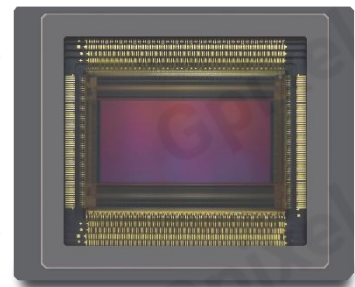


# GSPRINT4510 Product Flyer



## 10MP HIGH SPEED CMOS IMAGE SENSOR

**GSPRINT4510** is a 10 Megapixel (4600 x 2160) 4/3 sized high speed, global shutter image sensor designed with the latest 4.5  $\mu\text{m}$  charge domain global shutter pixel. It achieves more than  $30\text{ke}^-$  FWC, less than  $3\text{e}^-$  rms read noise and 67.8dB dynamic range. 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 > 120  $\text{ke}^-$  and frame rate is quadrupled. **GSPRINT4510** will be offered in different speed variants. The full speed variant consists of 144 pairs sub-LVDS channels running at 1.2Gbps which delivers a stunning 1920 fps in single gain operation at 8 bit per pixel and full resolution and 3800 fps with a ROI of 1024 rows in a dedicated 3D laser profiling mode. These unique features make it an ideal solution for demanding imaging in high-end applications such as high speed 4K video, industrial inspection, motion analysis and life science imaging.



## Key Features

- 4.5 $\mu\text{m}$  Square Pixels
- Ultra-low read noise less than 4  $\text{e}^-$
- Vertical ROIs with speed boosting
- Max. frame rate up to 1920fps @8bit

## Applications

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

## Sensor Specifications

Resolution	4608 x 2176	Optical format	4/3 "
Pixel size	4.5 $\mu$ m x 4.5 $\mu$ m	Photo-sensitive area	20.7mm x 9.79mm
Shutter type	Global shutter	Quantum efficiency	> 67 %
Full well capacity	30 ke <sup>-</sup>	Output interface	144 pairs of sub-LVDS
Dark noise	< 4e <sup>-</sup>	Dark current	11.43e <sup>-</sup> /p/s @ 50°C
Dynamic range	68dB	Frame rate	1920 fps @ 8 bit
Chroma	Color & Mono	Power consumption	811mW
I/O voltage	1.8V	Package	454 pins $\mu$ PGA 42mmx34mm

## Ordering Information

### Sensor Part No.

#### GSPRINT4510-AVM-HUN-AR1

Mono, without ulens, taped glass without ARC, High speed, 1920fps @ 8-bit , Grade 1

#### GSPRINT4510-AVM-HUN-AR2

Mono, without ulens, taped glass without ARC, High speed, 1920fps @ 8-bit , Grade 2

#### GSPRINT4510-AVM-HUT-BU1

Mono, with ulens, sealed glass with ARC, High speed, 1920fps @ 8-bit , Grade 1

#### GSPRINT4510-AVM-HUT-BU2

Mono, with ulens, sealed glass with ARC, High speed, 1920fps @ 8-bit , Grade 2

#### GSPRINT4510-AVM-FUT-BU1

Mono, with ulens, sealed glass with ARC, Full speed, 1920fps@ 8-bit , 1000fps @10-bit, 480fps@12bit, Grade 1

#### GSPRINT4511-AVM-FUT-BU2

Mono, with ulens, sealed glass with ARC, Full speed, 1920fps @ 8-bit , 1000fps @10-bit, 480fps@12bit, Grade 2

#### GSPRINT4510-AVM-NUN-AR1

Mono, without ulens, taped glass without ARC, Normal speed, 999fps @ 8-bit , Grade 1

#### GSPRINT4510-AVM-NUN-AR2

Mono, without ulens, taped glass without ARC, Normal speed, 999fps @ 8-bit , Grade 2

#### GSPRINT4510-AVM-NUT-BU1

Mono, with ulens, sealed glass with ARC, Normal speed, 809fps @10-bit 72channels, 480fps @12bit, Grade 1

#### GSPRINT4510-AVM-NUT-BU2

Mono, with ulens, sealed glass with ARC, Normal speed, 809fps @10-bit 72channels, 480fps @12bit, Grade 2

#### GSPRINT4510-AVC-FUT-BU1

Color, with ulens, sealed glass with ARC, Full speed, 1920fps@ 8-bit , 1000fps @10-bit, 480fps@12bit, Grade 1

#### GSPRINT4510-AVC-FUT-BU2

Color, with ulens, sealed glass with ARC, Full speed, 1920fps@ 8-bit , 1000fps @10-bit, 480fps@12bit, Grade 2

### EVK Part No.

EVA-4510-HT01, USB interface, 3 stacked PCB boards

## Contact Gpixel HQ

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