GS2.3

2.3 MP GLOBAL-SHUTTER CMOS IMAGE SENSOR

One exposure. Synchronized vision.

GS2.3 is a 1/2.6-inch CMOS image sensor for robot cameras, machine vision and barcode scanning. Global exposure, external triggering and multi-sensor synchronization support imaging of moving scenes. Available in Mono and RGB.

120 fps
1920 × 1200 output

3.0 µm
Pixel pitch

68.6 dB
Linear dynamic range

Imaging specification	GS2.3
Optical format	1/2.6 inch
Pixel array	1928 × 1208; 1920 × 1200 image with a 4-pixel border
Pixel pitch / active area	3.0 × 3.0 µm / 5.78 × 3.62 mm
Shutter / sampling	Global shutter / single-exposure linear
Frame rates	1920 × 1200 at 30, 60 or 120 fps
Output	RAW8, RAW10, YUV422; MIPI CSI-2
Chief ray angle	15°
Dynamic range / maximum SNR	68.6 dB / 38.6 dB

Control and processing

Programmable exposure and gain • Automatic exposure control • Black level and defective-pixel correction • Lens shading correction • Gamma, sharpening and noise reduction • Scaling, windowing and up to four ROI windows • Horizontal and vertical mirroring

120 fps requires DVDD = 1.5 V.

Built for synchronized cameras

SHORT DATASHEET / INTEGRATION AT A GLANCE

Electrical and mechanical	Specification
Digital supply	1.2 V nominal; 1.5 V for 120 fps
I/O / analog supply	1.8 V / 2.8 V nominal
Active power	331 mW at 120 fps, four-lane MIPI
Standby power	14 mW
Operating junction temperature	-30°C to +85°C
Package body	8.02 × 5.40 mm nominal; CSP
Input clock	24 / 27 MHz typical
Control interface	I^2C; address selected by CADDR0

Exposure and synchronization

Use free-running master mode or external FSYNC triggering. In synchronized exposure mode, the FSYNC pulse width determines exposure and must be at least one line time. Exposure and gain changes in master mode take effect in frame N+2.

Near-infrared characterization

44.6%

QE at 850 nm

24.9%

QE at 940 nm

7300 e^-

Full-well capacity

Design resources

See the GS2.3 Extended Datasheet for pin assignments, supply timing, register fields, optical response and package dimensions.

Product information and support: https://www.kaimou-semiconductor.com/