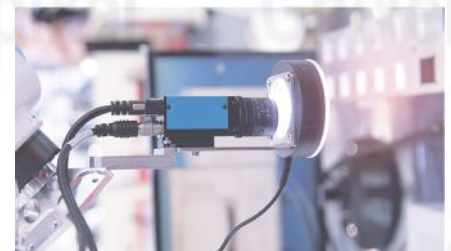


# GSPRINT Series

## HIGH SPEED IMAGE SENSORS

GSPRINT is Gpixel's high-speed global shutter product family, including 21MP, 10MP, and 2MP sensors. GSPRINT sensors are designed with the latest 4.5  $\mu\text{m}$  global shutter pixels achieving more than 30  $\text{ke}^-$  charge capacity and less than 4  $\text{e}^-$  rms read noise. Using an advanced 65 nm CIS process with light pipe technology, the sensor achieves >65% QE and more than 1/40,000 shutter efficiency. [GSPRINT4521](#) achieves 1000 fps at full resolution in 8-bit mode, 500 fps in 10-bit mode, and 250 fps in 12-bit mode. [GSPRINT4510](#) delivers 1920 fps at full resolution in 8-bit mode, 1000 fps in 10-bit mode, and 480 fps in 12-bit mode. [GSPRINT4502](#) achieves 3460 fps at full resolution in 8-bit mode, 1782 fps in 10-bit mode, and 852 fps in 12-bit mode. ROI and on-chip binning modes can be used to further increase the frame rates. Lower frame rates are enabled by multiplexing to a reduced number of output channels (down to 4 channels). [GSPRINT4510](#) and [GSPRINT4521](#) are pin compatible and packaged in a 454-pin uPGA ceramic package.

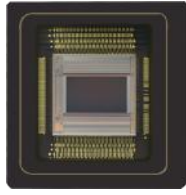


### Product Family Features

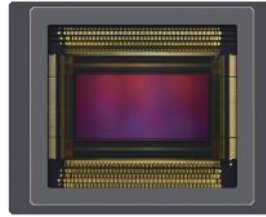
- ✓ High Frame Rate
- ✓ Low noise Global Shutter
- ✓ HDR read out
- ✓ On-chip OB correction
- ✓ Flexible channel multiplexing
- ✓ On-chip 2x2 binning and ROI read out
- ✓ One-Time Programmable memory (OTP)
- ✓ On-chip Sequencer and SPI control

### Applications

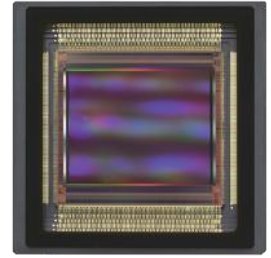
- ✓ 3D laser profiling
- ✓ 3D AOI
- ✓ High Speed Inspections
- ✓ Video broadcasting
- ✓ Scientific Imaging



GSPRINT4502 2.5MP



GSPRINT4510 10MP



GSPRINT4521 21MP

<b>Pixel</b>	4.5 $\mu\text{m}$ GS	4.5 $\mu\text{m}$ GS	4.5 $\mu\text{m}$ GS
<b>Opt. Format</b>	2/3"	4/3"	APS-C
<b>Resolution</b>	2048 x 1216	4608 X 2176	5120 X 4096
<b>Chroma</b>	Mono RGB	Mono RGB	Mono RGB qRGB
<b>FWC<sub>max</sub></b>	30.0 ke <sup>-</sup>	30.0 ke <sup>-</sup>	32.0 ke <sup>-</sup>
<b>Noise<sub>min</sub></b>	3.8 e <sup>-</sup>	4.0 e <sup>-</sup>	3.5 e <sup>-</sup>
<b>DR<sub>max</sub></b>	68.2 dB	67.3 dB	67.8 dB
<b>QE<sub>max</sub></b>	65.7%	67%	63%
<b>Frame Rate @ADC</b>	3462 fps @ 8 bit 1782 fps @ 10 bit 852 fps @ 12 bit	1920 fps @ 8 bit 1000 fps @ 10 bit 480 fps @ 12 bit	1000 fps @ 8 bit 500 fps @ 10 bit 250 fps @ 12 bit
<b>Power</b>	<2500 mW	<5000 mW	<6000 mW
<b>SLVDS lanes</b>	64 @ 1.2G	HS: 144 @ 1.2G NS: 72 @ 1.2G	HS: 160 @ 1.2G NS: 96 @ 1.2G
<b>Package</b>	28x29.4 mm 255p $\mu$ PGA	42x34 mm 454p $\mu$ PGA	42x42 mm 454p $\mu$ PGA
<b>Availability</b>	ES & EVK	ES & EVK	ES & EVK

## Contact

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