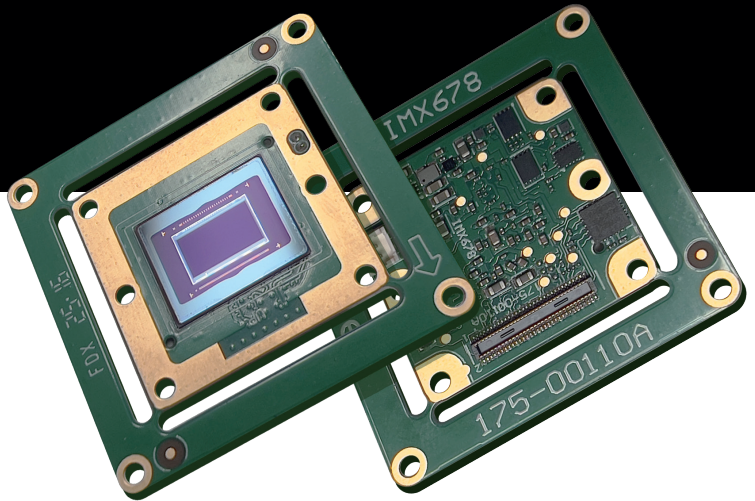


# Oclea™ IMX678 Sensor Module

The Oclea™ IMX678 sensor module is engineered to meet the demands of 4K imaging systems requiring exceptional image quality and sensitivity.

With 8.29 megapixels and a 1/1.8" format, it provides detailed, color-accurate imagery for industrial vision, robotics, and advanced surveillance solutions. This sensor leverages Sony's latest BSI technology for low-light performance and high dynamic range capabilities.



## KEY FEATURES

### 8.29 MP resolution, 1/1.8" optical format

Offers superior light sensitivity and reduced noise over standard 1/2.8" sensors, allowing for sharper images in both controlled and low-light settings. Supports digital cropping and binning for flexible resolution and field-of-view adjustments..

### 4K UHD video support

Streams real-time 3840 x 2160 video up to 70fps (10 bit) or 60fps (12 bit), ideal for industrial and robotic use cases.

### Back-illuminated structure for improved SNR

Boosts light capture in each pixel for better clarity in low-contrast or wide dynamic range scenes.

### Low noise architecture for fine detail preservation

Enables clear rendering of edges, shapes, and patterns critical for automated vision workflows.

### HDR mode for consistent exposure under complex lighting

Maintains detail across shadows and highlights in uneven lighting environments.

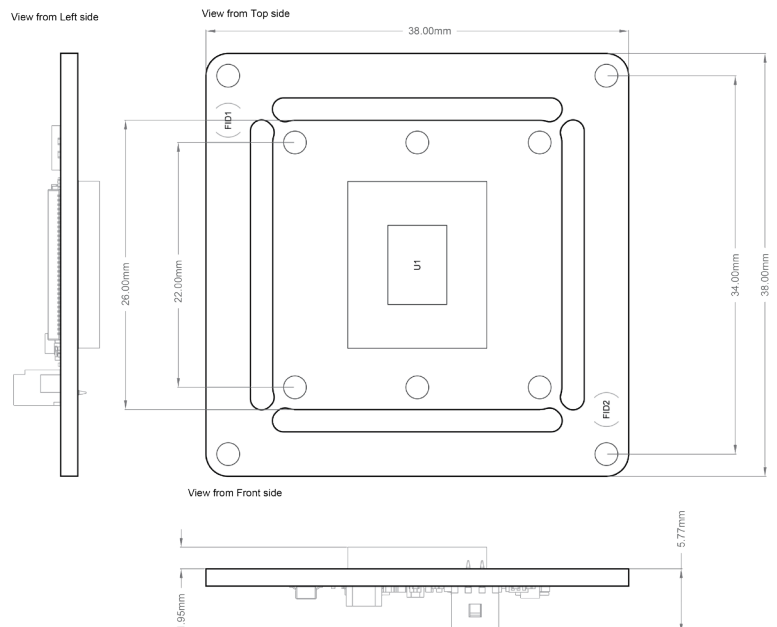
### Robust design for integration into embedded systems

Optimised PCB layout and mechanical form factor ensure seamless integration into embedded architectures with minimal thermal or space constraints.

