Product Overview

LUPA300: CMOS Image Sensor, High Speed, 0.3 MP (VGA)

For complete documentation, see the data sheet.

This VGA-resolution CMOS active pixel sensor features global shutter and a maximal frame rate of 250 fps in full resolution, where integration during readout is possible. The readout speed can be boosted by means of subsampling and windowed Region Of Interest (ROI) readout. High dynamic range scenes can be captured using the double and multiple slope functionality. User programmable row and column start/stop positions allow windowing. Subsampling reduces resolution while maintaining the constant field of view and an increased frame rate.

The programmable gain and offset amplifier maps the signal swing to the ADC input range. A 10-bit ADC converts the analog data to a 10-bit digital word stream. The sensor uses a 3-wire Serial-Parallel (SPI) interface. It operates with a 3.3 V and 2.5 V power supply and requires only one master clock for operation up to 80 MHz pixel rate. The sensor is available in a monochrome version or Bayer (RGB) patterned color filter array.

Features

- Double and multiple slope functionality
- User programmable row and column start/stop positions
- Subsampling
- Global shutter and a maximal frame rate of 250 fps in full resolution
- Programmable gain and offset amplifier
- 10-bit ADC
- 3-wire serial-parallel (SPI) interface
- Available in a monochrome version or Bayer (RGB) patterned color filter array

Benefits

- High dynamic range scenes can be captured
- Allows windowing
- Reduces resolution while maintaining constant field of view and increased frame rate

Applications

- Machine vision
- Motion tracking

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Package Type
NOIL1SM0300A-QDC		Pb-free Halide free non AEC-Q and PPAP	Active	CMOS	0.3	250	1/2 inch	Pipelined and Triggered Global	9.9 x 9.9	-	Mono	LCC-48

For more information please contact your local sales support at www.onsemi.com.

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