

# LUX2810

The LUXIMA™ LUX2810 image sensor is a 2.8 Megapixel 1000 FPS Global Shutter CMOS Digital Sensor for applications in the 3D scanning, intraoral scanning, dental, motion analysis, laser triangulation, line profiling, and wafer inspection markets. It allows ease of integration and lower system noise with on-chip 12 bit ADC and 32 parallel LVDS outputs. The sensor supports 8 simultaneous Region-Of-Interest readouts with flexible window positions. The user can obtain faster frame rates through X, Y windowing. Color and monochrome options are offered in a 238-Pin uPGA package with a footprint of 23 mm × 21.5 mm.



Optical format	1"
Active resolution	2048 × 1400 pixels
Pixel	6.6 um pitch PPD global shutter pixel
Full well (linear)	13,700 e- typical @ Analog Gain 1.7 5,500 e- typical @ Analog Gain 4
Read noise	26 e- typical @ Analog Gain of 1.7 23 e- typical @ Analog Gain of 4
Responsivity	11.0 V/Lux-s @ 525 nm typical without Color filter 7.56 V/Lux-s @ 525 nm typical with Color filter
Conversion gain	68 uV/e- typical
Dynamic range	54.3 dB typical @ Analog Gain of 1.7 47.86 dB typical @ Analog Gain of 4
High dynamic range mode	Dual-slope and Triple-slope response supported
Frame rate	1,000 FPS @ 2048 × 1400 1,400 FPS @ 1920 × 1080 2,000 FPS @ 1280 × 1024 4,000 FPS @ 640 × 512 Faster frame rates with smaller X, Y window size
Region of interest	Windowing and up to 8 simultaneous ROI's are supported
Binning	2 × 2 analog binning
Analog to digital converter	8b/10b/12b
Analog gain options	1x – 8x
Clock rate	95 MHz (max)
Data output	32 Channels, Multiplexer Mode (16, 8 or 4 LVDS Channels) 1140Mbps per channel @ 95MHz @ 12-bit mode 950Mbps per channel @ 95MHz @ 10-bit mode 760Mbps per channel @ 95MHz @ 8-bit mode
Power supply	3.3V Analog, 1.8V Analog, 1.8V Digital
Power consumption	1.676W @ 1,000 FPS, Full Resolution Lower power with Multiplexer Mode
Package type	238-Pin uPGA in a footprint of 23 mm × 21.5 mm
Color filter	Color or Monochrome