



Product Overview

VITA12k: CMOS Image Sensor, Global Shutter, 12 Megapixel

For complete documentation, see the data sheet

Product Description

The VITA 12K is a 4096 x 3072 CMOS image sensor delivering high resolution images at frame rates up to 160 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 680 Mbps. A separate synchronization channel containing payload information is provided to facilitate the image reconstruction at the receive end.

The VITA 12K is packaged in a ceramic 355 pin PGA package and is available in a monochrome and color version. VITA 12k is pin compatible with VITA 16k and VITA 25k.

Features

- True family concept
- Multiple shutter modes
- High configurability
- Fast adaptability
- Multiple windowing
- Higher frame rates

Benefits

- Ease of adaption over multiple resolutions; Pin compatible to VITA16k and VITA25k
- Global and rolling, in master and slave mode
- Easily tailored to application requirements
- Easily tailored to application requirement
- Speed increase from windowing in x and y direction
- Faster image capture capabilities with just 16 or 32 data channels

Applications

- Industrial vision
- Motion analysis
- Surveillance
- Inspection

End Products

- High-end machine vision cameras and systems
- High-end surveillance systems
- Inspection systems

Part Electrical Specifications

Product	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (μm)	Color	Package Type
NOIV1SE012KA-GDI	Pb-free Halide free	NEW	CMOS	12	160	4/3 inch	Pipelined Global, Rolling with CDS	4.5 x 4.5	Color	CPGA-355
NOIV1SN012KA-GDI	Pb-free Halide free	NEW	CMOS	12	160	4/3 inch	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

Created on: 7/11/2015