Gpixel

GSPRINT4502

2 MP 4.5 μm 2/3" GLOBAL SHUTTER HIGH SPEED 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 μm 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 65 nm 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 1.2 Gbps 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 and Benefits

▶ High Frame Rate

▶ Low Noise Global Shutter

▶ Vertical ROIs with Speed Boosting

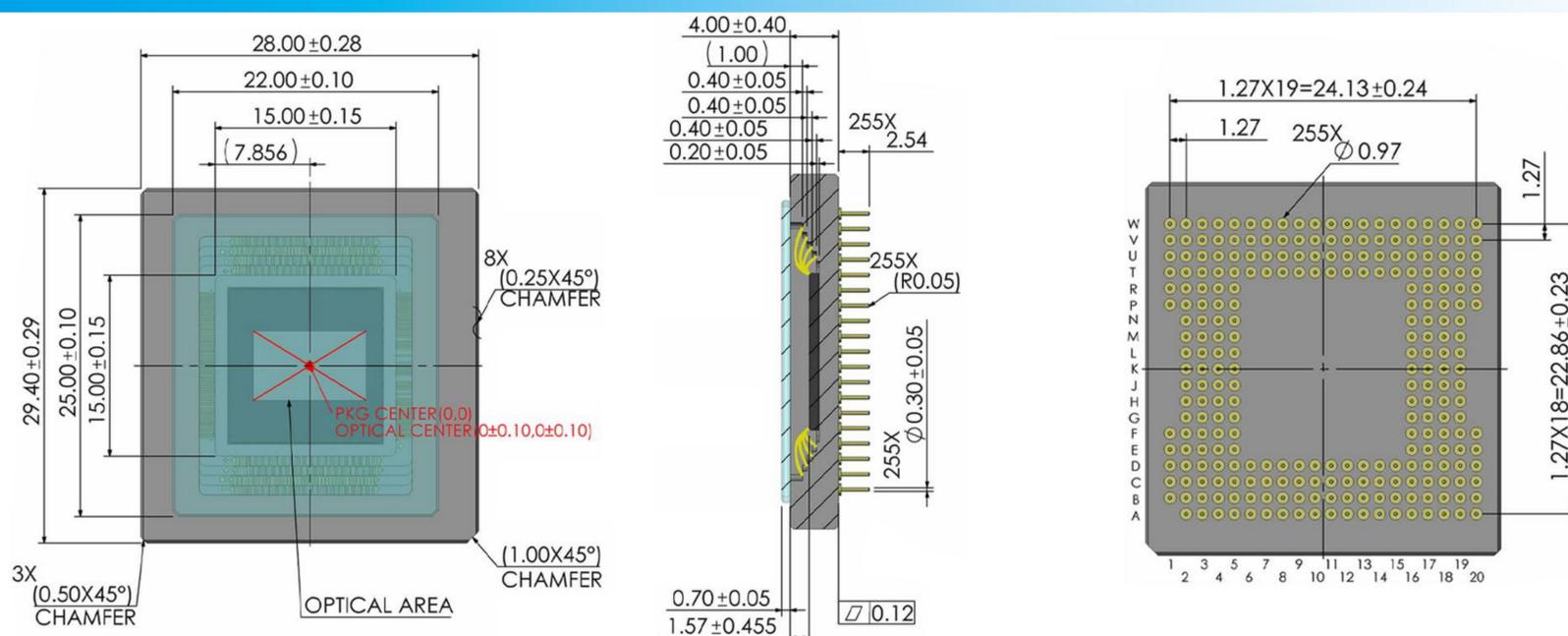▶ Programmable Analog and Digital Gain

▶ External Triggering

Applications

▶ Automation & Inspection

▶ Cinematography

▶ High Speed Imaging

Specifications

Nr of Active Pixels	2048 (H) x 1216 (V)	Optical Format	2/3"
Pixel Size	4.5 μm x 4.5 μm	Photosensitive Area	9.21 mm x 5.47 mm
Shutter Type	Global Shutter	Peak QE	65.7% (515 nm)
Full Well Capacity	> 30 ke$^-$	PLS	-84.6 dB
Temporal Noise	3.8 e$^-$	Angular Response	20° (80% Response)
Dark Current	21 e$^-$/pixel/s (60°C)	Max. SNR	44.8 dB
Dynamic Range	68.2 dB (12 bit)	Max Frame Rate	3462 fps (8 bit) 1782 fps (10 bit) 852 fps (12 bit)
Output Format	64 ch Sub-LVDS	Channel Multiplexing	160/156/152/…/4 (any multiple of 4)
ADC	8/10/12 bit	Max. Data Rate	76.8 Gbps
Chroma	Mono,RGB Color	Power Consumption	2.5 W
Supply Voltage	3.3 V (analog),1.8 V (I/O) 1.2 V (digital)	Package	255 pins μPGA (28.0 mm x 29.4 mm)

Package Drawing

Contact Gpixel

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