



Product Overview

VITA5000: CMOS Image Sensor, Global Shutter, 5.3 Megapixel

For complete documentation, see the data sheet

Product Description

The VITA 5000 is a 1 inch Quad Super eXtended Graphics Array CMOS image sensor with a pixel array of 2592 by 2048.

The high sensitivity 4.8 μm x 4.8 μm pixels support pipelined and triggered global shutter readout modes and can also be operated in a low noise rolling shutter mode. In rolling shutter mode, the sensor supports correlated double sampling readout, reducing noise and increasing the dynamic range.

The sensor has on chip programmable gain amplifiers and 10 bit analog and digital converters. The integration time and gain parameters can be reconfigured without any visible image artifact. Optionally the on-chip automatic exposure control loop (AEC) controls these parameters dynamically. The image's black level is either calibrated automatically or can be adjusted by adding a user programmable offset.

A high level of programmability using a four wire serial peripheral interface enables the user to read out specific regions of interest. Up to 8 regions can be programmed, achieving even higher frame rates.

The image data interface consists of eight LVDS lanes, facilitating frame rates up to 75 frames per second. Each channel runs at 620 Mbps. A separate synchronization channel containing payload information is provided to facilitate the image reconstruction at the receiver end.

The VITA 5000 is packaged in a 68-pin LCC package and is available in a monochrome and color version. Contact your local ON Semiconductor office for more information.

Features

- True family concept
- Multiple shutter modes
- High configurability
- Fast adaptability
- Multiple windowing
- High dynamic range

Benefits

- Ease of adaption over multiple resolutions
- Global and rolling, in master or slave mode
- Easily tailored to application requirement
- Fast change between operating modes
- Speed increase from windowing in x and y direction
- Capturing high dynamic scenes with no loss to image quality

Applications

- Machine Vision
- Motion Monitoring
- Security

End Products

- Security Systems
- Intelligent traffic systems
- Medical imaging equipment

Part Electrical Specifications

Product	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (μm)	Color	Package Type
NOIV1SE5000A-QDC	Pb-free	Active	CMOS	5	75	1 inch	Pipelined Global, Rolling with CDS	4.8 x 4.8	Color	LCC-68
	Halide free									
NOIV1SN5000A-QDC	Pb-free	Active	CMOS	5	75	1 inch	Pipelined Global, Rolling with CDS	4.8 x 4.8	Mono	LCC-68
	Halide free									

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

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