

# LTN4625

## 12MP image sensor with sCMOS 2.0 technology

A lightning-fast sCMOS image sensor in an APS-C optical format, supporting 240 frames per second at 12MP resolution

The sensor's low noise, less than 1.5 e-, and high-speed of 240 frames per second make it ideal for scientific applications. It's high resolution and dynamic range of 88 dB make it also well suited for security and machine vision applications. The device features an array of 5T pixels on a 5.5µm pitch with an active imaging area of 4608 (H) x 2592 (V) pixels.

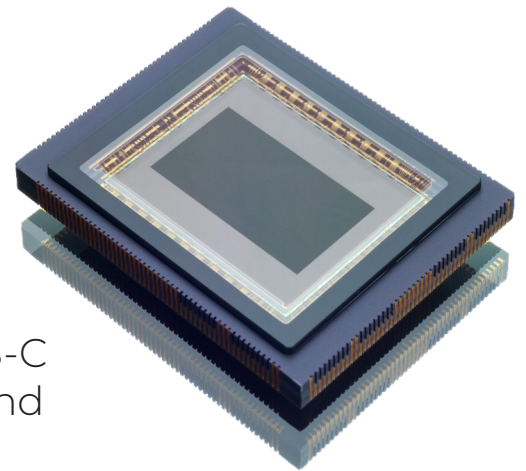
The LTN4625 sensor can operate in rolling shutter, global shutter, and global reset mode. Under controlled lighting conditions where global reset is appropriate, it performs like global shutter while delivering performance benefits of rolling shutter. In this mode, the sensor will deliver <1.5e- read noise and >40,000e- full-well capacity at 240 fps.

### Key features and benefits

- Rolling Shutter (RS), Global Reset (GR), and Global Shutter (GS) creates additional operational modes for more application flexibility
- APS-C optical format is compatible with standard lenses
- >88dB single frame dynamic range (RS/GR), >77dB (GS) shows more detail in high-contrast scenarios
- 1.5e-extreme low-noise creates reduced noise in dark scenes
- Superior low-light performance allows for reduced illumination requirements
- 240 fps at 12MP, 600 fps at full HD (RS/GR) enables high-speed, high-resolution captures
- 120 fps at 12MP (GS) enables high-speed, high-resolution captures

### Applications

- Professional video
- Scientific
- Machine vision
- High-end security
- Space Domain



# Ideal for capturing scenes in extreme lighting conditions

## Specifications

### Sensor

Optical format	APS-C
Configurations	Monochrome and Bayer RGB
Active array	4608 (H) X 2592 (V)
Active area	25.3 mm X 14.3 mm
Active diagonal	29.06 mm
Frame rates	240 fps at 12MP (RS/GR) 120 fps at 12MP (GS)
ADC resolution	22 bits (2 x 11-bit)

### Pixel

Pixel size	5.5µm x 5.5 µm
Shutter types	Rolling Shutter (RS), Global Reset (GR), Global Shutter (GS)
Read noise	<1.5 e- RMS at 240 fps (RS/GR) <5 e- RMS at 120 fps (GS)
Dynamic range	>88 dB Single Frame (RS/GR) >77 dB Single Frame (GS)
Peak QE	>60%
Full Well Capacity	>40,000 e- (RS/GR)
Dark Current	<15 e-/ pixel/ sec at 20°C (RS/GR)

### Interface

I/O Interface	Digital: 32 SERDES (3.125GHz per lane)
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### Operating

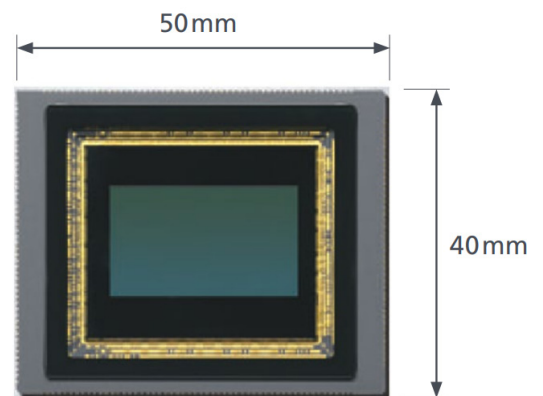
Power consumption	~6.4W at 240 fps ~5.0W at 60 fps (full resolution)
Supply voltages	-0.4, 1.2V, 1.8V, 3.0V, 3.3V
Operating temp	-40°C to +55°C (at junction)

### Packaging

Package	194 Pin CLCC
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[QE curve here](#)

### Dimensions



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