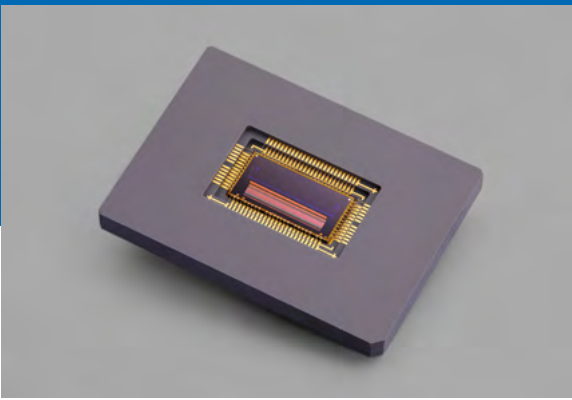


# QuadLine ultra high-speed optical sensor



TECHNOLOGY  
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**BOBST**

Novel smart and high-speed CMOS optical imager for analyzing and optimizing fast motion processes in various industrial fields. Based on an optical line sensor capable of acquiring simultaneously and in a single shot white, red, green and blue (WRGB) lines at an ultra-high rate of 200'000 frames/sec.

## Applications

- High-speed motion processes control (extruded profile, postal control, code reader, etc.)
- High performance colour sorting systems.
- Surface inspection of various material / pieces (metal, paper, film, etc.)
- General purpose high-speed machine vision process control, etc.

## Pixel array & readout path

- 4 rows (WRGB) \* 320 col array, 24um 5T pixels with programmable full-well.
- Separate high (50 ke- full well) & low sensitivity (200 ke- full well) lines of pixel for high measuring dynamic.
- Low reading noise and large SNR to reveal low contrasted images on white and dark substrates.
- Two pixels resolution within same sensor : 8 & 24µm to allow compromise between resolution and measurement sensitivity up to 200'000 fps.
- Shutter from 0.5µsec to 13msec (in 0.2µsec steps)
- On-chip column parallel prog.-gain CDS & 10-bit ADC

## Programmability

- On-chip frame sequencer (with external trigger)
- Individual programmable exposure time per line

## Interfaces

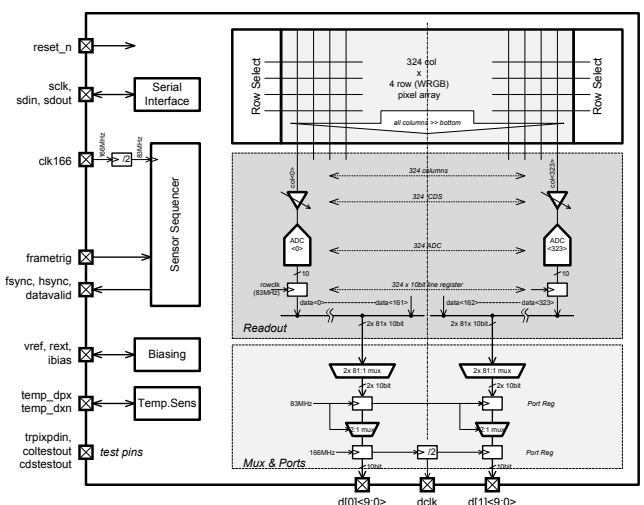
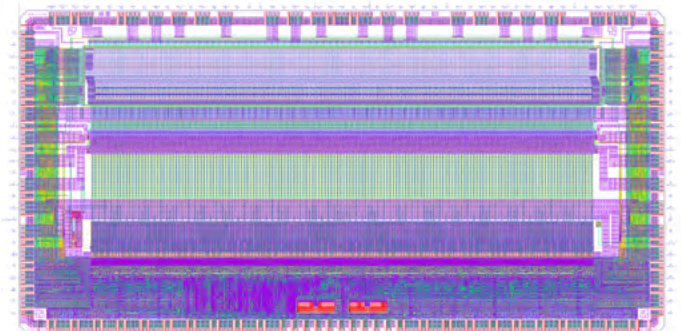
- 2 data ports, 10-bit width @ 82 MHz (DDR)
- Serial interface (command registers, etc.)

## Supplies

- 3.3V (pixel field) and 1.8V (analog & digital)

## Sensor size

- Custom 162-pin CLGA packaged
- Housing dimensions (L x W x H)  
27.90 x 20.3 x 3.5 mm



Ultra high-speed optical sensor is covered by patents issued or pending. Information in this document is subject to change without notice.