



OS04J10

4-megapixel product brief



New 4MP BSI Image Sensor for Industrial and Consumer Security Surveillance Cameras

The new OS04J10 is a 4-megapixel (MP) image sensor featuring a large, 2.9-micron (μm) backside-illuminated (BSI) pixel with PureCel®Plus and Nyxel® technologies for industry-leading performance in ultra-low-light conditions. DCG™ technology extends high dynamic range (HDR) by sampling conversion gains twice and adding exposures for accurate scene reproduction, delivering the most accurate low-noise and motion artifact-free captures, both indoors and outdoors. The OS04J10 sensor has a frame rate of 60 fps and features ultra-low power (<200 mW) and noise with long battery life.

The OS04J10 has a 1/1.88-inch OF and is pin-to-pin compatible with previous-generation sensors so customers can seamlessly upgrade to higher-resolution devices. It features CSP package technology for the smallest possible solution. It supports MIPI/LVDS: 2/4-lane.

Find out more at www.ovt.com.



- OS04J10-A70A-001A-Z (color, lead-free)
70-pin CSP

Applications

- security surveillance systems
- IP cameras
- HD analog cameras

Product Features

- programmable controls:
 - frame rate
 - mirror and flip
 - cropping
 - windowing
- supports 2x2 color and monochrome binning function
- support for output formats: 10-bit 4-lane MIPI TX
- supports image sizes:
 - full size (2560 x 1440)
 - 1080p (1920 x 1080)
 - 720p (1280 x 720)
- SCCB control interface for register programming
- supports MIPI serial output interface (2-lane/4-lane)
- supports 2K bits of one-time programmable (OTP) memory
- supports dynamic and OTP defective pixel correction (DPC)
- supports automatic black level calibration (BLC)
- supports multi-camera synchronous function

Technical Specifications

- active array size:** 2560 x 1440
- output interfaces:** 10-bit 4-lane MIPI
- output formats:**
 - linear: 10/12-bit RGB RAW
 - 2-exposure staggered HDR: 10-bit RGB RAW
 - DCG combine HDR: 12/16-bit RGB RAW
- lens size:** 1/1.88"
- lens chief ray angle:** 12° linear
- pixel size:** 2.9 μm x 2.9 μm
- image area:** 7442.064 μm x 4196.304 μm
- maximum image transfer rate:**
 - linear mode:
 - 2560 x 1440 @ 60 fps @ 10-bit
 - 2560 x 1440 @ 30 fps @ 12-bit
 - 2-exposure staggered HDR mode:
 - 2560 x 1440 @ 30 fps x2 @ 10-bit
 - DCG combine HDR mode:
 - 2560 x 1440 @ 30 fps @ 10-bit
- power supply:**
 - analog: 2.8V
 - I/O: 1.8V
 - core: 1.2V
- power requirements:**
 - active: <200 mW
 - standby: <1 mA
- temperature range:**
 - operating: -30°C to +85°C junction temperature
 - stable: 0°C to +60°C junction temperature

Functional Block Diagram

