



Product Overview

KAE-02150: Interline Transfer EMCCD Image Sensor, 2.1 MP

For complete documentation, see the data sheet

Product Description

The KAE-02150 Image Sensor is a 1080p (1920 x 1080) CCD in a 2/3" optical format that provides exceptional imaging performance in extreme low light applications. Each of the sensor's four outputs incorporate both a conventional horizontal CCD register and a high gain EMCCD register.

An intra-scene switchable gain feature samples each charge packet on a pixel-by-pixel basis. This enables the camera system to determine whether the charge will be routed through the normal gain output or the EMCCD output based on a user selectable threshold. This feature enables imaging in extreme low light, even when bright objects are within a dark scene, allowing a single camera to capture quality images from sunlight to starlight.

This image sensor is based on the TRUESENSE 5.5-micron Interline Transfer CCD Platform, and features extended dynamic range, excellent imaging performance, and a flexible readout architecture that enables use of 1, 2, or 4 outputs. A vertical overflow drain structure suppresses image blooming, provides excellent MTF, and enables electronic shuttering for precise exposure control.

Features

- Intra-scene switchable gain
- Wide dynamic range
- Low noise architecture
- Exceptional low-light imaging
- Global shutter
- Excellent image uniformity and MTF
- Bayer Color Pattern and Monochrome

Benefits

- Dynamic compensation under changing conditions
- Imaging of bright regions in otherwise dark scenes
- Sub-electron noise for EMCCD gains of 20x at T = 0C
- Enables imaging in widely varying conditions, sunlight to starlight
- Excellent imaging of moving objects with minimal artifacts
- CCD technology provides excellent image quality
- Options for RGB Bayer Color or Monochrome configurations

Applications

- Surveillance
- Scientific Imaging
- Medical Imaging
- Intelligent Transportation Systems

Part Electrical Specifications

Product	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Color	Package Type
KAE-02150-ABB-JP-EE	Pb-free Halide free	Active								CPGA-135
KAE-02150-ABB-JP-FA	Pb-free Halide free	IntroPENDING								CPGA-135
KAE-02150-FBB-JP-EE	Pb-free Halide free	Active								CPGA-135
KAE-02150-FBB-JP-FA	Pb-free Halide free	IntroPENDING								CPGA-135

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

Created on: 7/11/2015