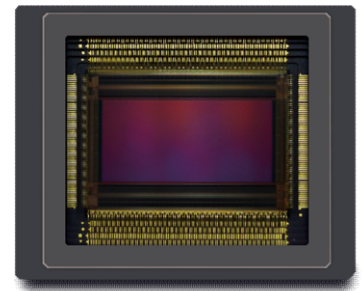


GSPRINT4510 Product Flyer



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 μm charge domain global shutter pixel. It achieves more than 30ke^- FWC, less than 3e^- 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 μm Square Pixels
- Ultra-low read noise less than 4e^-
- 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 μ m x 4.5 μ m | Photo-sensitive area | 20.7mm x 9.79mm |
| Shutter type | Global shutter | Quantum efficiency | > 67 % |
| Full well capacity | 30 ke ⁻ | Output interface | 144 pairs of sub-LVDS |
| Dark noise | < 4e ⁻ | Dark current | 11.43e ⁻ /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 μ 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-NUN-AR1 Mono, without ulens, taped glass without ARC, Normal speed, 999fps @ 8-bit , Grade 1 |
| GSPRINT4510-AVM-HUN-AR2 Mono, without ulens, taped glass without ARC, High speed, 1920fps @ 8-bit , Grade 2 | GSPRINT4510-AVM-NUN-AR2 Mono, without ulens, taped glass without ARC, Normal speed, 999fps @ 8-bit , Grade 2 |
| GSPRINT4510-AVM-HUT-BU1 Mono, with ulens, sealed glass with ARC, High speed, 1920fps @ 8-bit , Grade 1 | GSPRINT4510-AVM-NUT-BU1 Mono, with ulens, sealed glass with ARC, Normal speed, 809fps @10-bit 72channels, 480fps @12bit, Grade 1 |
| GSPRINT4510-AVM-HUT-BU2 Mono, with ulens, sealed glass with ARC, High speed, 1920fps @ 8-bit , Grade 1 | GSPRINT4510-AVM-NUT-BU2 Mono, with ulens, sealed glass with ARC, Normal speed, 809fps @10-bit 72channels, 480fps @12bit, 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 | GSPRINT4510-AVC-FUT-BU1 Color, 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-AVC-FUT-BU2 Color, with ulens, sealed glass with ARC, Full speed, 1920fps@ 8-bit , 1000fps @10-bit, 480fps@12bit, Grade 1 |

EVK Part No.

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

Contact

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