



## VITA5000: CMOS Image Sensor, Global Shutter, 5.3 Megapixel

Overview Specifications Packages

**Datasheet: VITA 5000 5.3 Megapixel 75 FPS Global Shutter CMOS Image Sensor**  
Rev. 7 (754kB)

**Product Overview**

»View Material Composition  
»No Product Change Notifications exist

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

### Applications

- Machine Vision
- Motion Monitoring
- Security

### 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

### End Products

- Security Systems
- Intelligent traffic systems
- Medical imaging equipment

### Technical Documentation & Design Resources

[Application Notes \(4\)](#)

[Reference Manuals \(1\)](#)

[Data Sheets \(1\)](#)

[Package Drawings \(1\)](#)

[Videos \(1\)](#)

### Availability and Samples

Product	Status	Compliance	Description	Package		MSL*	Container		Budgetary Price/Unit
				Type	Case Outline		Type	Qty.	
NOIV1SE5000A-QDC	Active	Pb-free Halide free	CMOS Image Sensor, Global Shutter, 5.3 Megapixel, LVDS Output, Bayer Color, Microlens, LCC package, sealed glass (D263)	LCC-68	115AR	3	Tray JEDEC	40	<a href="#">Contact Sales Office</a> » <a href="#">Inventory</a>
NOIV1SN5000A-QDC	Active	Pb-free Halide free	CMOS Image Sensor, Global Shutter, 5.3 Megapixel, LVDS Output, Monochrome, Microlens, LCC package, sealed glass (D263)	LCC-68	115AR	3	Tray JEDEC	40	<a href="#">Contact Sales Office</a> » <a href="#">Inventory</a>

Moisture Sensitivity level (MSL) for surface mount devices (lead free measured at 260°C reflow, non lead free at 235°C reflow)

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**KAE-02152 : Interline Transfer EMCCD Image Sensor**

- One camera from Sunlight to Starlight
- 1080p 30 fps image capture
- Enhanced NIR sensitivity

**KAF-09001 : Full Frame CCD Image Sensor, 9.1 MP**

- High sensitivity pixels with low readout noise
- 10 fps video with 3 x 3 binning
- 84 dB linear dynamic range

### Design Support

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