removable D263T glass lid with AR coating, Grade 1	GSENSE400-BVM-NPN-BR2 Mono, removable D263T glass lid with AR coating, Grade 2

EVK Part No.

EVA-400F-RT12 (HDR) / EVA-400F-ST12 (STD)
Cameralink, single stacked PCB boards

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