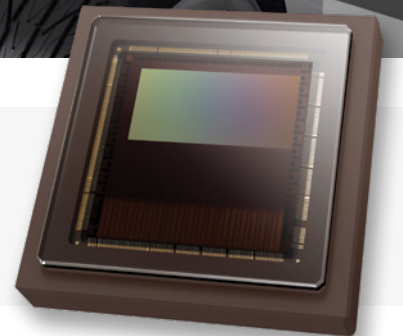


## FLASH 2K A UNIQUE SENSOR ENABLING A CAMERA PORTFOLIO FOR ALL SCHEIMPFLUG ANGLES



The Flash family of CMOS image sensors are specifically tailored and proven for 3D laser triangulation applications. They deliver high resolution and high speed and are easy to integrate. The same CMOS sensor can be used for all the camera versions in your portfolio, which helps to minimize camera redesigns and simplifies the supply chain.



### SENSOR BENEFITS & FEATURES

**Specifically designed for 3D laser triangulation**  
with high speed and high horizontal resolution

**High quality single-tap image sensor**  
with proven pixel/electro-optical performance

**Perfectly meet your application challenges** with its  
powerful single-frame HDR feature embedded on-chip

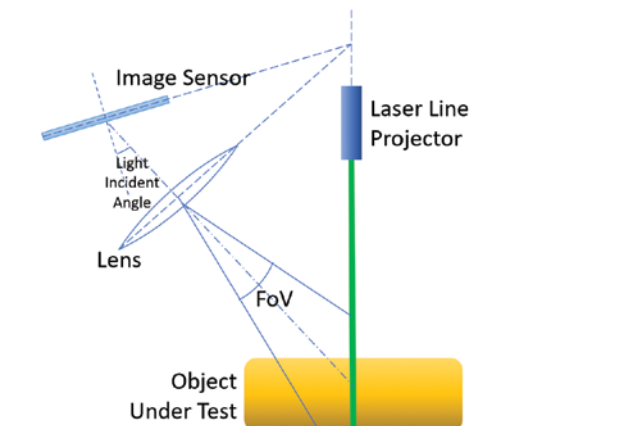
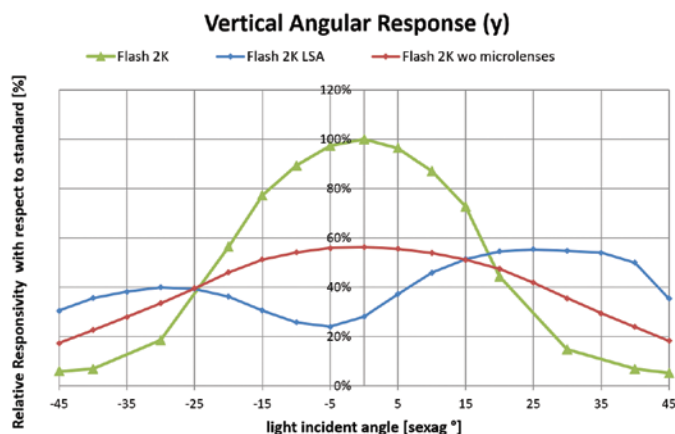
**Optimized for affordable systems and easy to integrate,**  
with low-costs FPGAs and standard optics

### CAN BE TAILORED TO MEET YOUR SPECIFIC REQUIREMENTS

**To differentiate even more**  
a large library of hardware and  
software derivatives are available

**To perfectly fit your application,**  
full or partial customization is possible

**To help you design your system,**  
skilled local support is available  
in your region



## Sensor Characteristics

	FLASH 2K
Resolution – pixels	2,048 (H) × 1,080 (V)
Pixel size – square	6 µm
Max frame rate – fps	1,489 (1,024 rows, 8 bits)
Bit depth	8-10
Dark noise – e-	25
Qsat – e-	> 11,000
Dynamic range – dB	>53 (Linear integration) - Up to 100 (HDR multi-slope mode)
SNRmax – dB	40
FFxQE – % @550 nm	53
Interface	32 LVDS Data Ports @ 400 MHz + 4*
Package type and size	228-pin µPGA – 27 × 27 mm
Power supplies	3.3V Analog & 1.8V Digital
Optics	C-Mount
Max power consumption – W	1.4

\*64/32 LVDS high-speed ports for data + 12/4 LVDS for black columns, clock recovery and synchronization.

### EMBEDDED FEATURES

- Region of Interest [X,Y]: multiple ROIs defined separately by columns and by rows
- Binning: ×2 independently controlled for rows and columns
- Single-capture with the well adjustment technique and High Dynamic Range (HDR) for imaging both highly reflective and dark areas
- Concurrent exposure and readout in linear integration mode
- Analog gain control: 1×, 2×, 4×
- Offset control: on-chip, software configurable
- Trigger modes: single edge, pulse width control
- Vertical flipping

### WIDE LIBRARY OF DERIVATIVES AVAILABLE

- Soft: higher full-well capacity, additional operating modes trading-off speed, spatial resolution and power consumption, etc.
- Hard: custom color-filter array, micro-lens arrangement, etc.

To achieve even more differentiation and optimal fit for your application, more derivatives are available on request. Please contact our sales team!

An Evaluation Kit to assess the performance of the Flash sensors and a Reference Design to improve your time-to-market are also available.

### MAX FRAME RATE ACCORDING TO THE NUMBER OF ROWS

NUMBER OF ROWS	1,024	512	256	128	64	32	16	8
FLASH 2K – FPS	1,489	2,910	5,562	10,219	17,577	27,464	38,211	47,505

### ORDER CODE – FLASH 2K

- EV3S2M0B-CLVFL20-T: Standard micro-lenses  
 EV3S2M0B-CLVFL2G-T: Standard micro-lenses, with removable glass lid  
 EV3S2M0B-CLVFL2X-T: Without micro-lenses, with removable glass lid  
 EV3S2M0B-CLVFL2S-T: For Large Scheimpflug Angles, with removable glass lid