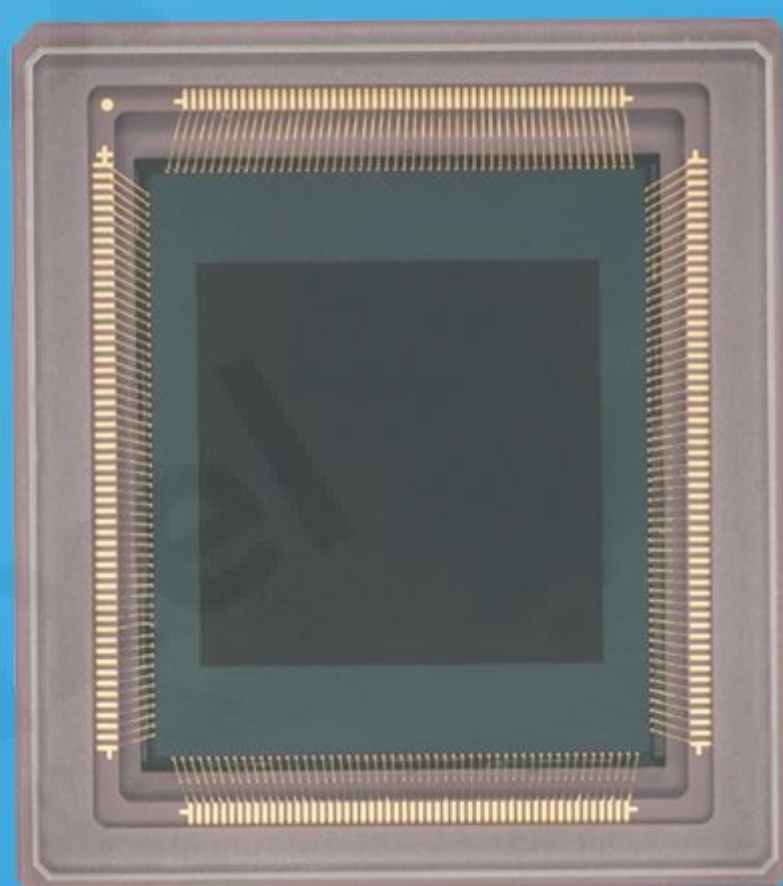
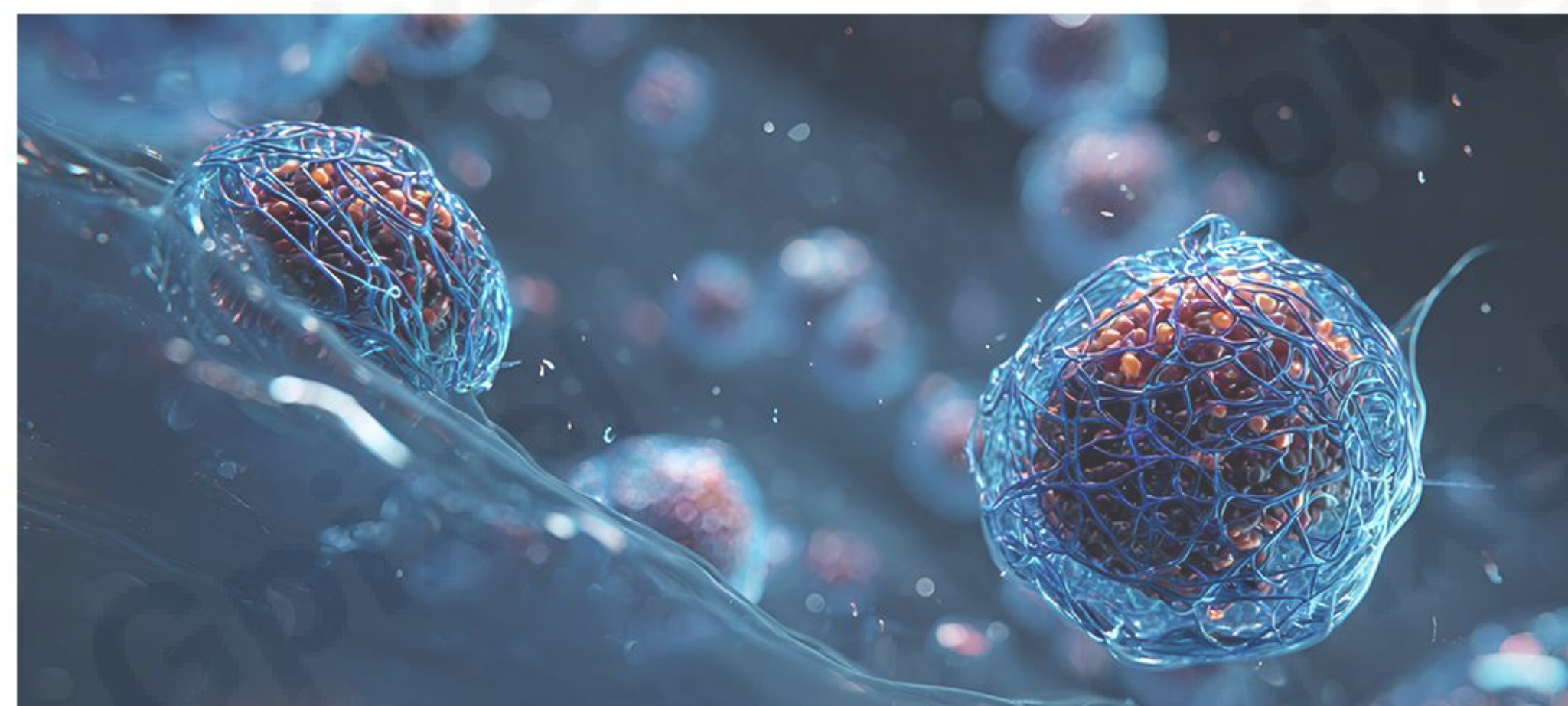