### The Oclea™ IMX678 sensor module

**Size** 38 x 38 x 6.54 mm • **Weight** 6g \*

\* Can be depanned down to **Size** 25 x 25 x 6.54 mm • **Weight** 4g



## MODULE SPECIFICS

### Resolution: 3840 x 2160 (8.29 MP)

- Larger 1/1.8" optical format enables greater light capture compared to standard 1/2.8" sensors
- Supports pixel binning and digital cropping for adaptive resolution and field-of-view control
- Ideal for machine vision systems requiring precision detail with fast frame response
- Enhanced image uniformity and colour accuracy over wide lighting conditions
- Suitable for multi-camera synchronization use cases in 3D or stereo vision

### Optical Format: 1/1.8"

### Pixel Size: 2.0 µm x 2.0 µm

### Frame Rate: Up to 60 fps

### Interface: MIPI CSI-2 (4 lanes)

## INPUT/OUTPUT INTERFACES

### MIPI CSI-2 data interface

- Simple plug-and-play integration with standard MIPI hosts
- Auxiliary I/O for external triggering and synchronisation
- GPIO, PWM, and UART support for advanced integration
- GPIO and I2C support for sensor control and peripheral interface

### I2C control interface

### Flexible power input options

## POWER CONSUMPTION

### Typical power consumption: < 0.5W (module dependent)

- Power-efficient design suitable for continuous-use 4K systems

## COMPANION LENS OPTIONS

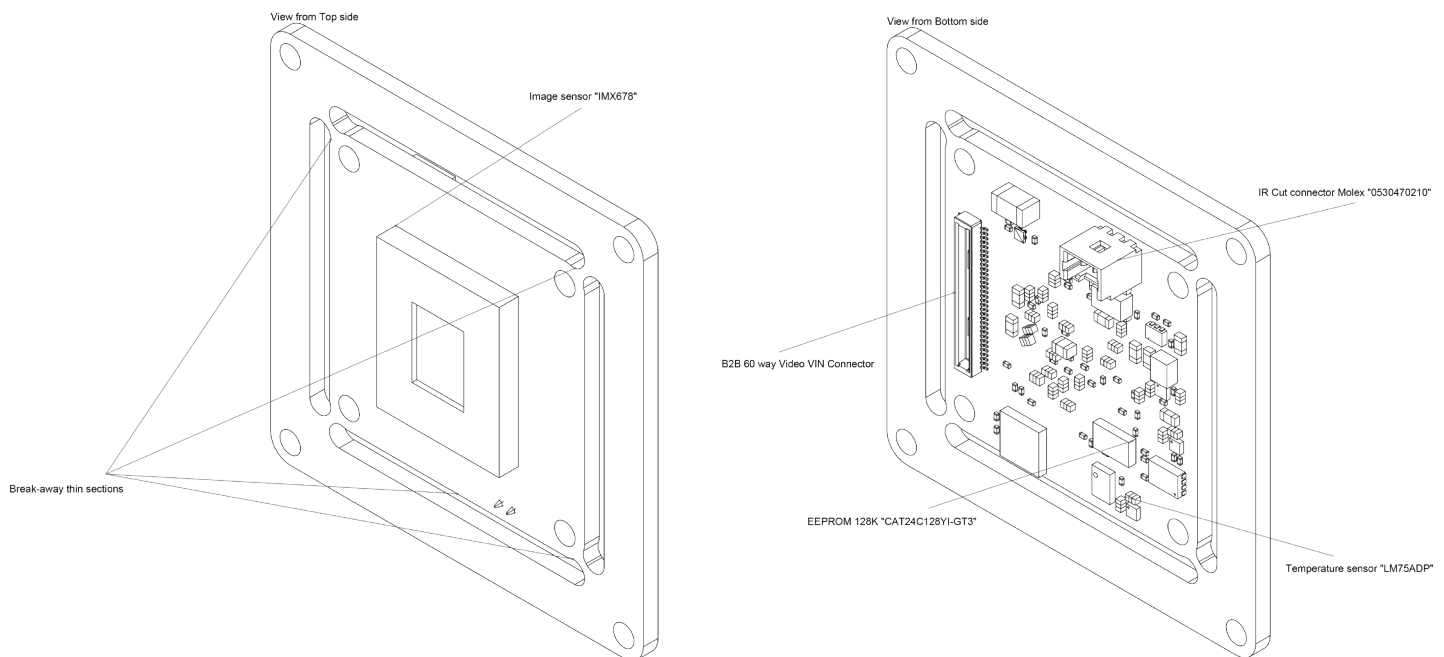
### 4.0mm M12 lens, F2.0, optimized for 4K resolution

- Designed for precision-focused capture in controlled environments

### 6.0mm M12 telephoto lens, F1.8, narrow field-of-view

### IR-corrected lenses available for NIR applications

## The Oclea™ IMX678 sensor module



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