

Product Overview

VITA25K: CMOS Image Sensor, Global Shutter, 25 Megapixel

For complete documentation, see the data sheet

Product Description

The VITA 25K is a 5120 x 5120 CMOS image sensor delivering high resolution images at frame rates up to 53 frames per second. The high sensitivity 4.5 μm x 4.5 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 A/D converters. 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 32 regions can be programmed, achieving even higher frame rates.

The image data interface consists of 32 LVDS lanes. Each channel runs at 620 Mbps. A separate synchronization channel containing payload information is provided to facilitate the image reconstruction at the receive end.

The VITA 25K is packaged in a ceramic 355 pin PGA package and is available in a monochrome and color version.

Features	Benefits
<ul style="list-style-type: none"> • True family concept • Multiple shutter modes • High configurability • Fast adaptability • Multiple windowing • High dynamic range 	<ul style="list-style-type: none"> • 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	End Products
<ul style="list-style-type: none"> • High-end Machine Vision Systems • Motion monitoring 	<ul style="list-style-type: none"> • Intelligent traffic systems

Part Electrical Specifications

Product	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (μm)	Color	Package Type
NOIV1SE025KA-GDC	Pb-free Halide free	Active	CMOS	26	53	35 mm	Pipelined Global, Rolling with CDS	4.5 x 4.5	Color	CPGA-355
NOIV1SN025KA-GDC	Pb-free Halide free	Active	CMOS	26	53	35 mm	Pipelined Global, Rolling with CDS	4.5 x 4.5	Mono	CPGA-355

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

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