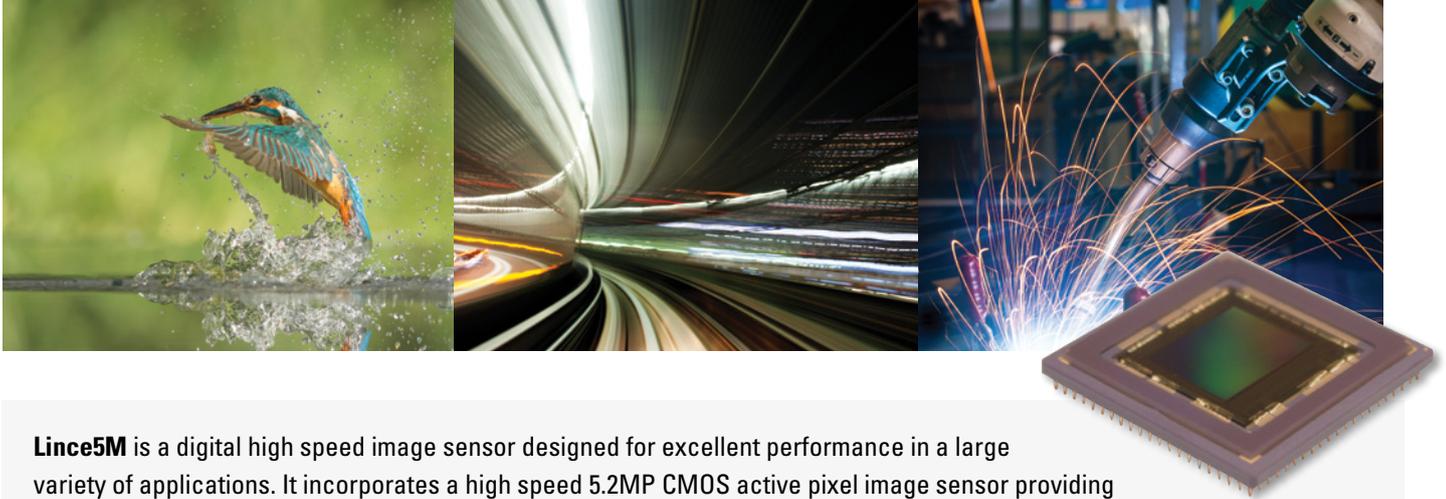


## LINCE5M: CRYSTAL CLEAR IMAGES AT HIGH SPEED



**Lince5M** is a digital high speed image sensor designed for excellent performance in a large variety of applications. It incorporates a high speed 5.2MP CMOS active pixel image sensor providing electronic global shutter and High Dynamic Range (HDR) features. The sensor array utilizes active CMOS pixels with pinned photodiodes to deliver high image quality whilst maintaining the size, cost, and integration advantage of the CMOS process. Lince5M is available in monochrome, RGB Bayer and NIR-enhanced versions.

The complete camera reference design, including fully documented PCB schematics, PCB layout, FPGA firmware and communication, and embedded control software is available for customers willing to develop new cameras using the Lince5M image sensor.

### KEY BENEFITS

- High speed 5.2MP, 250 fps, CMOS active pixel image sensor
- Up to 3,300 fps @ VGA (ultra high speed mode)
- Global shutter with programmable exposition time and linear and HDR sensing
- Configurable pixel for linear light or HDR response
- 58 dB dynamic range (DR)
- 42 dB SNR max
- More than 100 dB dynamic range for HDR
- 2 x 2 and 4 x 4 CMOS pixel binning for increased SNR & DR
- Pixel binning, windowing, and sub-sampling
- FPN & defective pixel correction (vertical & horizontal)
- Per pixel selectable analog gain (in color version)
- Per color fine digital gain & offset
- Programmable per color look-up tables (LUT)
- 2W maximum power consumption

### TYPICAL APPLICATIONS

- High-speed, high resolution machine vision
- Intelligent Transportation Systems (ITS)
- Generic inspection
- High speed video broadcasting
- Low noise high dynamic range
- Biometric & medical imaging



## Sensor Characteristics

	<b>LINCE 5M</b>
<b>Optical format – inch</b>	1
<b>Active imager size – mm</b>	12.8 x 10.24
<b>Active pixel</b>	2,560 x 2,048
<b>Pixel size – μm</b>	5 x 5
<b>Pixel type</b>	5T active pixel pitch with pinned photodiode
<b>Shutter type</b>	Electronic global shutter with programmable exposition time
<b>Frame rate – fps</b>	Up to 250 @ full resolution
<b>Sensing modes</b>	Linear and HDR
<b>Dynamic range – dB</b>	58
<b>SNRmax – dB</b>	42
<b>PRNU – %</b>	0.5
<b>DSNU</b>	50 e-/sec, 10DN 12-bit/sec
<b>Fill factor &amp; QE – %</b>	63
<b>Sensitivity</b>	13,400 DN 12-bit/(lux sec)

### MISCELLANEOUS

<b>Power supply – V</b>	Dual 3.3/1.8
<b>LVDS</b>	Selectable active LVDS ports for a given frame rate
<b>Maximum power consumption – W</b>	2
<b>Operating junction temperature – °C</b>	-40 to +125
<b>Packages</b>	181 pin micro PGA ceramic, Low cost 84 pin CLCC