

# GSPRINT4502 Product Flyer

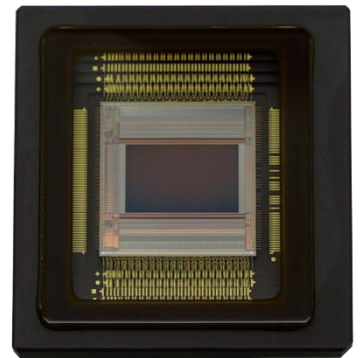


## 2MP HIGH SPEED CMOS IMAGE SENSOR

**GSPRINT4502** is a 2 Megapixel (2048 x 1216) 2/3" sized high speed, global shutter image sensor designed with the latest 4.5  $\mu\text{m}$  charge domain global shutter pixel.

**GSPRINT4502** achieves more than 30k  $e^-$  FWC, less than 4  $e^-$  rms read noise and 68 dB dynamic range, optionally to be increased with multi-slope HDR mode. Using an advanced 65nm CIS process and light pipe technology, the sensor achieves >65% QE and more than 1/40,000 shutter efficiency. With on-chip charge binning, FWC can be further increased to > 120ke $^-$  and frame rate is quadrupled.

**GSPRINT4502** consists of 64 pairs sub-LVDS channels running at 1.2Gbps which delivers a stunning 3462 fps at 8 bit per pixel and full resolution and over 10000 fps with binning mode. These unique features make it an ideal solution for demanding imaging in applications such as 3D laser profiling, industrial inspection, motion analysis and high speed imaging.



## Key Features

- 4.5 $\mu\text{m}$  Square Pixels
- Ultra-low read noise less than 4  $e^-$
- Vertical ROIs with speed boosting
- Max. frame rate up to 3462fps @8bit

## Applications

- Machine vision
- High resolution industrial inspection
- 3D laser profiling

## Sensor Specifications

Resolution	2048 x 1216	Optical format	2/3 "
Pixel size	4.5um × 4.5um	Photo-sensitive area	9.21mm × 5.47mm
Shutter type	Global shutter	Quantum efficiency	65%
Full well capacity	30 ke <sup>-</sup> (Gain 0)	Output interface	64 pairs of sub-LVDS
Dark noise	< 4e <sup>-</sup> (Gain 3)	Dark current	1.5e <sup>-</sup> /p/s @ 25°C
Dynamic range	52 dB @ 8 bit	Max. Frame rate	3462 fps @ 8 bit
	62 dB @ 10 bit		1782 fps @ 10 bit
	68 dB @ 12 bit		852 fps @ 12 bit
Chroma	Color & Mono	Power consumption	2.6 W
I/O voltage	3.3V/1.8V/1.2V	Package	255 pins uPGA

## Ordering Information

### Sensor Part No.

#### GSPRINT4502-AVM-NUT-AUD

Mono, with ulens, sealed glass without ARC, 3462fps @ 8bit 64channels, 1782fps @ 10-bit 44 channels, 852fps @ 12bit 24channels, demo grade

#### GSPRINT4502-AVM-NUT-ARD

Mono, with ulens, taped glass without ARC, 3462fps @ 8bit 64channels, 1782fps @ 10-bit 44 channels, 852fps @ 12bit 24channels, demo grade

### EVK Part No.

E-GSPRINT4502-01-1, USB interface, 3 stacked PCB boards, Sensor directly soldered

## Contact Gpixel HQ

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