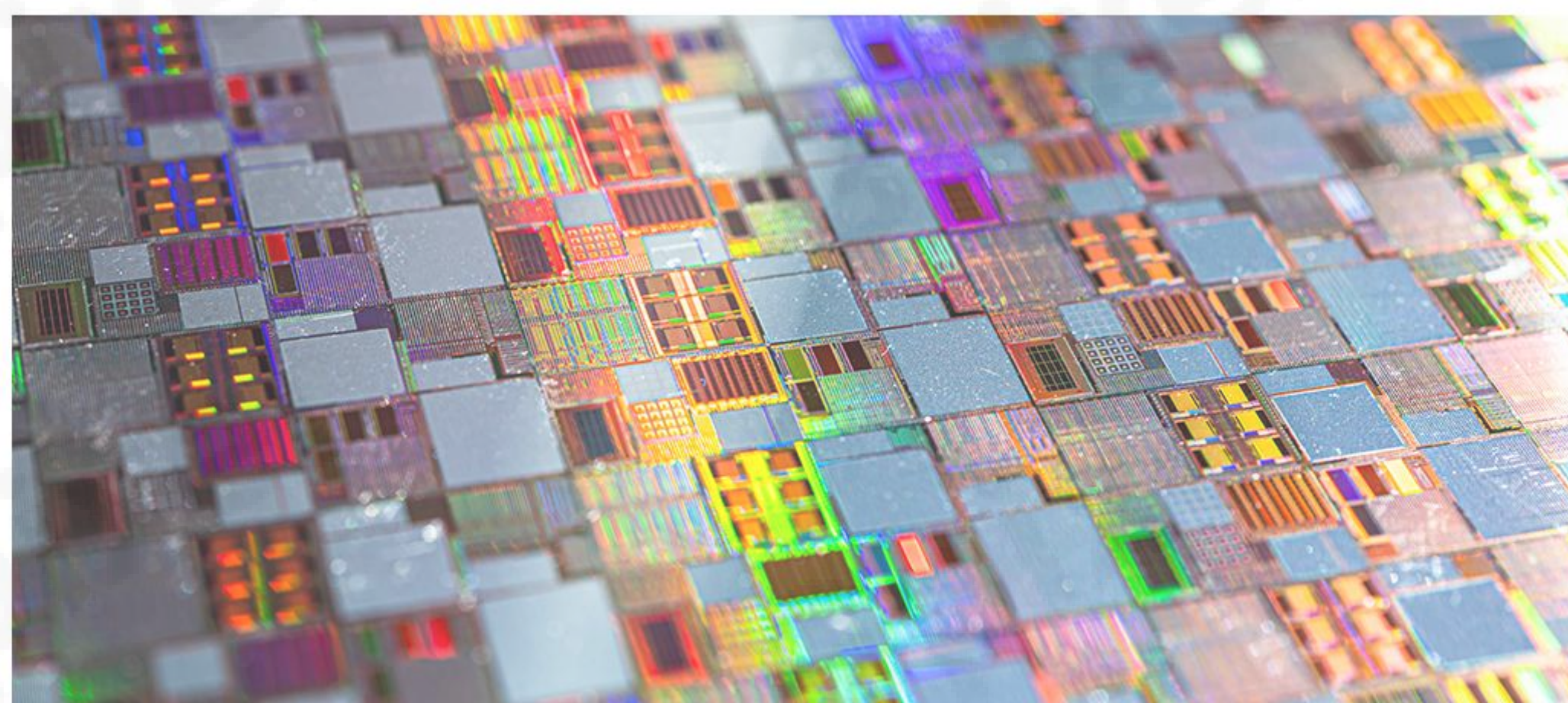




GSENSE6504BSI

4 MP BSI Rolling Shutter sCMOS IMAGE SENSOR

GSENSE6504BSI is a 2048 x 2048 (4.2 MP) resolution backside-illuminated scientific CMOS image sensor with industry-standard 6.5 μm x 6.5 μm rolling shutter pixels, 18.8 mm diagonal, and peak QE of 95%. In low-noise mode, the sensor achieves a read noise floor of 0.43 e^- rms at 100 fps while delivering 91 dB of dynamic range using the on-chip dual-gain output. With a noise histogram peak of 0.28 e^- , the sensor enables single photon detection in the low-noise mode. In high-speed mode, the sensor delivers a read noise of 0.7 e^- at its maximum frame rate of 300 fps. Under -30°C die temperature, sensor dark current is only 0.004 $\text{e}^-/\text{s/p}$. The sensor package is mechanically identical to GSENSE2020BSI for easy integration into existing camera platforms.



Key Features and Benefits

- ▶ Max Frame Rate 300 fps
- ▶ Low Noise 0.43 e^- rms
- ▶ Dual-Gain HDR
- ▶ Square Optical Format
- ▶ QE 95% (450 nm)
- ▶ Average QE >50% (200~300 nm)

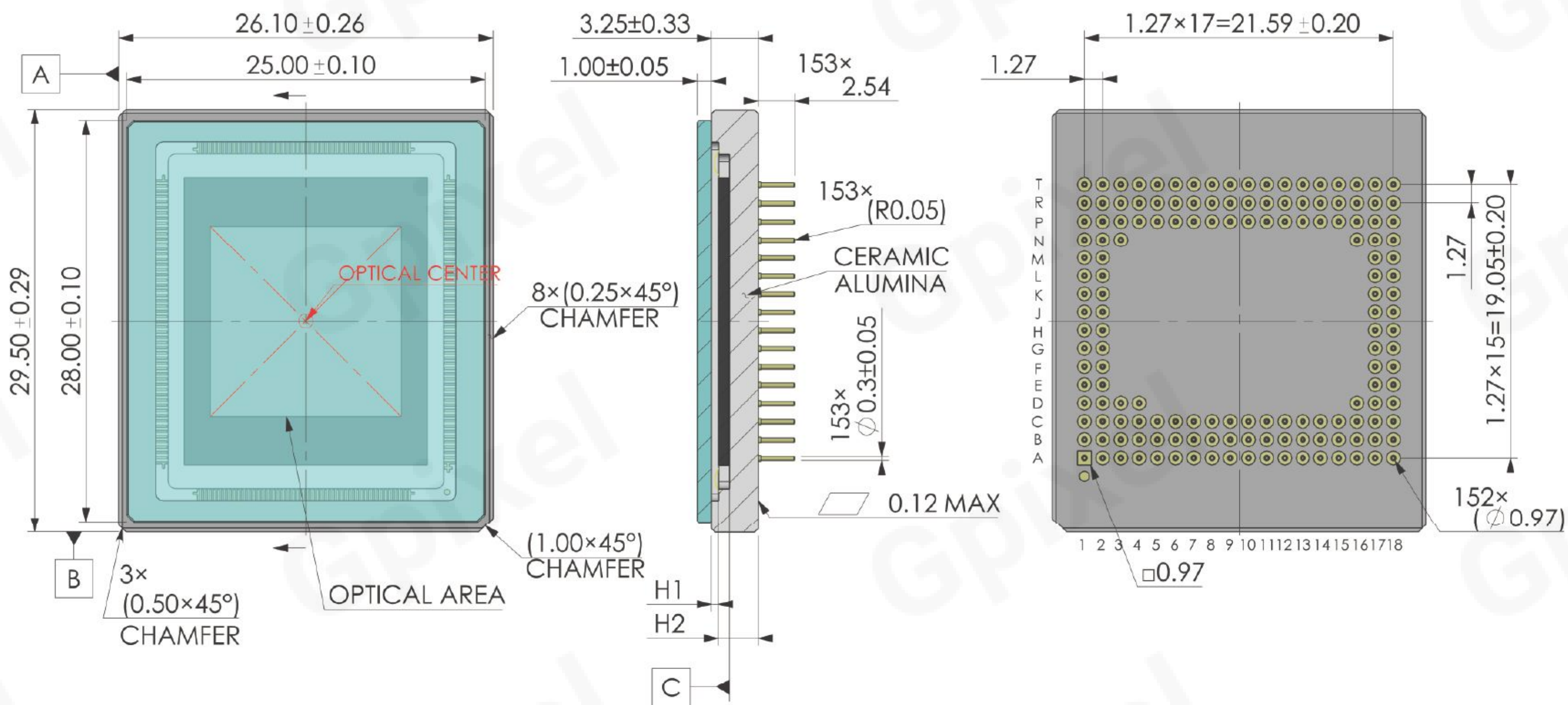
Application

- ▶ Life Sciences
- ▶ Microscopy
- ▶ Microluminescence Imaging

Specifications

Nr of Active Pixels	2048 (H) x 2048 (V)	Optical Format	1.2 " / 18.8 mm
Pixel Size	6.5 μm x 6.5 μm	Photosensitive Area	13.3 mm x 13.3 mm
Shutter Type	Rolling Shutter	Peak QE	95% (450 nm)
Full Well Capacity	15 ke ⁻	Temporal Noise	0.8 e ⁻ (median) 0.85 e ⁻ (rms) (HDR) 0.7 e ⁻ (median) 0.75 e ⁻ (rms) (STD)
Dark Current	0.004 e ⁻ /pixel/s (-30°C)	Dynamic Range	85 dB (median) 84 dB (rms)(HDR)
Max Frame Rate	170 fps (HDR) 300 fps (STD)	Output Format	16 x Sub-LVDS
Max. Data Rate	19.2 Gbps	ADC	12 bit
Chroma	Mono	Power Consumption	1.6 W
Supply Voltage	3.3 V (Analog) 1.5 V (Digital) 1.8 V – 3.3 V (IO)	Package	153 pins μPGA (26.1 mm x 29.5 mm)

Package Drawing



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Disclaimer: The product information and pictures in this flyer are for reference only. For the latest information please visit www.gpixel.com.
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